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through socio-technical change**

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Power, rationality and the art of living through socio-technical change

Chrisanthi Avgerou and Kathy McGrath

Abstract

Most IS research takes for granted the assumption that IS practice and associated organizational change can be effectively understood as a process of technical reasoning and acting governed by a mix of concerns about software construction, administrative control and economic gain. Its mission has been to empower managers, IS engineers, and ICT users with knowledge and techniques for effective decision making. However, empirical research often comes across human activity that is at odds with the assumed pattern of rational behaviour. Recent work has sought to explain behaviour in IS and organizational change in terms of social processes rather than a consideration of rational techniques of professional practice. In this paper, we address this ambivalence within the IS field towards technical/rational knowledge and practice. We draw from the theoretical work of Michel Foucault on power/knowledge and the aesthetics of existence to argue that the rational techniques of IS practice and the power dynamics of an organization and its social context are closely intertwined, requiring each other to be sustained. Furthermore, we develop a context-specific notion of rationality in IS innovation, through which interested parties judge the value of an innovation for their lives and

consequently support or subvert its course. We demonstrate these ideas with a case study of a social security organization in Greece.

Keywords: rationality, IS innovation, power/knowledge, regime of truth, aesthetics of existence, techniques of the self.

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INTRODUCTION

The information systems (IS) field has been formed around a prominent core of knowledge concerning information and communication technologies (ICTs) in organizations with the objective of providing lessons for effective practice. Such practice involves the development, deployment and use of ICTs and concomitant organizational change (Markus and Benjamin 1996; Orlikowski 1996; Scott Morton 1991) – referred to in this paper with the term ‘IS innovation’. Typically, this knowledge assumes that IS innovation is driven by the rational capabilities of IS and user professionals to derive unambiguously the benefits and risks of the innovation and then steer action towards associated targets.

This premise underlies the ‘normative’ or ‘functionalist’ research paradigm (Hirschheim and Klein 1989; Schultze and Leidner 2002), which is rooted in a body of technical/rational knowledge concerned with systematic reasoning, decision making, and governing of practice through methods, techniques and technologies. This knowledge addresses three main concerns – software construction, administrative control and economic gain – referred to here in their most frequently occurring, intertwined form with the generic term ‘technical rationality’. In this paper we challenge the apolitical assumptions of this concept. To that end, we study technical rationality in relation to its socio-political context, aiming to develop a better understanding of its role and significance for explaining and practising IS innovation.

Indeed, the assumption that IS innovation results from technical/rational management and engineering activities has been repeatedly challenged in IS research (Klein and Hirschheim 1991; Kling 1980; Kumar et al. 1998; Ramiller 2001;

Robey and Markus 1984). Moreover, the limitations of this premise have been acknowledged in practice. Concerns about IS project 'failures' and 'resistance to change' are manifestations of the anxiety felt in the field about the capabilities it has developed to determine and deliver benefits from ICTs (Keen 1981; Sauer 1999). In fact, IS research suggests that IS projects are repeatedly confronted with multiple obstacles, and are either rejected or fail to lead to expected outcomes. Some persistently problematic domains are public or mixed public/private organizations, as in the health care systems of many nations (Bloomfield et al. 1992; Bloomfield et al. 1997b; Dunker 2000; Klecun-Dabrowska and Cornford 2000; Louw 1999) and in several sectors of the so-called developing countries (Avgerou and Walsham 2000; Heeks 2002; Madon 1993; Sahay 2000; Walsham and Sahay 1999).

Critiques of the technical/rational emphasis in IS research and practice point to the significance of the social context and the political behaviours of actors involved in IS innovation processes (Avgerou et al. 2004; Ciborra and Lanzara 1994; Ciborra 2002; Introna 1997; Kumar et al. 1998; Walsham 2000; Walsham 2001). In this 'social shaping' perspective on IS innovation, power relations afforded by the social context emerge as a relevant concept. However, the concept of rationality is often implicit, and hence its relationship with power remains unclear and controversial (Introna 1996; Walsham 1996). This leaves a gap in IS research. On the one hand, we have the dominant tradition of the field, which continues to aspire to a view of IS innovation driven by the technical/rational knowledge of professionals. On the other hand, we have socio-political approaches that avoid commenting on the significance, and indeed the role, such technical/rational knowledge plays in their broader theoretical accounts.

We contend that IS research adopting the social shaping perspective should develop a better understanding of the role of technical rationality amidst the broader forces that contribute to IS innovation, such as existential concerns and power

relations. Such an understanding is important for two main reasons. First, so that we may form realistic expectations of the ways, and the extent to which, professional interventions may steer the IS innovation process, and second, to develop our capacity for assessing the potential effects that IS innovation may have in different social circumstances.

In the next section, we review the most prevalent stances on power and its relationship with technical rationality, to demonstrate our position relative to existing research. Then, we outline some key concepts from Michel Foucault's theoretical work, and propose a basis for understanding the nature of rational behaviour in terms of an individual's art of living (or aesthetics of existence). In the subsequent section, we present the historical method we follow in our case study and give details of our data collection process. Then we present our case study narrative, which traces two decades of efforts by IKA, a Greek social security organization attempting to develop distributed information systems as a means of modernizing its operations. In our analysis, we examine IKA's repeated IS innovation initiatives from the Foucauldian perspective that sees human action as striving to improve one's life conditions within the power dynamics of one's social context. We trace the roots of the regression of these initiatives to the ethical dilemmas of some key actors within IKA on whose professional expertise the IS projects depended. In the conclusions, we summarize the key lessons we draw from a Foucauldian perspective regarding the way technical rationality, power relations, and ethical reflection are related, and present some implications of our work for IS research and pedagogy.

POWER AND ITS RELATIONSHIP WITH TECHNICAL RATIONALITY

An early stream of research challenged the understanding of IS development and implementation projects as technical/rational action, by pointing out complications due to political activity by various participants (Franz and Robey 1984; Keen 1981; Kling and Iacono 1984; Markus 1983; Markus and Bjørn-Andersen 1987; Markus and Pfeffer

1983; Robey and Markus 1984). Since then, issues of politics and power associated with IS innovation is a recurrent theme in the IS literatureⁱ. We explain our stance on these issues, as we position our contribution relative to existing work.

In a sample of 82 articles on power and its relationship with IT, Jasperson *et al* (2002) found a predominance of 'rational' and 'pluralist' perspectives. Premised on a concept of power as a capacity to get things done that can be defined optimally for all relevant groups, the rational view runs counter to our context-specific stance on IS innovation as a complex, power constituted, but socially embedded phenomenon. The rational approach to power, which suggests that organizational actors are driven by concerns of utility maximization alone, has been criticized in the social science literature as 'under-socialized' (Granovetter 1985), that is, ignoring non-economic motives of human behaviour. In contrast to the one-goal-for-all rational view, the pluralist view reflects competing goal sets. A central assumption, though, is that individual goals may be aligned with organizational goals through conflict resolution (Franz and Robey 1984; Keen 1981; Tillquist *et al.* 2002).

The 'interpretive' category identified by Jasperson *et al* focuses on perceptions and the social processes that shape them. In this view, power derives from the capability to manipulate meaning. Conflict may be overt or largely indiscernible, dependent upon the political tactics employed by those who seek to construct the dominant interpretation of organizational events. At any time, the prevailing viewpoint on IS innovation is the outcome of a contest for resources among diverse interests, which may reaffirm or disturb the distribution of power in the organization.

Our work is influenced by such interpretive arguments. However, we do not see an irreconcilable dichotomy between the rational and the political, in which political activity challenges the validity of rational techniques of professional IS practice (Beath and Orlikowski 1994; Robey and Markus 1984). Nor do we see the rational and the political as complementary positions, in the way that Nidumolu *et al* (1996) explain the success

of an IS project in Egypt in terms of the system's technical merits and the way it happened to provide various power gains for key actors. We suggest that the rational and the political are mutually constitutive rather than mutually exclusive. Hence, all technical activities are brushed with political motives, and none of the processes surrounding IS innovation are devoid of a notion of rationality. Moreover, we see IS innovation within a broad context of historically constituted social change.

Thus, our main contribution is to 'radical' research, which was the fourth and least represented view in Jasperson et al's sample. Such research broadens the scope of study beyond the organization and the notion of rationality beyond the technical/rational.

Some studies adopt a societal view, by building on social perspectives of the class structure in industrial democracies. This work suggests that technical/rational knowledge is an instrument in power confrontation, typically between management and the workforce. In this view, IS innovation may be designed to help consolidate structures of power inequality between managers and workers, or – if enlightened leaders/designers are in charge – to empower the workforce (Dean Jr. et al. 1992; Elkjaer et al. 1991; Mumford and Weir 1979). While striving to understand innovation actors' motives in terms of the social structures to which they belong, this research is limited by the assumption that class is a dominant differentiator of such structures. Crucially, though, it allows little scope for human agency (Giddens 1984).

Hirschheim and colleagues (Hirschheim et al. 1996; Klein and Hirschheim 1991) broaden the notion of rationality by introducing Habermas' concepts of communicative and emancipatory rationalities. This work aims to orient IS innovation towards neutralizing power asymmetries among organizational actors, hence enabling rational argumentation in the workplace. However, this type of emancipatory view has been criticized for underestimating power relations (Introna 1996; Walsham 1996).

Other research adopts a context-specific approach to rationality in IS innovation, focusing on the socio-historical conditions implicated in what people come to see as rational and effective ways of organizing and acting. Such conditions include historically developed notions of trust (Kumar et al. 1998) and the institutional context (Ramiller 2001). Nevertheless, this work also pays little attention to issues of power.

Attention to power relations is prevalent in social shaping studies of IS innovation (Bloomfield et al. 1997b; Monteiro 2000; Monteiro and Hanseth 1996). In a prominent version of this approach – Actor Network Theory (Callon and Law 1989; Latour 1999; Monteiro 2000; Walsham 1997) – technology artefacts are considered as important as humans, and are studied as political actors. However, in most such research, technology appears stripped from its technical/rational underpinnings, so that the link between the technical/rational and the political remains vague. In short, important questions about the role of technical knowledge are raised, but left unanswered.

Our approach to these issues draws from Foucault's work on power/knowledge and ethics. We aim to address directly the relationship between power and technical knowledge, without privileging any notion of rationality in IS innovation above others.

FOUCAULT'S THEORY OF POWER/KNOWLEDGE AND ETHICS

Foucault considered methodically organized action – such as the forms of technical rationality nurtured in the IS field – to be an effective mechanism through which knowledge affects social life. But he understood such rationality and the ends it serves to be historically constituted, rather than the result of a universal and acontextual human ability to build knowledge by pure reasoning. His distinctive notions of knowledge and power, outlined below, are fused inseparably in the main concepts we draw from his work, namely regimes of truth and care of the self.

For Foucault, authoritative knowledge – or 'truth' – is not a fundamental or scientific statement about the way things are. Rather, it is knowledge that has been

legitimated and accepted as true by a particular community. Thus, Foucault traces the descent of today's authoritative knowledge in a messy history of deliberate actions, dispersed events, and accidents (Foucault 1977; Foucault 1978).

Power relations are immanent in the way that knowledge is created and legitimated (Foucault 1978; Foucault 1980). These relations are unequal and often hierarchical, but not necessarily in the form of control exercised by a powerful group or a prevailing authority. Foucault sees power as a capacity to act diffused among people differentially, as the 'rational' IS literature assumes. But he focuses on the relational nature of power, and this aspect makes his view very different from the 'rational' IS perspective. Thus, he emphasizes power relations – rather than power *per se* – and hence individuals' differential capacity to act upon the actions of others. For Foucault, even the most commonplace relationship is a power relationship (Foucault 1982), since there is no position outside relations of power.

Such power relations need not be experienced negatively. Foucault points to cases of productive power, disciplining power, and normalizing power. These were effective precisely because most people of a particular historical era did not perceive them as repressive, but as civilizing and improving life conditions. Moreover, such power is exercised through technical rationality (Foucault 1977). For example, classification techniques, monitoring methods, and surveillance technologies have been used across a wide spectrum of institutions: to discipline delinquent behaviour in prisons, to isolate and treat abnormal behaviour in psychiatric care, to normalize children's behaviour in schools, to organize work productively in factories.

Thus, Foucault sees knowledge that regulates practice with rational techniques as a means towards ends that emerge as legitimate from power dynamics and accidental events. He calls this knowledge 'political technology', indicating that it is deployed to serve particular objectives. Importantly, though, these objectives are not

the result of technical/rational analyses. They emerge as valid courses of action from the contestation of alternative propositions in particular social circumstances.

Regimes of truth

Foucault uses the term *regime of truth* to capture the idea of a power-constituted legitimation of the knowledge that supports a society's institutions (Foucault 1980). Within a regime of truth, knowledge and power are mutually constitutive and hence inseparable. Specifically, interpretations of knowledge emerge in social discourse among members of a community, enabling and constraining their courses of action – that is, their exercise of power. When exercised, such power may reproduce or change the domain of knowledge, which in turn may reconfigure the power relations.

Moreover, in the dynamics of forming regimes of truth, certain 'knowledges' or rationalities – that is, reasoned ways of acting and technical means deployed in their support – are disqualified as inadequate and naïve; they are *subjugated knowledges*. But they are not necessarily eliminated. In Foucault's studies, the strategies of the prevailing regime of truth may sustain conditions of domination, but they are accompanied by resistances that are supported by subjugated knowledges.

Conflicting discourses in regimes of truth

Viewing power as enacted through discourse, a dominant regime of truth can be challenged by an emerging one when different discourses become a focus of attention for a society. Such discourses can be imported into the community or may be immanent within it as the basis of a subjugated knowledge. Continued disruption of existing discourses by emerging ones can establish a new regime of truth. Alternatively, emerging discourses can be undermined and subjugated. Thus, a change intervention may be accomplished when the interests involved in conflicting regimes are stabilized, albeit temporarily, to create some space for movement. Then, a dominant discourse emerges around the intervention and becomes, for a time, either

the accepted basis for organizing or, at the very least, a way of reasoning and acting that is not effectively undermined.

Some research within the social shaping paradigm has drawn from Foucault's work to address the relationship between power and technical knowledge (Bloomfield et al. 1997a; Knights and Murray 1994). Willcocks's (2006) recent review identifies several studies that associate power and knowledge in historical accounts of specific areas of practice. This work shows the interplay among power relations, discourses about IT and organizing, choices of IT design and use, and observed consequences.

The care of the self

A further important element of power relations emerges in Foucault's work, in the form of self-discipline. This notion of how people care for themselves is based on the view that individuals are rarely obliged to conform by coercion. Rather, they accept of their own accord the rationality conveyed by particular regimes of truth, often by suspending 'their judgement about alternative courses of action' (Robey and Boudreau 1999, p. 173). This capacity for judgement is not merely cognitive, but also inherently moral.

Problematization

In order to engage in the type of critical reflection that is central to the care of the self, individuals adopt various self-practices. These techniques of the self involve the *problematization* of that part of one's life requiring ethical care; the way one deals with this ethical issue; a critical and active attitude to transform oneself; and a direction towards transforming life into a work of art (Huijer 1999).

Foucault defined 'problematization' as the engagement of thought that is triggered by questioning the meaning, conditions and goals of a domain of action, which is provoked when this domain of action becomes uncertain or is surrounded by difficulties. Thus, the point of problematization is constituted by '(the) development of

a given into a question, (the) transformation of a group of obstacles and difficulties into problems to which the diverse solutions will attempt to produce a response' (Foucault 2000b, p. 118).

Foucault elaborates on many cases of ethical problematization. In his second and third volumes on the *History of Sexuality* he explores how love and sexual acts involving men had a central position in Athenian society, not by careless habit, but as a matter of problematized ethical substance. In other work he considers the problematization of friendship, and in particular affective relations between men, in contemporary society (Foucault 2000a; Foucault 2000c). He sees this as a matter of ethical substance requiring questioning, i.e. problematization, because the feelings such relationships involve 'constitute a field of morality that is problematic for the individual as well as for society' and constitute a danger to the existing order (Huijer 1999, p. 71).

Foucault's studies of ethics showed problematization involving a rationality in which individuals endeavoured to shape their life experiences through the use of particular self-practices. In this process of reflexive engagement and action, individuals strive to transform their lives into an existence 'that carries certain aesthetic values' (Foucault 1985, p.11). Such transformation efforts are pragmatically constructed according to people's life experiences, and are limited by their capacity to act within their particular social circumstances. Foucault referred to this formation of individuals' reasoned moral stances within the power dynamics of their social context as the *aesthetics of their existence* or their art of living. This aspect of Foucault's work has informed little research within the IS field (Willcocks 2004), but it is very relevant for our research question on the role of technical rationality as we will show in the analysis of our case study.

The role of technical rationality

Foucault's conceptual work on power, rationality, and ethics suggests the role of technical rationality in IS innovation amidst the politics of its social context. In particular, technical/rational IS objectives and action are seen as a strategy in the formation and sustenance of a regime of truth about organizational change (i.e., an authoritative belief that such change is necessary). The faithful practice, resistance or adjustment of this strategy implicates power dynamics at organizational and broader societal levels, which contribute to forming new regimes of knowledge and socio-political order or subverting existing ones. But, the conduct of individuals and groups in the creation or subversion of such regimes of truth can only be understood by considering their moral concerns about their actions and their lives. This introduces a different kind of reasoning, in the form of individuals stepping back from the enactment of IS practice and reflecting on their life quality and aesthetics of existence.

RESEARCH METHODOLOGY

In this paper we present a historical account of an organization battling to achieve IS innovation during the 1980s and 1990s. The value of historical research in IS has been discussed and demonstrated by Mason and colleagues (Mason et al. 1997a; 1997b; McKenney et al. 1997). They argue that, by focusing on the uniqueness of human experiences within their cultural settings, the historical study can illuminate particular dimensions in the shaping of events.

In terms of Lee and Baskerville's framework of research methods, our historical study aims to associate a rich description of a unique case with theory (Lee and Baskerville 2003). We consider this to be interplay between theory and empirical account. In effect, a broad theoretical perspective – in this case, the Foucauldian view – focuses the historical narrative on particular events. The analysis then

associates insights from the historical case with the theory to work out a theoretical perspective on the more specific research issue of rationality in IS innovation. Thus, consistent with Mason et al's description of the historical method, our case study narrative presents a timeline of events distilled from a wide range of collected empirical evidence on the 'domain of our inquiry' – that is, the social security organization IKA and its context of Greek public administration.

Data collection

This paper uses data collected by the first author over a period of 15 years to trace the history of a series of IS project initiatives within IKA. In 1983 she spent three months in IKA's headquarters and central administration services, as a member of a project attempting to design new work processes and information systems for the organization. The re-organization project was initiated by IKA's Director General and sponsored by the Organization for Economic Cooperation and Development (OECD). The researcher had unlimited access to IKA's documentation and collected data on its formal and informal work processes, its computer services and systems development efforts. She interviewed the directors of IKA's four central services departments, as well as their technical advisors and key senior staff. She also interviewed the director and senior technical staff of KHYKY, the organization responsible for running and maintaining IKA's computer applications. Her briefings and conversations with the Director General and his technical advisors, the systems development project manager, and the team leader of the OECD-sponsored re-organization strategy were particularly important for the research task. Moreover, she gained valuable insights by using a desk in the office responsible for managing the systems development project, where she could observe the ongoing work and engage in informal discussions with staff on the issues and 'crises' they had to address.

The 1983 study produced a description of IKA's organizational change efforts and an assessment of its existing systems. However, the original aim – to propose new IS requirements – was not achieved because the re-organization project was disbanded and the Director General was displaced due to political events examined in this case study. In 1986 the researcher visited IKA and KHYKY for 9 days. She interviewed staff in IKA's IT division and in KHYKY, and collected documentation on IKA's continuing IS development efforts. At that time an ambitious computerization strategy had been proposed and some people in IKA's headquarters believed that it could have a significant impact on the efficiency and accountability of the organization.

In 1993 IKA launched another project to formulate a new IT strategy, which this time involved subcontractors. The researcher followed the outsourcing experience over a period of 5 months, with a series of 14 visits to IKA's headquarters and to KHYKY. She interviewed IKA's Director General, his two advisors on the outsourced IS strategy project, the finance director, staff in IKA's IT division, and the director and members of KHYKY's technical staff. She also had access to documentation on the IS strategy project. Finally, she drew data from a Masters dissertation project on IKA's continuing systems development efforts, which she supervised in 1997 (Louverdis 1997). That research collected additional interview data, project documentation and secondary material.

Since then, IKA has engaged in another major effort to develop a new IS infrastructure as the basis for operational reform, and at the time of our last contact with the organization in 2005 this system was under implementation. In this paper we give a brief indication of progress with IKA's latest IS Innovation effort. However, our historical analysis stops at the year 1997, since we think it inappropriate for our historical method to discuss an ongoing project.

In making sense of IKA's reform aspirations and the difficulties it confronted in its IS innovation efforts, we needed to understand the nature of IKA as a public

administration organization in Greece. To that end, throughout the two decades covered by this history, we collected an extensive range of material from official documents, newspapers, and academic studies on the efforts of successive Greek governments to legislate and enact public administration reform.

IS INNOVATION IN GREEK PUBLIC ADMINISTRATION: THE STORY OF IKA

Case background and context

IKA provides social security services to almost half of Greece's population, 5 million people. These services include old age and disability pensions, and several non-means-tested benefits, such as sickness, maternity and rehabilitation payments. The organization raises its income from insurance contributions by employers and employees, which traditionally have been collected by issuing stamps to employers.

IKA employs about 4,000 staff in its central services offices in Athens and in nearly 300 regional and local offices. By the early 1980s it had IT applications for payroll, accounting, payment of pensions and recording insurance contributions. These batch systems were run by KHYKY, an independent government computer centre, with user interface support from staff in IKA's central offices. Hardware procurement and new system specifications required ministerial approval – a process that took more than one year for even the smallest system.

At this time, the centralized computer services had barely improved IKA's performance. All applications had serious deficiencies. Data in its core databases were corrupted, compromising IKA's capability to calculate social security benefits. The accounting application produced such untimely reports that the central and local administrations continued to keep manual records. Also, IKA had made various attempts to replace the outdated process of insurance stamps with computer-based methods for collecting contributions. However, none of these applications could be scaled up to create a uniform mode of collecting contributions.

In short, by the time of our first study in 1983, IKA had a bleak experience with IT. Against this background, our story focuses on efforts to reform its operations through the development of new computer-based information systems.

The public administration context of IKA

IKA is a state organization and its IS innovation initiatives are inexorably linked with reform efforts in the Greek public sector. Since the restoration of democracy in 1974ⁱⁱ, all political parties agree that Greece's public administration is highly dysfunctional, producing low quality services and costing too much. The 'crisis of administration' has been seen as a major obstacle to the country's socio-economic development, and almost all governments have been keen to see the situation improve. A stream of official studies and a great deal of academic research on the nature of the problem and its rootsⁱⁱⁱ has invariably highlighted the following features: direct political control of public administration, with the top positions in public organizations filled by government appointees; *ad hoc* recruitment procedures that allow the government of the day to use public sector employment to favour its supporters; inadequate civil service training; politically influenced promotions and in-service transfers; formalistic functioning according to the letter of the regulations.

Analyses of the problem point to a contradiction between the explicit mission of Greek public administration to deliver the services of a modern state and its latent role as an employer of political patronage (Mouzelis 1978; Mouzelis 1995; Tsoukalas 1986; Tsoukalas 1987; Tsoukalas 1989). *Clientelism*, a political tradition in which voters' political support is exchanged for job-related favours from politicians, has been a cornerstone of public life. Under such conditions, public administration employees display a defensive attitude towards their work (Mouzelis 1978). Although they are supposed to follow complex regulations strictly, the rules are bent daily to simplify unnecessarily awkward procedures when servicing citizens, or just to create scope for personal convenience.

Our history of IKA's IS innovation efforts over two decades unfolds amidst administrative reform initiatives that aimed to overcome the ineffectiveness of public administration through modernization of state institutions. However, a change in the meaning of 'modernization' was discernible over time. During the first decade of our study (1983-1993), the modernization initiative was dominated by efforts to establish democratic political processes. Subsequently, and until the end of the 1990s, the modernization discourse focused on socio-economic changes for a market economy. Figure 1 depicts the key events and phases in our story, tracing IKA's initiatives against broader contemporaneous discourses in the socio-political context of Greece.

Modernization as social reform

In 1981, Greece got its first ever socialist government. The Panhellenic Socialist Movement (PASOK) came to power with a radical reformist agenda. It argued that incremental improvements would be insufficient to address the economic crisis the country was facing and, at the same time, shake the *status quo* in society (Tzannatos 1986). Reform should be implemented throughout the political, economic and social institutions of the country, and it should be implemented fast. Modernization was a key aspect of the newly elected government's political agenda, aiming to democratize and tame the politically abusive state. Its goals were to take control of the clientelistic civil service which former right-wing governments had cultivated and used to maintain their power, and to transform public administration into an effective mechanism for social change and economic development.

IS innovation triggered by aspirations for public sector reform

The socialist government of 1981 declared the improvement of welfare services a priority within its overall reform strategy. IKA's Director General and senior administration, appointed by the government, launched a 'modernization' policy and worked out plans to restructure the organization and improve its performance.

Computer-based information systems were considered important means for the modernization policy, and in 1982 IKA launched a project to develop IT-supported processes for collecting and recording insurance contributions. It formed a team of competent employees and trained them in computers and systems analysis methods so that they could collaborate effectively with KHYKY's systems analysts. Thus, a task force of IKA and KHYKY staff was formed to design the 'Revenue System'.

The Revenue System project was more than a software development project. It also involved the design of new transaction processes between IKA, employers, and insured members. To that end, the task force consulted organizational experts, and studied the practices and structures of other European social security organizations. KHYKY gave full support to the development of the Revenue System, considering it an opportunity to engage in a significant distributed IT application project.

By the summer of 1983 the main components of the system had been developed, and part of it was piloted in two local offices with very positive results. The regional offices for the pilot sites accepted the new system without reservation. Moreover, central administration was very satisfied with the information the system produced.

However, it became clear that the government's modernization efforts would not rid the public sector of political patronage. Fearing that a state administration staffed with conservative party supporters would sabotage its socialist reform agenda and erode its power, the new government infiltrated the state bureaucracy with its own supporters at both the top and lower grades of the hierarchy. Rather than introducing recruitment by technical merit, it adopted the clientelistic practices of former governments (Sotiropoulos 1996; Tsoukalas 1995).

In 1984, implementation of the Revenue System beyond the two pilot offices was discontinued because the supervising Ministry did not approve procurement of the required hardware. Moreover, IKA's whole programme of organizational reform was suspended later that year, amidst widespread suspicion about how the organizational

changes would affect staff careers and increasing opposition to the re-organization plans.

Overall, the democratization process pursued with urgency by the government retained and enhanced IKA's clientelistic tradition. Thus, both the Secretary of State and the civil servants' trades unions saw the organizational reform initiatives of IKA's Director General as 'going too far', and he was replaced by an anti-modernizer.

*** Figure 1 to go near here, so as to be visible while reading the case ***

IS strategy detached from organizational reform

The next major IS initiative was taken by KHYKY in 1986, with the development of a new system 'strategy' as the basis for reorganizing IKA's core operations. This time, the IS strategy was not anchored onto any organizational reform policy. It was predominantly an engineering effort. The new system – the 'Revenue and Insurance System' – was a technologically ambitious attempt to decentralize the processing of employers' contributions and insurance benefits onto a network of regional computers. In the following years KHYKY persevered with the development of this system. Nevertheless, it gradually but significantly moderated its technically ambitious architecture.

In the late 1980s, public sector reform continued to target objectives of democratization and social justice rather than organizational service effectiveness. New recruitment legislation introduced a social welfare character to social administration employment, favouring candidates with particular social characteristics – such as family situation – rather than professional qualifications. Throughout the socialist government's two terms of office during the 1980s, further legislative measures sought to develop a new career structure and salary scale, reducing the distance between junior and top civil servants (Makrydimitris 1996).

In 1993 the Revenue and Insurance system reached pilot implementation stage in IKA's local offices, but by then, it had disintegrated into a dysfunctional bureaucratic network of activities that everyone saw as inadequate and obsolete. In the meantime, IKA continued to rely on its old, inefficient, centralized computer applications.

Modernization as new public management

In the 1990s, 'modernization' lost the socio-political meaning it had acquired in the first years of the previous decade and conveyed a narrower economic view. The main concern now was that a dysfunctional public bureaucracy was an obstacle to a liberal economy. Several changes in the broader socio-political context fuelled the view that such modernization was urgently needed. For example, the ineffective public sector that cost too much and delivered little was unacceptable in the European Union (EU), which Greece had joined in 1981. Also, an increasing number of Greeks came to see a large public sector as parasitic and a hindrance to the economy. The significance of public sector employment lessened, as the gradual development of the information sector of the economy meant that state administration ceased to be the main source of white collar employment (Mouzelis 1995).

Ideological distinctions between socialist and capitalist orientation were also weakening. In the early 1990s, the country's political arena was more visibly split between 'modernists' and 'populists', who were represented in all political parties. Populist arguments perpetuated the traditional role of public administration as a massive employer and social welfare provider. Modernists championed the dominant international, socio-economic trend of a lean, efficient state, similar in its operations to the market-driven sector (Makrydimitris and Michalopoulos 2000).

In the changing socio-political context, the preferences and expectations of citizens – both IKA employees and the intended beneficiaries of its services – were

also gradually changing. They became more impatient with IKA's inefficiencies when compared with other organizations such as banks, whose services were gradually improving.

Starting again with a technology-driven organizational reform plan

In this new socio-political context, the next turn in IKA's IS innovation story came in 1993, when its Director General, appointed by a newly elected right-wing government, decided to bypass KHYKY and outsource a new 'IS Master Plan'. With expertise from the private sector and funding provided by the EU through a programme aimed at improving public sector efficiency, this latest IS initiative was seen to have unprecedented prospects of success.

In the call to tender, emphasis was clearly put on the objective of securing the collection of the organization's revenue, as in earlier computerization efforts. The IS Master Plan was subcontracted to a consortium of local and multinational consultants, who delivered a plan for an integrated system comprising all of IKA's functional areas. That master plan superseded the areas of the Revenue and Insurance System that KHYKY had been busy developing for the previous 7 years. There was optimism at IKA's headquarters that the new IS Master Plan would provide a basis for eliminating chronic inefficiencies.

IKA's staff had minimal involvement in formulating the new IS plan, while KHYKY's staff, who had been ignored by this initiative, were cynical about its chances of being implemented, and not particularly alarmed that they had been bypassed.

Slow but persistent technology-driven innovation efforts

Public sector reform interventions were sporadic and ineffective throughout the 1990s (Makrydimitris 1999). Few public sector organizations had adopted performance-oriented management methods, hired professional CEOs, practised

extensive subcontracting, or were faced with competition. Public bureaucracies continued to be large. Socio-economic change in the broader Greek context was too slow to provide desirable alternative lifestyles to civil service employment (Tsoukalas 1995). In the political arena, the 'modernists' had a narrow victory over the 'populists' in the national elections of 2000. The vision of a liberal economy and society in tune with the perception of pressing globalization had not displaced the deeply-rooted local logic that sustained the public sector as an instrument of party-political power and a source of secure employment .

IKA proceeded – albeit slowly – with the development of some crucial IT applications, such as a new accounting system. In 1997, they readjusted the 1993 IS Master Plan to form a strategy for an 'Integrated Information System' that would drive reform of organizational processes. This time, the call to tender for implementation of the strategy explicitly sought consultants who would emulate practices from the private sector and use benchmarking techniques. The overall aim of the redesign effort was to overcome administrative and regulatory factors that inhibited efficiency. Again, there was optimism in IKA's headquarters that the implementation projects would at last deliver new IT-mediated organizational practices. In 1999, five years after creating the IS Master Plan for an effective information infrastructure, a contract was signed for the development of the Integrated Information System.

Although this is the last episode studied in this paper, some information on what happened since then might help the reader put the events described here in a longer time perspective. IKA established an IT unit of 70 well trained employees dedicated to the development of the Integrated Information System and worked closely with software and management consultants. In 2002, after a survey of employers, they created new reliable databases for employers and insured employees. By 2003, they had developed most IT applications and started implementating them across the country. In the meantime, under the leadership of its pro-director, IKA worked out

legal reforms allowing for the new IT-mediated transactions with employers and insured employees, and pursued a massive programme of training and organizational redesign in local offices countrywide. Indicatively, government IT experts and academics we interviewed in 2004 considered IKA a successful case of public sector IS innovation. Yet IKA's pro-director was more cautious, aware that the implementation hurdles still lay ahead.

ANALYSIS

What role has technical/rational knowledge and practice played in the messy IS innovation efforts of IKA? How did it interact with the larger political forces within the organization and the broader social context? We start to answer these questions by pointing out the significance of technical/rational arguments and action for the launching of IS projects in IKA and also for their decline.

Role of technical rationality in IKA's IS innovation efforts

In 1983 technical/rational analysis was prominent when making the case for distributed IT systems to replace the cumbersome, bureaucratic and fraud prone insurance stamp method for collecting IKA's income. For example, the document submitted to the OECD requesting technical assistance funding justified this need in terms of: improving services to employers and insured members; securing IKA's financial resources; improving work conditions in IKA; and generating information for decision making and planning. The financial gain argument was based on comparing the estimated costs of the insurance stamp method and income loss due to its ineffectiveness, with estimated benefits from the computer-based method.

Once the Revenue System project was approved, an analysis of 'operations' – or 'business processes' – was undertaken. This analysis chose best practice from the systems of other European countries, adapted it for Greece's regulatory conditions, and provided the basis for deriving IS requirements. Concurrently, an organizational

study analysed work tasks across IKA's central, regional and local offices, examining staff distributions to identify disparities and derive a formula for staff allocations.

The other two systems we studied – the 1986 Revenue and Insurance System and the 1993 IS Master Plan – stated the same objectives, and were supported by similar cost/benefit arguments, although their technical analyses were focused on IS design as a basis to derive new business processes.

These technical tasks and documents provided a clear view of, and reasons for, the changes of organizational structure and practice that IS innovation was targeting. They were used successfully in negotiations with funding agencies (the Treasury, the OECD, and since the mid-1990s, the EU). They were also significant for gaining consent from key stakeholders, namely the supervising government ministries and IKA managers.

Subsequently, technical/rational explanations were given when IS development initiatives regressed. For example, the Revenue System project was discontinued in 1984 because of lack of funding. Also, several interviewees suggested that KHYKY's limited technical expertise was the reason that features and functionality specified for the Revenue and Insurance System in 1986 had been dropped by the time the system was introduced in 1993. But, while shortages of financial and technical resources are valid 'cause and effect' explanations for project failure, they do not capture the problem's root. The important question for IKA's repeated ineffectual efforts is: why didn't they mobilize the necessary resources? Here we come across political behaviour.

On closer examination, the decision in 1984 not to allocate funding to procure hardware for the Revenue System cannot be explained on grounds of economic rationality, since the system's objective was to improve IKA's financial state. The validity of the cost/benefit analysis – which succeeded in launching the project in 1982 – had not changed by 1984. Nevertheless, the supervising Ministry decided

that, in relation to other pressing funding demands, the IKA projects could not be funded. While weighing funding needs across government agencies like IKA is a legitimate task of government, such judgements of priorities have a much less technical/rational basis than cost/benefit analysis calculations. As in many Western countries, IKA has been facing an increasing pensions bill, which is sure to grow significantly in the future. Thus, from an economic perspective, the decision to discontinue a project that aimed to pay for itself by securing IKA's much needed future income from fraud and inefficient practice was short-sighted. Politically though, this decision indicates that a different judgement was made about the significance of the problem of IKA's ineffectiveness. In Foucault's terms, the subjugated regime of public administration as an instrument for political order challenged the legitimacy of IS innovation, despite its technical/rational merits.

Conflicting discourses in traditional and emerging regimes of truth

IS project teams were formed or disbanded as 'modernizers' and 'populists' took or left office in the supervising ministries and IKA's leadership. This indicates that the deployment and effectiveness of technical/rational practice is affected by political power, as the IS literature suggests. But it is the way in which power and IS practice interact that is of interest in our study.

The technical tasks performed in the course of IKA's IS innovation efforts did not simply coincide or interfere with the power interests of the actors involved (Nidumolu et al. 1996). They were not rituals for politically driven interests (Robey and Markus 1984), nor merely means for consolidating or challenging the position of a managerial elite (Dean Jr. et al. 1992). They were not only the means but also the goals pursued by Directors and Ministers who endorsed the modernization ideal of a technically/rationally managed state institution. The calculative basis of staff requirements, and the practice of analytical techniques for systems development, were the beginning of the change advocated by the modernizers. They represented

their *raison d'être*, their ideological identity as political actors. To the extent that these practices could succeed, the goals of the modernizers would have been achieved. And to the extent that they failed, the modernizers' goals were discredited as inappropriate for IKA. This mutually constitutive relationship of rationality and power as means and ends of each other can be better understood through Foucault's notion of *regime of truth*. This concept refers to the dominant logic that determines particular social objectives as legitimate ends and gives rise to particular strategies of action as means for their achievement. To trace the formation of the regime of truth that had as its constituent knowledge the technical/rational IS innovation efforts in IKA, we have to broaden our analysis to the changing socio-political circumstances of Greece.

The landslide victory of the socialist party in 1981 was won by arguing that radical change was required in order to put an end to institutions and habits that had in the past bred political and social injustice and retarded economic growth. The political slogan that mobilized action and caused political passion was '*allaghi*', meaning change, indeed radical change amounting to a transformation of Greek society and its institutions (Tzannatos 1986). In this context, computer-based information systems and organizational redesign techniques were intended to replace the bureaucratic practices oriented towards perpetuating the political *status quo*. IS innovation was not apolitical, but rather part of a political vision. It did not challenge an irrational politically minded behaviour, but a different rationality based on a bureaucratic body of technical/rational knowledge about running state institutions, albeit one that in practice had become severely dysfunctional in Greek state administration (Avgerou 1990).

However, the regime of truth of *allaghi* was rendered contestable before it was possible to put in motion the virtuous circle of enacting administrative practices based on new rational techniques and consolidating the political position urging socio-economic reform. Within the socialist government itself, concerns prevailed regarding

the obstacle faced by democracy from a public sector staff, the majority of whom were supporters of the opposition. Modernization of public sector practices targeting service effectiveness was marginalized. The regime of a state administration run by political obedience was reinforced (Sotiropoulos 1996).

In the 1990s, the risk of the democratically elected government being subverted due to public sector employees' party political allegiances was virtually eliminated. In Greece's political discourse, public administration continued to be a cause for concern mainly because of its inability to provide the required institutional infrastructure for a competitive market economy.

Yet the clientelistic appointment of civil servants continued, as politicians from both parties taking office during the 1980s and 1990s used public sector employment as a social policy mechanism and a way to favour their supporters. Selection on the basis of political loyalty, and a code of practice that emphasized obedience to superiors' orders and discouraged initiative, perpetuated a formalistic work attitude that defensively sticks to the letter of the regulations. In short, political influence continued to favour the traditional bureaucratic rationality and not a technically/rationally managed public sector.

Nevertheless, it is important to notice that, unlike earlier periods in the history of Modern Greek society, the public sector modernization interventions of the 1980s and 1990s – and their failure – were not exercises of a repressive state power over its citizens, nor acts of domination by particular social classes. Power relations were volatile amongst the conveyers of different aspirations for public sector reform. There was a flux of alliances among social groups and individual actors (such as trades unions, the IKA directors, political party leadership and supporters) and ambivalence regarding the direction change should follow.

The question that follows from this analysis is why the regime of an effective, service-orientated public administration, which in public discourse across the political

spectrum was considered desirable – indeed necessary – was never established? Why did the rationality of bureaucracy and its dysfunctional practice in the Greek public sector – subjugated by the modernizing discourse as inappropriate for a democratic state and free economy – keep surfacing, frustrating the technical/rational IS innovation interventions?

Foucault (2002) suggests two mechanisms implicated in regime of truth change. The first is external events, which result in discontinuities in the context of a society or organization and change the problems they are facing, their risks, and opportunities. In IKA, the 1981 election result was the major discontinuity to challenge the legitimacy of the traditional role and practice of public administration. This event clearly triggered a perceived need for a non-bureaucratic rationality in the form of IS innovation and organizational redesign. But it was insufficient to create the conditions for such rational practices. The second mechanism for changing a regime of truth is the continuous care of the self by individual actors within a society or organization. Following this analytical path, we now examine the problematizations by individual actors and the way they judged the significance of the modernization changes in their lives.

Care of the self

The modernization attempts affected the lives of IKA's employees, its politically appointed governors, and Greek citizens at large and led them to consider the life style they should strive to achieve as working persons, family members, political actors and citizens. Whether vocally and actively, or silently and through their inactivity, each of them took a stance, contributing to the formation of the 'modernization' discourse and the shift in its meaning over time. Following Foucault's ideas of care of the self, we can trace the way that individuals with key roles in IKA's IS innovation brought their own experiences and life conditions to bear on the modernization strategies.

Specifically, we can see instances of directors' and employees' care of the self in the various ill-fated attempts at IS innovation. In the two decades of history we account for in this paper, the individuals in these roles changed repeatedly. Our analysis highlights the subjective reflections of these office holders on the way the modernization strategies challenged their professional conduct and, indirectly, their political position and life circumstances. Most crucial in our analysis is the problematization by the directors and members of IKA's IS project teams.

The historically developed tradition of public life that linked civil service with party politics secured employment of mixed rewards and privileges, but it required a great deal of discipline in the work place and a servile attitude to political authority. Public sector employment started with a low salary, which was guaranteed to increase with seniority and obedience to political authority, independently of the degree of work effort or achievement. Relative to the Greek economy, civil servants received large social security benefits, such as pensions, leave allowances, and medical care. Indeed, these work conditions amounted to a style of family life that has been the cornerstone of Greek society. Married couples, where both partners were civil servants, had the right to be located in the same city or province – unless they were considered disloyal, in which case they were punished with awkward transfers. Women with young children had rights to shorter working hours to look after their children and optional retirement after as little as 15 years' service. Working hours allowed public employees to gather for lunch with their families and men of the household to engage in additional jobs in the informal economy in the evenings.

Problematization by the politically appointed directors

The modernizer Director General we met in 1983 was a university professor of operational research with a research record in the organization of health care^{iv}. He viewed his post in IKA as a reward by, and responsibility to, the victorious socialist party he had actively supported since his student days, as well as an opportunity to

use his technical expertise to make IKA an effective service provider for half of Greece's population. In IKA's political context in the summer of 1983, these two considerations proved contradictory and problematic. The socialist party was mobilized to infiltrate the public servants' trades unions with their own party members who demanded preferential treatment and privileges. They had the support of the Minister in charge, a much respected veteran of the underground movement that had toppled the dictatorship in 1974. The minister was keen to reverse the social injustice harboured by the state administration and safeguard socialist power. On the other hand, the cadre of technical advisers appointed by the Director General were producing analyses showing a skewed distribution of employees in the various regional offices and assessing the skill requirements for an effective service. The task force for the Revenue System was closely associated with these advisers, and the new system was expected to reinforce the effectively functioning organization they designed.

Such contradictory activities brought uncertainty into the modernization course steered by the Director General. He had no general rational principle at his disposal to resolve the contradictions that caused this problematization. He spent long hours negotiating with the trades unions, and was highly charged with mixed feelings. One of the contentious issues with the Ministry was hardware procurement for the Revenue System project. Ministry officials were unwilling to overcome what the Director General saw as red tape and approve the system specifications. A few months later, he was replaced as IKA's Director. He moved back to his university chair researching health care reform, and continued to be active in the socialist party.

The Director General who replaced him was appointed with the support of the trades unions. He was an older man with a long career in Greek politics. Our meeting with him in 1984 is indicative of his attitude. He cordially accepted the technical assessment of IKA's IT services from our OECD assignment in the previous year.

But he told us that he was not going to apply for the second phase of OECD funding to continue the project – as his predecessor had planned – because he did not know about computers. In his view, it was not a priority for IKA. He expected that the Ministry would decide what IKA ought to do on this matter. Indeed, the team of organizational and IS experts had been disbanded.

In 1993 the Director General was another university professor, this time an economist and supporter of the conservative party that had taken office earlier that year. He was convinced not just of the necessity to transform IKA into an effective service organization, but also that this required professional management expertise. Thus, he gave priority to IS innovation and outsourced the master plan project. During our research visit in that period, neither the government nor IKA's employees challenged his intention to bypass the lethargic and ineffective IT centres of bureaucratic public administration in order to achieve results. The new government had been elected with a promise to modernize the economy.

Nevertheless, the Director General was immersed in a new dilemma concerning the shaping of IKA as a public sector service provider – this time in conflict with the private consultancy firm that worked out the IS Master Plan. The consultants had assumed that the overall priority for IKA was to improve its efficiency and curb both the fraud associated with insurance contributions evasion and the corruption that tolerated it in IKA's local offices. Thus, they recommended a centralized IS processing architecture. In effect, they proposed a system that would severely limit local office managers' autonomy when collecting insurance contributions from local employers and judging claims for insurance benefits. The Director General was appalled with this suggestion to disempower local staff, and was troubled at the thought of eroding the democratic quality of the established decentralized mode of operation: 'this is against the constitution of IKA!' he exclaimed. Indeed, he rejected

the recommended IS plan and sent the consultants back to the drawing board. A revised system architecture was later accepted as a compromise solution.

These examples show how problematization by individuals in leading public positions, such as the directors of IKA, challenged their political beliefs and professional commitments and contributed to strengthening, weakening or subverting IKA's modernization strategies.

Problematization by the employees involved in IS projects

In 1983 the IKA employees in the Revenue system task force were highly motivated about their relatively recently formed jobs. Most of them were new to an IT role and some had completed intensive systems analysis and design training. They opted to be transferred to the IS project team, expecting a rewarding career in the new meritocratic regime of modernization. Some had been in the team that visited France, the UK and Germany, collecting information about operations and IT support in these countries' social security organizations. A few were vocal supporters of the socialist government, but most were careful not to reveal their political affiliation. However, all were positive about modernization and critical of favouritism practices in IKA.

They were aware of the clash between the trades unions and the team of technical advisers to the Director. They could also judge from national news and events that the government was fighting for social justice and its own political survival. They started to feel uncertain about the future of the system they were developing and became sceptical about their positions. The interesting job they had prepared for through their technical training appeared unlikely to impact their work life quality. Indeed, their employment advantages continued to be civil servants' privileges. Yet, the Director's advisers were working on plans to change such privileges. The sober faces of the trades union representatives when leaving

meetings in the Director's Office were a constant reminder that their taken-for-granted secure employment and civil service life style were at risk. Silently, they were adjusting their expectations to the familiar career path.

A few years later, the team was disbanded and its leader took early retirement. Some of these employees were still in IKA's IT department in 1993. But this time their attitude to their work and the new IS innovation initiative differed substantially from that of 1983. They were content to support the slow pace of KHYKY's Revenue and Insurance System implementation, and were developing some PC-based software tools for the local offices. They were aware that, by then, the KHYKY system was almost void of organizational change objectives and that the PC tools were providing modest IS support for awkward work practices. But they believed that this slow, unchallenging approach to introducing IT was right for IKA.

IKA's IT staff felt that KHYKY was a suitable partner because 'they know the culture' of IKA. By contrast, they felt uncomfortable with the consultants working on the IS Master Plan and did not take part in this major new initiative. Staff we interviewed were sceptical that the consultants' proposals could make any impact or even be materialized and they distanced themselves from the new initiative.

These examples show how ethical problematization of a private nature, i.e. concerns relating to an individual's working life and family life, were triggered by and consequently affected the course of IKA's IS innovation and modernization strategies.

Aesthetics of existence

Few analysts of modern Greek life would argue that prolonging the bureaucratic regime of public administration contributes to a beautiful life. But Foucault's notion of striving for aesthetics of existence is not about judging ethical problematizations by a society's members and their consequences. It assumes that individuals maintain a

critical attitude towards their present situation. In contrast, it does not assume rules or precepts for the problematization and the correctness of consequent action. Thus, the ambivalence of Greek public sector employees towards the organizational reform strategies, and Greek citizens towards the political forces that promised – but did not deliver – the end of an ineffective and politically docile civil service, suggests that, in *their* aesthetics of existence, the life style of the traditional civil servant was still desirable amidst the life options available in their society.

In the individuals we met, the care of the self lies in their freedom to question IS innovation as a strategy of modernization – to challenge its objectives and validity by reflecting on how it affects the way they live. This reflection is rational in the sense that it involves thinking and acting in a reasoned way that is logically justifiable. But such rational behaviour differs from the calculative action of the technical/rational IS innovation rationality. It weighs a mixed set of concerns and values and it takes place in the context of individuals' power relationships in their organization and broader society.

The Director's problematization in 1983 involved concerns about his loyalty to his democratization ideal, about the changing ethos of his political party through which he had engaged in struggles over this ideal, and of course about his professional integrity as an intellectual and successful director of IKA. The problematization by IS project staff involved concerns about their careers and work conditions, but also about their way of being outside the work place. Such issues included their relationship with political authority, their roles in family life, and their dilemmas about whether to maintain the traditional values underlying the everyday life of a civil servant or adopt the modern life of a dynamic professional.

There was evidence that the conditions which triggered problematization of IKA's IS innovation and led to behaviour that subverted its modernization during the 1980s and 1990s were changing at the beginning of the new century. Although IKA had

hardly changed as a public sector organization, social and private life conditions were different in Greece. The historical suspicion of lurking threats to democracy had gone; citizens were less servile to party-political authority; the emerging knowledge economy had created a promising work environment outside the public sector; and a new generation aspired to a life style different from traditional civil service, at least in the metropolis of Athens where the IS development project was located. When we made our last visit to the organization in 2004, it was still unclear whether and what kind of obstacles and problematization would confront the system's implementation and the reorganization of work practices in IKA's offices. Nevertheless, the relatively smooth completion of the Integrated Information System was a notable development. It represented a major step towards creating the type of power/knowledge regime attempted by the directors and IT staff of the 1980s and 1990s, but found untenable within the broader context of their lives in Greece's socio-political circumstances^v.

CONCLUSIONS

Our analysis of IKA's IS innovation efforts suggests that technical/rational IS practice and politics are not distinct and alien, but are intertwined to form regimes of desirable goals and systematic acting towards them. In the period we examined, professional IS practice was introduced as a necessary means to serve the politically-set goal of an efficient and effective public service to support a competitive economy. It is reasonable to believe that had IS innovation taken place within IKA, it would have strengthened the socio-economic regime of a free market economy in Greece. To the extent that commitment to these goals withered, IS innovation lost its significance, was starved of resources, and failed repeatedly.

In IKA, political power favouring IS innovation was inadequate to enforce its practice, and technical/rational practice was inadequate to sustain the dominance of the political forces that gave rise to it. It became clear in our case that a third element was implicated in the power/knowledge regime sustaining and benefiting from IS

innovation: individuals' ethical problematizations about their actions in the context of their life circumstances. This is a different kind of reasoning from exercising technical rationality. Individuals reflect upon the way that their actions impact themselves and others in their social context. It is this reflexive rationality that Foucault characterizes as an ethical and aesthetic endeavour that may sustain, or challenge and subvert, a regime of truth that enacts a particular body of technical/rational knowledge and practice, such as IS innovation.

In effect, technical/rational IS knowledge and practice is not the only form of systematic reasoning and acting exercised by individuals. In IKA, we came across two further rationalities: (1) bureaucratic organizing, an alternative technical/rational body of knowledge and practice, and (2) rationality from an individual's reflexivity. In his studies of psychiatry, medical practice, and more recently government, Foucault shows many such forms of technical rationality, contingent on different views of how best to organize a particular area of human conduct. The recognition of alternative technical/rational modes of thinking and acting is important because it implies that the current combination of engineering, economic and administrative methods comprising IS knowledge and practice is not the only systematic way to organizational intervention. Other forms of logical thinking and acting have existed in society's institutions in the past, and new forms may be devised in the future. The temporality of IS knowledge is not only a matter of the ephemeral nature of fads and fashions, which have been criticized frequently in IS research, but also of its contingency relative to movements of socio-economic ideas and actions.

The second rationality we encountered was exercised by individuals as subjects of their own actions. This reflection on choices of existence may be seen as the root of human agency forming the art of living. In association with feeling and social experience, this type of reasoning is acknowledged in some phenomenological IS studies, but is largely neglected in studies of IS innovation. Yet, it is crucial in shaping

or subverting regimes of power and technical/rational knowledge and practice, such as IS innovation.

The IKA case demonstrates that the formation of such power/knowledge regimes is not contained within an organization's boundaries. Narrowly framed analyses of technical/rational practice and power relations within or among organizations, which are the norm in IS research, may identify conflicts of interest and power dynamics, but cannot adequately explain them. Although individuals' problematizations may be triggered by obstacles and dilemmas emerging in their work place, they concern the conduct of the whole of their lives and they relate to how they weigh the possibilities for ethical and beautiful existences afforded to them in their *milieu*.

We acknowledge that our empirical study was limited to IS development and organizational redesign efforts. We were unable to study any substantial process of implementing these changes or the new ICT-mediated practices within IKA. Such a study would involve different categories of individuals and could encounter different problematizations, different technical/rational practices, and different power dynamics. Nevertheless, even in its limited form our analysis leads us to make two observations about the knowledge developed in the IS field and the professional practice it fosters.

First, the elaborate technical/rational capabilities for constructing ICT functionality and guiding management interventions for its deployment in organizations is clearly a powerful body of knowledge within the regime of truth of contemporary society. In association with a discourse on the necessity for competitive business in a global economy, it has created a compelling momentum for change across institutional fields and countries. Nevertheless, it is important that professionals are aware that their technical/rational knowledge is not self-justified and universally effective, but articulated with a particular discourse of desirable socio-economic life conditions.

Second, political clashes that challenge the deployment of IS knowledge, and ethical problematizations in relation to it, are not rare and unfortunate complications, but a constant condition of IS innovation. The IKA story may appear extreme and peculiar in comparison to the cases of business organizations studied in most IS research. But it is by no means exceptional. IS innovation entangled in contestations among alternative regimes of truth is a frequent finding in research in countries and sectors undergoing socio-economic and organizational transition (Bloomfield et al. 1992; McGrath 2003; Walsham and Sahay 1999). Moreover, problematizations in which individuals confront the uncertainty of technology-driven change in their work place is manifest in several IS studies in well established business sectors, such as financial services (Barrett and Walsham 1999; Knights et al. 1997; Scott 2000).

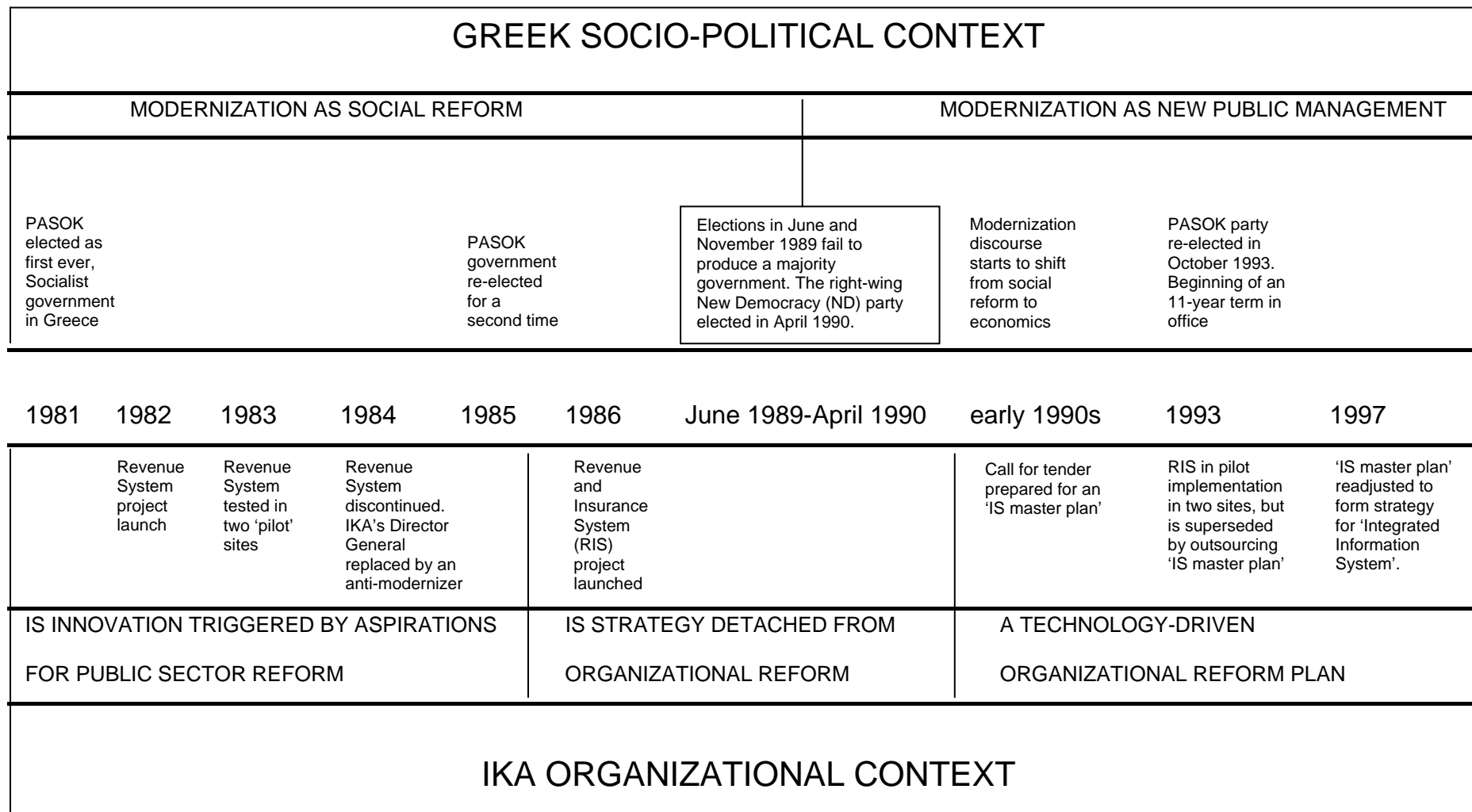
These observations suggest some gaps in current professional training and research. First, there appears to be a need to develop capabilities for judging the conditions that might render IS innovation socially acceptable, or unacceptable and ineffective. Currently, IS innovation tends to be taught and practised as an endeavour controllable by means of technical rationality. Even studies of conflictual relations often assume that such behaviour can be curbed by technical/rational knowledge and practice, so that the task for IS professionals and managers is to get change through (Markus and Benjamin 1996). Our findings challenge the universalism of this view.

Second, a critical and reflective attitude is required towards socio-technical approaches. Although these methods acknowledge conflict and multiple perspectives and interests, they convey the same determination as their more technical/rational counterparts to circumvent resistance and ambivalence and sort out individuals' concerns through rational design. Certainly, socio-technical practice has sensitized professionals to the significance and diversity of human attitudes towards innovation. However, such practice has been criticized for often leading to untenable courses of professional action, or even for being hypocritical and manipulative because it

neglects power dynamics. From our perspective, socio-technical approaches lack the capacity to consider the broader contextual dynamics that might create a regime of truth that could legitimate and sustain (or challenge) IS innovation. Moreover, they are inadequate for surfacing individuals' ethical and aesthetic problematizations, which are mostly silent and emerge through experience rather than well expressed and negotiable interests. Most importantly, they assume that professionals are responsible for determining desirable goals through technical/rational knowledge and practice and thus create a dysfunctional attitude of control (Ciborra and Associates 2000).

Such gaps in knowledge and misplaced emphasis on technical rationality cannot be rectified with more detailed and meticulous analytical models and methods. We contend that IS research and pedagogy should include the development of explanatory and critical understanding. This effort would have three aims: (1) to sensitize IS professionals to the existence of social contexts which sustain political aspirations and individual life preferences different from the commonly held assumptions, which take for granted, or privilege over all else, the goal of efficiency and business effectiveness; (2) to develop competences for diagnosing conditions that may be inimical to the IS innovation (e.g., widespread suspicion of an innovation's goals, or its implications for the lives of certain categories of individuals); and (3) to develop professional competences to steer IS innovation with due respect for the art of living of those affected by it.

Figure 1. Key events and phases in the IKA story



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ⁱ More recently, the technical rationality of IS innovation has also been questioned by authors who highlight the significance of emotions (Ciborra and Willcocks 2006; McGrath 2006), but such research has had limited impact so far. We do not review this literature here, but emotions are acknowledged in the moral engagement of the Foucauldian perspective we pursue in this paper, see for example Avgerou and McGrath (2005).

ⁱⁱ The Greek post-second World War history has been marked by a seven year military dictatorship, 1967-1974.

ⁱⁱⁱ Almost all official reports and most academic analyses of the 'crisis of administration' are in Greek, although in this paper most of our references are to the relatively few sources in English. Makrydimitris and Michalopoulos's (2000) collection comprises the most important parts of reports commissioned by the OECD and the Greek government since the 1950s. It shows how persistent the dysfunctional features of the public sector have been, and how similar the diagnoses of all experts on the problem have remained for almost fifty years.

^{iv} IKA also provides primary health care services. IS innovation for health care tasks started much later than the social security projects and is not covered in our study.

^v Socio-political circumstances and the aspirations of modernizing public administration have also been changing in Greece. While we did not undertake a systematic study of recent developments, indicative changes include: structural changes in the economy towards the 'knowledge economy' with an enlarged information services sector; the prevalence of the 'information society' discourse, accompanied by a programme of interventions for technical training and investment in IT infrastructure in all sectors; and the emergence of e-government as a new platform of reform for overcoming the poor quality of public sector services.