

After the Re-Engineering: Rehabilitating the ICT Factor in Strategic Organizational Change through Outsourcing

Nada K. Kakabadse, Andrew Kakabadse, Alexander Kouzmin

Abstract

The use of information and communication technology (ICT) to gain a competitive advantage has been one of the key strategic issues of agencies and organizations in the rapidly globalizing environment. Many public sector agencies have adopted a re-engineering strategy as a guiding principle for change; employing ICT as an enabling tool to achieve cost cutting and competitiveness. These change strategies have been imposed by political priorities and implementation has often been unconscious; without planning and compensatory changes in organizational culture flowing from a priori cost/benefit analyses of potential human costs.

This paper examines re-engineering in public sectors, where ICT needs a new pivotal role in the process of re-inventing, or at least revitalizing, public sector legitimacy through now ICT-enabled outsourcing. Comparative insights into ICT's strategic role in policy design in Australian and other market economies further adds to the on-going debate on the Anglo-American and North-European "gradient"; emphasizing the pressing need for a qualitative shift from the "rational myth" of managerial control in ICT development to socio-economic democracy associated with the development of "learning" and "knowledge" organizations.

Introduction

The new transitional market setting, or the "global" option (an advanced and complex form of internationalization that implies a degree of functional integration between internationally dispersed economic activities that have combined and uneven effects across space and time), would have been inconceivable without the advancements of ICT, particularly telecommunications (Forester, 1989; Castelles, 1989; Henderson, 1991; Dicken, 1992, p. 2; Kakabadse and Kakabadse, 2000; 2001). A "techno-economic" process is at the very root of this global re-structuring; with a range of new organizational possibilities facilitated by computer-related technology, creating a world so different that it can only be understood as constituting a new "techno-economic" paradigm, now termed an "information economy" (or info-economy) (Freeman and Perez, 1988; Perez and Soete, 1988; Kakabadse and Kakabadse, 2000).

ICT's epochal impact on the development process punctuates a shift from traditional development to an emergent social totality with its own distinct organizing principle (Baudrillard, 1983; Jameson, 1984; Lyotard, 1984; Kellner, 1988; Kakabadse and Kakabadse, 2000), exemplified by networked organizations, de-differentiation and an increased demand for symbolic goods (Leiss, 1978, p. 19; Douglas and Isherwood, 1980). With regard to social change, ICT is seen as a source of culture, creating differing ways of working, beliefs, attachments and contacts (Gransey and Roberts, 1992) and where ICT's economic value of manipulating culture to enhance rational control is a pivotal issue for all organizational actors. To the extent that ICT succeeds in this mission, corporate ICT becomes a medium of nascent totalitarianism (control through the uniform definition of meaning).

Although, scholars from a macro-perspective began articulating the emergence of an information age since the mid-1940s (Hayek, 1945; Bell, 1976; Habermas, 1979), only in the 1980s Toffler (1980) had aptly captured the power shifts in society that accompanied the increasing importance placed upon information and knowledge as a fundamental economic and political resource, emphasizing the emerging political nature of intellectual capital. By the mid-1990s, industrialized nations entered into the post-industrial and/or post-service era, where intellectual and information processes accounted for almost 80% of jobs in the large service industries, and embarked on two decades of fundamental structural change within which ICT was used for relocation of value across space and in minimum time (Johnson-Eilola, 1996).

ICT Rhetoric

Business relations in the new economy are ostensibly completely different due to the rise of the network society, multi-layered governance controlled partly by multi-national enterprises, post-Fordist economic relations and the new production of knowledge. In this new economy, the organizational boundaries between states and firms become blurred as firms are required to act more like states (Hilton and Gibbons, 2002) and states act more like firms (Monbiot, 2000). The rhetoric involved has included “flexibility”, “responsiveness”, “privatization”, “de-regulation”, “re-engineering”, “agility”, “quality service” and “global sourcing” – all under the guiding principle of “corporate managerialism” or a philosophy of “creating shareholder value” (Kakabadse and Kakabadse, 2001). In response to the emerging world economy, ‘characterized by an increasing interpretation and the crystallization of transnational markets and structures, the state itself is having to act increasingly like a market player, shaping its policies to promote, control and maximize returns from market forces in an international setting’ (Cerney, 1990, p. 230). However, the drive for shareholder value needs to be re-examined in light of the recent scandals of major corporations such as Enron, WorldCom, Tyco and Andersen, in relation to social costs of globalization, expressed under the rubric of an “anti-globalization” movement (*The Economist*, 2003).

ICT and globalization should be evaluated according to the criteria of commensuration, as well as to its capacity for reciprocity and re-distribution of wealth in a system. From space satellites, such as the Global Positioning System, to the Internet, mobile telephone, public CCTV and office and home electronic gadgets, every minutia of human activity is monitored and data collected overtly or covertly that is, in turn, used for increased employee and citizen control. For example, private and public sector transitions increasingly use strategic ICT to implement already pre-defined policy goals and programs directly online. Governments hosting *public net-work* initiatives are shifting from their role as “sole providers” of public services to facilitators of those working to solve similar public problems in the private sector – effectively transferring or, even, abdicating its primary role. This new, corporate managerialism connotes a radical re-shaping of the culture and administrative structures of the public sector pursued by governments since the mid 1980s. With the increasing adoption of private corporate practices concerning the delivery of “more with less”, the rhetorical administrative reforms of re-structuring and rationalization (variously defined) and management improvement measures (financial accountability, management of ICT systems, human resource management) have been implemented with varying degrees of success.

While the focus of management improvement has often been on structural, financial and planning techniques, through the utilization of ICT, the essence of re-structuring has been to re-orient public services so that they no longer service welfare states but, instead, service states which define their primary objective as fostering a globally-competitive economy (Kakabadse and Kakabadse, 2000; Hensler, 2000). The central public policy objective has been to shift public policy from the “social good” to the “economic good”; from a “welfare state” to “the competitive state” (Cerney, 1990). This shift also re-defines the public sector’s role from the delivery of public services to the management of scarce resources.

ICT: The Increasingly Dominant, But Misunderstood, Organizational Variable

Notwithstanding the considerable diversity of organizational re-structuring strategies (downsizing, de-layering, commercialization, devolution, right sizing, re-engineering, outsourcing) pursued by public organizations, they all share a common base: a move away from the conventional organizational form of centralized hierarchies of task-oriented operatives, controlled by bureaucratic rules, towards distributing operational decision-making throughout the organization with the use of new ICT systems enabling a client focus. The new organizations appear to be de-politicized and decentralized networks of output-oriented entrepreneurs, regulated by systems of incentives and information feedback within suitable cultural contexts.

However, the new organizational structure often conceals organizational politics, as it is difficult to identify or name the power-center (Muetzelfeldt, 1992; Kakabadse and Kakabadse, 2000). In practice, structure depends on the powerful, but indirect, regulatory mechanisms of corporate culture, incentive structures and organizational ICT infrastructure. Through these mecha-

nisms, strategic control is centralized while operational decision-making is decentralized, leading to practices that are usually no more than pseudo-devolutionist – where organizational politics continue but follow new and less visible trajectories (Muetzelfeldt, 1992). The symbiotic interaction between the prevailing economic-rational ideology and the adopted information technology have a pervasive, hegemonic influence over corporate and public sector agency practice, alike.

The most fashionable strategic objective of contemporary organizations, both in private and public sectors, of gaining a competitive advantage (variously defined as establishing and maintaining market place advantage; improving performance; and gaining increased productivity) is based on the *reduction of costs* through the adoption of new ICT (Wheatley, 1992). Many senior executives "re-engineer" their organizations and business in order to cut costs (Hensler, 2000; Kakabadse and Kakabadse, 2000). Technological change brought work re-structuring to the public service and later to industry, although changes were also brought about in response to both domestic and international market pressures that reflected broad, community-wide government policies and rapidly changing social and economic settings (Dodgson, 1991; Kakabadse and Kakabadse, 2000). For example, the Australian government review of the public sector concluded that ICT is a fundamental enabler for increasing government competitiveness and, thus, the Government Information Technology Review Group reviewed 97% of public sector organizations to identify opportunities for taking advantage of ICT developments and pursuing the outsourcing option as a cost saving measure (Commonwealth Government, 1995).

Many American, UK, Australian and some European enterprises have outsourced all ICT activities – from maintenance of their mainframe computers and desktops to the choice and development of new-entry information systems (Kakabadse and Kakabadse, 2002). In 2004, the US government, alone, spent \$60 billion on ICT projects and \$80 billion were spent on outsourcing (Fountain, 2004). Moreover, a comparative study of government IT performance and the power of IT industry across seven national states (Dunleavy, 2004) shows that UK, Australia and New Zealand have, through outsourcing activities, lost in-house capacity with IT projects and are effectively "captured" by the IT industry – in particular, by the top five IT suppliers. For example, the Australian government is captured by EDS and Japan by Hitachi (Dunleavy, 2004). The US and Canadian governments have considerable capacity in house whilst the Netherlands' Government, pursuing competitive strategies, keeps full in-house capacity for managing IT projects (Dunleavy, 2004). In the Anglo-American economies, the question is no longer whether to use global sourcing but, rather, which source? This has caused a backlash from many US state government public servants losing jobs. External pressure from shareholder societies, such as the UK and the US, for perpetual cost savings and a focus on "core" business functions has significantly neglected human costs.

Nissan employs only non-union labor and also outsources its work to suppliers with a non-union labor force, by-passing the need for negotiation with unions. Nissan also works its employees and assets harder, the price being that they have 31 reported injuries per 1,000 worker due to a reputed line speed being too fast. People are, therefore, being injured which according to Occupational Safety and Health Administration is twice higher than competitors with unionized labor (Welch, 2003).

Outsourcing is often pursued on the basis of perceived advantages, such as favourable outcomes from promised cost savings and enhancement of existing services. The reality, depending on the outsourced activity, can be disappointing. The reasons may be many – from poor performing supplier choice of servicing model, to contractual nuances and relations management, amongst other things. The biggest disadvantage of outsourcing is the loss of skills and expertise in the outsourced activity. For example, outsourcing IT requirements to suppliers often finds organizations locked into difficult, long-term agreements – exemplified by the Australian Custom Services (ACS) (Hutchins, 2004). The ACS outsourced the whole IT department to EDS and lost all its expertise and skill that had been established over 30 years. When an EDS employee with his collaborator stole two ACS outsourced servers, the ACS was not able to terminate the contract, due to poor performance, because it had to negotiate the return of all of its former assets that were transferred to EDS control or to acquire lost skills (Hutchins, 2004). In addition to physical and data security, there are also privacy and copyrights issues. Moreover, overall costs may increase due to the concentration on service volumes. As well, the outsourcer's desire to increase work

against services without a specific contract service level can be problematic. Organizations may feel that they have outsourced responsibility and accountability – a big delusion. Driving cost down for increased services may backfire as strategic management may be neglected whilst suppliers may not be able to give the required level of attention to the client (Kakabadse and Kakabadse, 2002).

In the competitive, and sometimes over-enthusiastic, pursuit of cost reduction, managers often mis-understand the role of ICT and select strategies for ICT adoption and diffusion that ignore the fact that technology transfer also produces cultural transfer (Soesastro et al., 1990; Geisler, 1993; Korac-Boisvert, 1993; Kakabadse and Kakabadse, 2000). Often ICT investments are made in the belief that returns will eventuate. Many managers under this perceived pressure invest in ICT based on a “gut feeling” or “media hype” that value will be ensured, 'without having good measures to determine the performance effects' or a comprehension of ICT's socio-cultural effects on an organization or its associated human costs (Kauffman and Weill, 1990, p. 337; Geisler, 1993; Korac-Boisvert and Kouzmin, 1994; Kouzmin and Korac-Boisvert, 1995). However, organizational performance between national administrations and between sub-national entities varies greatly and is highly contingent on a wide range of political and historical variables (Woods, 1988).

A review of the recommendations of various government enquiries on ICT's role in public management suggests that Anglo-American societies primarily focus on ICT as an enabling tool for cost cutting and attaining competitive edge (Hensler, 2000; Kakabadse and Kakabadse, 2000). The secondary focus is on information sharing. Other societies have a primary focus on strategies for future initiatives for achieving a vision of an “Information Society” and the benefits to the community and economy. The Canadian Government's inquiry report, for example, concludes that ICT is fundamental to the issue of public sector organizations' competitiveness and provides a blueprint for an integrated approach to improving government service delivery while significantly reducing costs (Treasury Board of Canada, 1994). Similarly, the US Government's National Performance Review suggests a need for re-engineering the government in the US through the use of ICT (NPROVP, 1993). The report further suggests that the American federal government, with the exception of the Defence Department, is significantly behind the private sector in the identification and utilization of the best information systems and, as such, is virtually the only sector of American society that has yet to confront the need to “re-invent” itself for the “Information Age” (NPROVP, 1993; Reynolds, 1994).

On a state level, the report of the State of California's Task Force on Government Technology Policy and Procurement identifies an increase in the state's ICT budget in the face of reductions in its state-wide budget; a lack of enterprise-wide planning and coordination in IT; a lack of performance information and a lengthy delivery time for solutions (State of California, 1994). These reports also reveal that the secondary focus of Australian, Canadian and US governments is the creation of a national vision in which all citizens can exchange and receive information and by which government can more effectively use ICT. Anglo-American economies pursued initiatives set by the US under the rubric of “re-inventing government”, where ICT was a pretext for change.

The European Community report advocates an action plan based on specific initiatives – highlighting a need to remove monopolistic, anti-competitive environments; the prime task of governments being the safeguarding of competitive forces (The European Council, 1994). Similarly, the Swedish Government's Commission on Information Technology (1994) promoted the use of ICT as a means of improving the quality of life and the nation's international competitiveness. It made a series of recommendations on what was to be achieved in areas such as education and research, the legal system and public administration (Swedish Prime Minister's Office, 1994). The Danish Government outlined a strategy and proposals for a year 2000 agenda for future initiatives. It covered issues such as health, data protection and privacy, education, libraries, mass media, telecommunications, and the impact on work within an implementation strategy (Danish Ministry of Research, 1994).

Thus, the role of ICT has evolved from that of an administrative support tool to that of a major catalyst for change. Furthermore, ICT adds a new element to the continuing debate about the Euro-American “gradient” of public service management. It could be suggested that the Anglo-

American public sector view of ICT is more "instrumental" (emphasizing ICT as a tool for rationalizing tasks and cost cutting), whereas the North-European view is more "social" (emphasizing that ICT is a tool that needs to be managed for the benefit of society).

Today, there is hardly an activity that is not being outsourced. Thus, whilst 14 years ago a landmark, 10-year ICT-outsourcing deal between Kodak and IBM, worth USD 250 million, came to prominence, many managers ponder the question as to how could one entrust outsiders to manage ICT assistance. Now, some managers ponder the question as to whether one should use local (on-shore) or offshore suppliers. Outsourcing has come of age and is currently in the process of industry restructuring or global re-structuring facilitated by the off-shoring option.

The Principle of Dominance and Reasons for ICT Failure

Even when ICT is acquired through a planned assessment of corporate information systems, once applied in the corporate environment, ICT may not be used as an integral part of the overall corporate strategic plan (Geisler, 1993). Technology transfer may not easily occur as many organizations institutionalize their past in physical components of the organization and the existing information infrastructure (Hill, 1990; Escobar, 1992; Korac-Boisvert, 1993), thus leading to significant resistance to change. A review of the literature dealing with ICT failures, or "soft-core" crises, suggests that ICT is a dominant variable but is often mis-understood by the decision-making elite (Kouzmin and Korac-Boisvert, 1995). While ICT's mis-understanding stems from a "cognitive failure" of the decision-making elite (Korac-Boisvert and Kouzmin, 1995a; 1995b), pervasive socio-cultural values and a rapid rate of change, ICT's dominance has an established and articulated value as a necessary nodal point through which organizational discourse must pass, whether efficiency is attached to it or not.

In addition, ICT dominance is highly contingent on a dominant design that reflects a set of technical, social and political constraints and, as such, lies behind the industry performance frontier (Sahal, 1981; Anderson and Tushman, 1990, p. 617). Although organizations often direct their energies towards attaining the highest potential performance levels and cost efficiencies through the use of ICT, it appears that 'the single greatest challenge facing managers in the developed countries of the world is to raise the productivity of knowledge and service workers' (Drucker, 1992, p. 69) and to increase their own ICT awareness.

This cognitive failure can, in part, be attributed to human limitations and the rapid rate of change and, in part, to the fact that currently a significant proportion of managers has not "grown up" with ICT in the way that graduates from the mid 1980s have (Thacker, 1990). As such, they do not understand the diffusion of ICT and its role in information gathering, processing and transfer at all levels and throughout the ICT network. As Bennis (1993, p. 168) has argued, 'basic changes take place slowly because those with power typically have no knowledge and those with knowledge have no power'. Thus, in dealing with the selection and diffusion of an ICT system, the typical senior manager of today faces pressures for which he/she has not been trained and prepared.

Furthermore, the rapidly changing technology base makes ICT difficult for those not involved with it on a day-to-day basis to keep abreast of current trends. Similarly, because of an organization's functional segmentation, ICT professionals in public sector organizations often have a limited understanding of the underlying business processes as they do not have the opportunity to experience program development and policy implementation (Commonwealth Government, 1995; Korac-Boisvert and Kouzmin, 1995a; 1995b; Kakabadse and Kakabadse, 2000). A lack of adequate ICT skills and experience for implementing change, "turf" battles, a lack of management champions and a management vision reflecting that there is no need to change, are common barriers to change, leaving many organizations and actors locked into roles and practices that simply do not work (Bennis, 1993, p. 168; Ramos, 1994).

Considering that ICT's influence is pervasive, being introduced much faster than earlier new technologies were, and that, by its very nature, ICT is global and recognizes no barriers (it eludes the sovereign powers of any one nation), the demands on organizations to be responsive by re-training actors for changing job roles, as well as new jobs that might be created, is increasingly urgent (Korac-Boisvert and Kouzmin, 1994; Korac-Kakabadse and Kouzmin, 1997). This urgency

is demonstrated by the growing international trend demanding university-supplied management courses, customized to the requirements of large client organizations and intense offshoring of low-level ICT facilitated services. The demand is for training at differing levels in organizational hierarchies, ranging from chief executives to line managers, and suggests that a *management crisis* for critically updated management skills is equally current in Australia as in the US, Britain and Continental Europe. However, the advent of a new generation of senior managers with better skills in current technology by no means assures an improved strategic approach to ICT, as the key role in adopting ICT (selecting and purchasing) is greatly diminished in the subsequent process of management in the routine operation of systems. Moreover, ICT use in a more or less systematic mining, observation, collection and analysis of employees and citizen's information, in order to exert control, often over-shadows the usefulness of ICT for human development.

IT Investment and Problematic Organizational Performance

Notwithstanding, enormous investments in ICT and the overwhelming evidence of its pivotal role in socio-cultural transformation, exemplified by the "global" option (Forester, 1985; 1989), there is little empirical evidence linking ICT investment to *organizational performance* (Weill and Olson, 1987; Weill, 1992; Geisler, 1993, p. 31) and very 'little persuasive evidence that ICT investments have created strong leverage on the value of the firm' (Kauffman and Weill, 1990, p. 378) or business productivity at the aggregate national level (Geisler, 1993). In the decade of the 1980s, organizations in the US invested in ICT between one-third to one-half of their total durable equipment budgets (proportions vary by industry), while in the 1990s, the non-equipment share of ICT (software and related costs) is rapidly becoming a major investment item (Geisler, 1993). Service industries, alone, consumed about 85% of the USD 1 Trillion invested in ICT in the United States, while productivity growth averaged only 0.8% a year. The services (air transport; telecommunications; retailing; health care; banking; insurance) actually invested proportionally more in ICT than manufacturing – 5.6% of output compared to 2.5% in manufacturing (OECD, 1995). However, research shows that 40% of the US ICT investment failed to show a positive return (Gartner Group, 1994; Nader, 1995). Moreover, at the turn of the 21st century, with the collapse of the dot.coms and over-hyped markets, billions of shareholder worth had been destroyed.

Notwithstanding, IT is engineered into organizational life in both material and discursive ways. Materially, it provides the potential for a wide range of data to be gathered, stored and processed, to the extent that "data overload" can become a part of the explanation for the lack of productive benefit, provided that there is a lack of training and an ICT system design failure (Korac-Boisvert and Kouzmin, 1995a; Kakabdse and Kakabdse, 2000). The crucial point of ICT system design is that it should enable its user to confidently identify which type of data processing will generate the pertinent information in a critical time (Korac-Boisvert and Kouzmin, 1994; 1995a). Furthermore, ICT's strong discursive presence in contemporary culture, particularly in discussions concerning the future of work and organizations, and in critical review, is often under-estimated by ICT policy-designers (Forester, 1985; 1989; Roszak, 1986; Webster and Robins, 1986).

When computers first appeared in offices in the late 1970s, they were used as superior typewriters, mainly by support staff; in the 1990s they became tools for managers at every level. Additionally, management structures inherited from the past have also hindered the efficient use of technology in many organizations (OECD, 1995; 1997; 1999). However, the reasons for the improvement in the investment and performance ratio can be partly attributed to the considerable decline in the cost of the material ICT components (particularly hardware); improved cost measures; and the benefits accrued to the organization from the usage of ICT. These factors manifest themselves in improvements in the information systems and, as such, are getting recognition and measurement at the corporation's strategic level.

The large investment, previously patchy performance results, "soft-core" crises and empirical suggestions that technology change arose as an independent determinant of managerial re-organization in many institutions (Alban-Mecalf and Nicholson, 1984; Zemke, 1988; Korac-Boisvert and Kouzmin, 1994; OECD, 1995; 1999) suggest that ICT is not only the dominant organizational variable, but is also the least understood one. Adopting both innovative and routine

uses of ICT to achieve greater agency efficiency and effectiveness is increasingly critical. There is also a need to develop more effective methods in conveying knowledge and awareness on a global scale; building "learning organizations" (Argyris and Schon, 1978) and intellectual skill-bases.

IT and the Metonym of Re-engineering at Work

The mechanistic metonym of the 1990s, "re-engineering" (Hammer and Champy, 1993:32) or "strategic core re-organization" (Fairbrother, 1991), has become executive rhetoric in both private and public organizations. A survey in the US revealed that most senior executives cited re-engineering as their program of choice for achieving strategic goals (Gateway Information Service Inc., 1992). 90% of company executives in Canada and Britain, 98% in Germany, 85% in US and 69% in Japan reported that their organizations had undertaken some form of re-engineering (re-structuring, downsizing and/or cost reduction) since 1988 (Cascio, 1994, p. 8). At the end of the last century, the term "re-engineering" lost its appeal and although the momentum of change continues, the new terminology of "global sourcing" emerged for use in the new century (Kakabadse and Kakabadse, 2000). Thus, a new management fad takes a place in a "fashion parade" shaping the institutional environment of organizations (Abrahamson, 1996; 2001).

Many executives perceived global competition; rapid ICT development; sluggish economic growth; financial de-regulation; privatization of public utilities; and cost cutting as the pressures driving them to re-engineering (Osborn and Geabler, 1992; Wheatley, 1992; Forrester Research Inc., 1993). In the Australian cultural setting, ICT appears to be a pivotal dimension of the re-engineering process in public sector organizations. The public "wealth creators" view ICT as a structural facilitator of market-driven approaches to the conduct and delivery of public-services. They have used ICT to build a "social architecture" for change in order to re-invent, or at least re-vitalize, the public sector image (Hill, 1989).

The literature (Hammer, 1990; Champy and Arnouldse, 1992; Stanton and Power 1992; Hammer and Champy, 1993) suggests that the re-engineering idea is built on an eclectic collection of pre-existing concepts relating to competitive advantage; a process with degrees of implementation rather than implying a fully fledged new organizational paradigm. The term "re-engineering" is used to refer to a strategy of "downsizing"; "de-layering" (flattening of hierarchies); re-structuring; "programming" (automating existing processes or the routinization of management tasks); effecting "lean production" (concentration of production on "value added" activities and the elimination of "not-value added"/"waste" activities). It also has referred to developing new business processes (de-centralization, team production, re-organizing management information systems, adopting new ICT); "outsourcing" (re-born entrepreneurialism) (Gateway Information Service Inc., 1992; Babson, 1993; Cameron, Freeman and Mishra, 1993; Forrester Research Inc., 1993; Womack and Jones, 1994; Glasson and Rusli, 1994; Kakabadse and Kakabadse, 2000) or re-organizing in a top-down fashion through a coercive style of change management, accompanying the further centralization of power in the hands of senior management engineering changes to bureaucratic rules (DuGay and Salaman, 1992).

The impulse to re-structure arises in response to a variety of tensions. Re-structuring appears to be one of the most common approaches to organizational change, despite the fact that many re-structures 'never produce the long-run benefits' (Bolman and Deal, 1991, p. 99). While organizational forms may diverge, both in terms of the overall division of functions and of the internal structure of work relationships, new ICT (whether encapsulated in computer-related technologies or in managerial strategies) is introduced with the "rational" goal of increased productive efficacy and, as such, many "old" choices continue to be made. Eccles (1992) argues against simple technological determinism and suggests that a cycle of change, such as de-layering, is likely to be followed by re-layering at some point and this, in turn, by further rounds of de-layering. He suggests that the cycles of change may not merely be the reflection of business cycles, but that they are derived from organizational dynamics. However, these dynamics are influenced by the organizational structure that provides constraints on the interactions actors can make; it defines combinations within which actors choose their interactions.

While any one strategy on its own appears to be insufficient to gain an organizational competitive edge, re-engineering often involves complex variety and encompasses 'the fundamental re-thinking and radical re-design of business processes to achieve dramatic improvements in critical, contemporary measures of performance such as cost, quality and speed' (Hammer and Champy, 1993, p. 32; Hensler, 2000; Kakabadse and Kakabadse, 2000). Some of the reasons for this phenomenon are the dynamic nature of the ICT landscape in the last few years; the requirements for rapid deployment of mission-critical systems and the need to minimize risks in making large ICT investments. Second, with the advent of intranet technology, traditional outsourcing is being replaced by utility sourcing, where applications are installed in a client's in-house server, exemplified by an application service providers' (ASP) arrangement where the products and services of the ASP vendor are delivered over the internet or dedicated communication networks (Kakabadse and Kakabadse, 2002). Thus, a seamless integration between the services and the functions of the client organization is required to achieve a speedy service. However, the aim of seamless organization that shares information across government agencies, for example, holds dangers for trust-building, because it arouses fears of the development of an Orwellian "Big Brother" approach to management and governance. Independent ICT systems are increasingly captured by a new internet and wireless satellite infrastructure which, whilst retaining the separate existence of the databases and systems, links them for service delivery and, at the same time, exercises central control (Kakabadse and Kakabadse, 2000). Thus, whilst ICT efficacy gains are achieved through common provision of products and services, there is increased infringement on personal freedom and privacy.

Re-engineering and Human Costs

Empirical data suggests two reasons for organizations choosing to re-engineer; financial (to increase the organization's share value) and organizational (reduce overhead and bureaucratic layers; speed decision-making processes; enhance internal communications; foster entrepreneurship; and increase productivity). Both are based on the *economic* criterion of productivity (Cascio, 1992; 1993; Kakabadse and Kakabadse, 2000). Thus, an economic criterion becomes of paramount importance when selecting new IT. However, whenever economic criteria act as selectors (focusing devices) for the adoption of new ICT, development often follows old development paths (in which an established technology has become the dominant paradigm) instead of opening a bigger set of new possible paths; as such, the specific ICT choice falls behind the industry performance frontier (Dosi, 1984; Anderson and Tushman, 1990). At other times, the selection of new ICT is based on the media-typed promotion of cost efficiency or personal choice. This occurs without understanding ICT's broader implication, such as the un-obvious human costs of organizational re-structuring, exemplified by the emotional costs employees pay (stress-related injuries); corporate "memory loss" (contacts, tacit knowledge, experience); absenteeism and productivity loss as well as other organizational risks that can offset the potential cost savings (Due, 1992; Commonwealth Government, 1995; Kouzmin, Korac-Kakabadse and Jarman, 1997; Kakabadse and Kakabadse, 2000).

Often, the increase in expense on overtime, temporary and contract work can exceed the savings expected from the job cuts (Greengard, 1993). Cost cuts in many cases are not achieved because the dominant feature of re-engineering, downsizing, is often followed by the hiring of replacement staff or the use of former staff paid at consultant rates. Those who remain suffer "survivor's syndrome" (Brockner et al., 1993; Cascio, 1993; 1994; Kakabadse and Kakabadse, 2002). Low morale, lack of trust and a decline in commitment to the organization have multiple and ripple effects on virtually every human resource aspect of business activity as survivors find themselves in 'new, and not necessarily friendly, environments' (Cascio, 1993, p. 95). As a result, re-engineering has 'fundamentally altered the terms of the psychological contract that binds workers to organizations' (Cascio, 1993, p. 103). Fillipowski (1993) reported that more than 80% of re-engineered organizations observed decreased employee morale among the survivors. Furthermore, survivors are often worry-laden actors with low self-esteem who direct their motivation to do things to keep their jobs, but not to achieve organizational goals (Brockner et al., 1993).

Staff cuts in organizations with a re-engineering strategy range from 10% (Dilton, 1993) to 80% (Coleman, 1993). A significant feature of re-engineering involves the unprecedented number of white-collar staff affected, with a relatively high proportion in middle-management positions (Cascio, 1993). Although middle-management comprises only 5 to 8% of the work-force, they accounted for 17% of the dismissals in the United States between 1989 and 1991 (Cascio, 1993, p. 96). Thus, the profits of downsized organizations often do not increase as much as expected and very few organizations report increases in the returns on funds invested (Brockner et al., 1993; Cascio, 1993). For example, surveys and case studies suggest that only 45% of surveyed American organizations reported increased profits, while 20% actually reported decreased profits (Fillipowski, 1993). 80% of American respondents to the Conference Board Survey and two thirds of the largest organizations (employing more than 10,000) reported lower morale after some forms of re-engineering (Axel, 1993). The global ICT providers, such as Cap Gemini, EDS, IBM, Accentor, Oracle and others, have pushed for global sourcing and, thus, a jobs transfer to economies with cheaper labor markets. In the US, UK and Australia, 80% of surviving enterprises, including the government sector, use outsourcing as a strategic and/or tactical tool for achieving competitive advantage by reducing costs (Kakabadse and Kakabadse, 2002).

The Australian Government's review of public organizations with a re-engineering strategy, reports that 82% of downsized organizations experience no productivity increase, of which 22% experience a decrease, with the productivity loss varying between 50 and 100% (Commonwealth Government, 1995). The staff reduction ranged from 10 to 80% and led to a loss of tacit knowledge, skills and experience. In one outsourcing case, an industrial dispute cost AUD\$17,299 per affected staff member, while survivors were claimed to have become conservative and negative (Commonwealth Government, 1995). The Australian Department of Employment, Education and Training (DEET), for example, in 1992-1993 (the year of re-engineering) had a 61% increase in workers' compensation premium (Comcare) from the previous year with a total claim of AUD\$5.7 million (*The Canberra Times*, 1993). Although the stress related cases in DEET officially account for only 25% of the compensation pay out, it is likely that other injuries were also due to stress (lack of concentration due to stress of imminent job loss) (*Public Eye*, 1993).

One of the largest Australian re-engineering exercises involving counter staff has been in Australia Post, which transformed the traditional post office into retail postal outlets. In response to stimuli from external competition, Australia Post adopted ICT as the cornerstone of new service delivery and a vital tool in attracting additional retail services, such as payment collection (using bar-coding) for other agencies (Commonwealth Government, 1995). Although considerable staff training had been undertaken, there was a significant human cost in the process.

Notwithstanding, since 1990 the trend towards re-engineering has resulted in job displacement through compulsory retrenchments, early retirements and voluntary redundancies of managerial and specialist staff, Aungles and Parker (1992, p. 72) find no evidence of de-bureaucratization of large organizations. Re-engineering of Australian public sector organizations, for example, resulted in de-centralized coordination and operational dominance; de-specialization; and a shift away from the internal labour market (core-periphery employment model).

Organizations re-engineering, especially those with symbolic goods (knowledge intensive, social-welfare and research and development-based) need to closely link ICT strategies to human resource strategies, as ICT 'puts a heavy emphasis on organizational forms' (Dodgson, 1989, p. 17) and culture (Gransey and Roberts, 1992). The inter-dependency between actors and organization (actors' needs, skills and values on one hand and the organizational objectives on the other) changes through fundamental changes to job profiles, new skills to cope with new technology and new organizational orientations (Kreigler et al., 1988, p. 23). The importance of staff involvement and participation for generating commitment to change, and for securing its implementation, should not be under-estimated (Bolman and Deal, 1991). Muetzelfeldt (1988) has argued that the acceptance of radical organizational change relies on broader cultural forces, including the technological ability to import into the work place the ideology of consumerism and the sense of identity, which goes with it. This trend has continued into the 21st century with increased level of outsourcing.

From the Dark-Side of Re-engineering to Commitment and Ideology in Change

The "dark-side" of adopting a re-engineering management model is not its adoption *per se*, but its adoption without critical examination and adjustment to local context. The study of TQM, as a re-engineering strategy, in the Canadian, British, American and Australian public sector organizations reveals "contra-preneurship"; the deliberate resistance to implementation (MBA-MIAC, 1992; Morgan and Murgatroyd, 1994). Some reasons for the identified resistance are union fears about potential job losses; the breakdown of traditional union/management relationships; and rhetorical, but limited, active commitment from top management (Morgan and Murgatroyd, 1994). Other reasons are that the public sector is often culturally and structurally resilient to many partially-relevant corporate and management ideas.

For example, public servants are not, in reality, paid or rewarded on performance even though some managerialist policies have attempted to introduce such a context (MBA-MIAC, 1992, p. 30-31; Morgan and Murgatroyd, 1994). In many public sectors, performance pay was equalized around merit pay for most and is currently being replaced by agency bargaining mechanisms (formal equalization of performance pay). Similarly, the absence of a real market in the public sector usually means that so-called customers are often involuntary clients of monopolistic or regulatory services or processes. Managing customers' expectations and attempting to set a service standard to satisfy them are far more difficult when public sector organizations do not have autonomy to vary service provisions (MBA-MIAC, 1992, p. 30-31; Morgan and Murgatroyd, 1994).

While radical quality improvements are urgently needed in many public sector organizations, as well as the adoption of "best practices", these need to be incorporated into organizational ideologies sensitive to public sector cultures which, amongst other things, are resistant to change; are risk averse (because of potential political fall-out and fear of innovation); lack a clear profit are motive; and have the problem of communicating leadership ideals from the top down and to other parts of the organization (Savoie, 1994).

Radical organizational change suggested in all-encompassing and ill-defined terms of IT-based re-engineering requires change in the balance of power and the adoption and implementation of projects which decisively shift power balances and re-order entrenched organizational cultures (Higgins, 1988; Korac-Boisvert and Kouzmin, 1994; Kakabadse and Kakabadse, 2000). Change ideology as a management tool needs to challenge the basic premises on which organizations have been managed and requires organizations to make significant qualitative shifts away from traditional and outmoded *modus operandi* to new and innovative operations. The agenda for qualitative leaps or radical organizational changes is not essentially concerned with "efficiency", however conceived, but with more fundamental transformations in the socio-cultural quality of life (Higgins, 1988; Korac-Boisvert and Kouzmin, 1994; Kakabadse and Kakabadse, 2000).

Ideologies play a significant role in the processes of organization creation because they have the potential to link attitude to action; a social short circuit (Smelser, 1963). The link is made between broad, often moral, diagnoses of situations and action at a specific level. Ideology mobilizes consciousness and action by connecting social burdens with general ethical principles. Improvements in quality and performance flow from corporate ideology which systematically recognizes and rewards individuals, symbolically and materially, for identifying individual sense of purpose with the values that are designed into organization.

The potency of organizational ideology is not only contextually contingent, but is also contingent on how it is maintained and kept alive (Pettigrew, 1987). As a tool of change, ideology is potentially superior to other mechanisms, such as economic rewards or formalized rules. This superiority drives from its combined subtlety and power to mobilize: it is a "tacit" means of mining additional sources of "mobilization and direction" towards organizational ends (Kilmann, 1985: ix). The strength of organizational ideology that shapes organizational culture provides the key for securing 'unusual effort on the part of apparently ordinary employees' (Peters and Waterman, 1982: xvii). Ideological management has greater acceptance and preference than old direct methods of control because it appears to be more inclusive, more pervasive and less identifiable (Selznick, 1957).

However, in today's multi-cultural organizations, ideology must celebrate diversity (Morgan, 1983; Van Maanen, 1994) and accommodate 'driven people whose ideas provoke and enrage

the received ideas of a discipline and move the great lumbering cart of theory onwards. Ideology accommodates the idiosyncratic, exciting, innovative maverick thinker, the active deconstructionist and marginal people alike' (Weir, 1993, p. 17); they are all "social wealth creators".

Conclusion

Adoption of new ICT continually (re)defines work related- and social-roles. ICT has contributed to a significant shift in the international pattern of specialization and competitiveness, at a rate that is often faster than related organizational and socio-economic theories recognize (OECD, 1987, p. 214; 1992a; 1992b; 1999; Tushman, and Nelson, 1990; Korac-Boisvert and Kouzmin 1994; 1995a; 1995b). Although ICT development has been a central material condition for the global shift in economic, cultural and social sectors, it is argued that ICT implementation is open to managerial choice and is not just a technological imperative. Physical technologies alone do not, of themselves, lead to either centralization or decentralization, nor skilling or deskilling of actors. The variable effect of outcomes is a function of social relations of production. Outcomes are dependent on the leadership strategies adopted or leadership frameworks and ideologies that shape organization (Shaiken, 1985; Marceau and Jureidini, 1992).

Although the concept of service/product "flexibility" (supply market demands in increasingly shorter time) (Upton, 1992) is facilitated by advanced ICT systems, it is determined by a pattern of relations that shapes an organization's *modus operandi*. The key to gaining strategic advantage from ICT lies in understanding the process of designing, implementing, adapting and managing a strategic information system. The policy design must focus on a balance of the priorities of scarce resource and environmental dynamics; partnership and alliances between all stakeholders; integration within the business process; and increased social justice (information sharing, user awareness).

Patterns of industrial and social conflict are likely to operate within the process of selection of new technologies, both as negative criteria (which possible development to exclude?) and as positive criteria (which technologies to select?). Only through managerial choices are multi-dimensional trade-offs made between the variables of technological trajectories (Dosi, 1984, p. 19). The policy-design choice needs to be explicit, public and acceptable.

The need for management re-education and up-skilling cannot be overstated (DEET, 1995a; 1995b; Kakabadse and Kakabadse, 2000). Perhaps the only competitive advantage public organizations of the future will have is their management's ability to learn faster than competitors and to transfer that knowledge to other actors (de Geus, 1988). Most important of all, is that public and private sector managers need to understand their own position within focal organizations and that of the relations and the interdependencies of the public and the private sectors, and of the interdependence of the public sector on the private, at one level of argument (Mosher, 1980).

The classic SERVQUAL literature suggests that IS managers evaluate the quality of services by looking at the tangibles – reliability; responsiveness; assurance and empathy of the service provider. Besides these dimensions, another crucial aspect of the service quality specific to ASP vendors is how secure are the services? Security is always an issue, especially when dealing with the Internet as an outsourcing platform (Kakabadse and Kakabadse, 2002). The use of the ICT outsourcing results in having critical data outside the direct control of an organization's management and IT staff.

In addition to ICT "upskilling" of agency actors in order to gain a competitive edge in a "sustainably developed" manner (development that meets the needs of the present without compromising the ability of future generations to meet their own needs) (WCED, 1987), there is also a need for greater partnerships between government, educational institutions, industry, employees unions and community at large (Radford, 1994, p. 2). The globalized world calls for greater cultural diversity of public management, the workforce and education (Radford, 1994, p. 2). Public sector organizations need ICT development, but also commitment to continuous learning and a work ethic that values difference in actors and encourages them to perform.

More managerial effort is spent determining and operating elaborate financial control systems than ensuring that the resources are used carefully and wisely. There is an urgent need for

balancing the costs and benefits of shareholder value, and the drive for efficiency, with a neglect of social and organizational dysfunctionalities. However, in pursuing the opportunities afforded by the technology route, more attention has been given to the potential advantages of ICT, such as team-based work applied to a remote-working or virtual environments – exemplified by concepts of the tele-worker or tele-cottaging, than more traditional core organizational employment and global sourcing. Whilst research on the negative impact of ICT often suggests contradictory organizational consequences, such as accelerating the pace of work as customers expect faster responses, information overload and techno addiction remain largely unexplored issues (Robey and Boudreau, 1999; Porter and Kakabadse, 2003).

References

1. [Australian] Commonwealth Government (CG), (1995), *Enterprising Nation: Renewing Australia's Managers to Meet the Challenges of the Asia-Pacific Century* (The Karpin Report), AGPS, Canberra.
2. [Australian] Department of Employment, Education and Training (DEET), (1995a), *Client First: The Challenge for Government Information Technology* (Report of the Minister for Finance), Information Technology Review, Canberra, March.
3. [Australian] Department of Employment, Education and Training (DEET), (1995b), *Corporate Technology Plan: 1995-1999*, DEET Publishing Unit, Canberra, February.
4. [Australian] Management Advisory Board - Management Improvement Advisory Committee (MAB-MIAC), (1992), *Building a Better Public Service*, Number 12, AGPS, Canberra.
5. [Canadian] Treasury Board of Canada, (1994), *Blueprint for Renewing Government Service Using Information Technology* (Discussion Draft), Treasury Board of Canada, Ottawa.
6. [Danish] Ministry of Research, (1994), *Info-Society 2000*, Ministry of Research, Denmark.
7. [Swedish] Prime Minister's Office, (1994), *Information Technology Wings to Human Ability*, Government Commission on Information Technology, Prime Minister's Office, Stockholm.
8. [USA] National Performance Review Office of the Vice President (NPROVP), (1993), *Re-engineering Through Information Technology* (Accompanying Report of the National Performance Review office of the Vice President), Washington, September.
9. [USA] State of California, (1994), *Task Force on Government Technology Policy and Procurement* (Report to Governor Pete Wilson), State of California, September.
10. Abrahamson, E., (1996), 'Management Fashions,' *The Academy of Management Review*, Volume 21, Number 1, January-February, pp. 254-285.
11. Abrahamson, E., (2001), 'Words Into Numbers', *Academy of Management Conference Report*, Washington D.C.
12. Alban-Mecalf, B. and Nicholson, N., (1984), 'The Career Development of British Managers', *Management Survey Report*, British Institute of Management, Oxford.
13. Anderson, P. and Tushman, M.L., (1990), 'Technological Discontinuities and Dominant Designs: A Cyclical Model of Technological Change', *Administrative Science Quarterly*, Volume 35, Number 4, December, pp. 604-633.
14. Argyris, C. and Schon, D.A., (1978), *Organizational Learning: A Theory of Action Perspective*, Addison-Wesley, Reading.
15. Aungles, S. and Parker, S., (1992), *Work, Organizations and Change: Themes and Perspectives in Australia* (second edition), Allen and Unwin, Sydney.
16. Axel, H., (1993), *HR Executive Review: Downsizing*, Conference Board, New York.
17. Babson, S., (1993), 'Lean or Mean: the MIT Model and Lean Production at Mazda', *Labour Studies Journal*, Volume 18, Number 2, Summer, pp. 3-24.
18. Baudrillard, J., (1983), *In the Shadow of the Silent Majorities*, Semiotext, New York.

19. Bell, D., (1976), *The Coming of the Post-industrial Age: A Venture in Social Forecasting*, Penguin, Harmondsworth .
20. Bennis, W., (1993), *An Invented Life: Reflections on Leadership and Change*, Addison-Wesley, Reading.
21. Bolman, L.G. and Deal, T.E., (1991), *Reframing Organizations: Artistry, Choice and Leadership*, Jossey-Bass, San Francisco.
22. Brockner, J., Grover, S., O'Malley, M.N., Reed, T.F. and Glynn, M.A., (1993), 'Threat of Future Layoffs, Self-esteem and Survivors' Reactions: Evidence From the Laboratory and the Field', *Strategic Management Journal*, Summer, Volume 14 (Special Issue), pp. 153-166.
23. Cameron, K.S., Freeman, S.J. and Mishra, A.K., (1993), 'Downsizing and Redesigning Organizations', in Huber, G. and Glick, W. (eds.), *Organizational Change and Redesign*, Oxford University Press, New York, pp. 83-97.
24. Cascio, W.F., (1992), *Managing Human Resources: Productivity, Quality of Work Life, Profits* (third edition), McGraw-Hill, New York.
25. Cascio, W.F., (1993), 'Downsizing: What Do We Know? What Have We Learned?', *Academy of Management Executive*, Volume 7, Number 1, February, pp. 95-104.
26. Cascio, W.F., (1994), 'The Cost of Downsizing', *HRM Monthly*, February, pp. 8-13.
27. Castelles, M., (1989), 'High Technology and the New International Division of Labour', *Labour and Society*, Volume 14, Number 1, pp. 7-42.
28. Cerney, P., (1990), *The Changing Architecture of Politics: Structure, Agency and the Future of the State*, Sage, London.
29. Champy, J. and Arnouldse, D., (1992), 'The Leadership Challenge of Re-engineering', *Insights Quarterly*, Fall, pp. 70-93.
30. Coleman, S., (1993), 'Tightening The Belt', *Pacific Computer Weekly*, Volume 905, 16 July, p. 8.
31. de Geus, A., (1988), 'Planning as Learning', *Harvard Business Review*, Volume 66, Number 2, March/April, pp. 70-74.
32. Dicken, P., (1992), *Global Shift: The Internalization of Economic Activity*, PCP, London.
33. Dilton, T., (1993), 'Union Anger Over Government IT Outsourcing Plans', *Pacific Computer Weekly*, 16 July, pp. 77-88.
34. Dodgson, M., (1989), 'National Policies - Research and Technology Policy in Australia: Legitimacy in Intervention', *Science and Public Policy*, Volume 16, Number 3, pp. 159-166.
35. Dodgson, M., (1991), 'The Future For Technological Collaboration', *Emerging New International Technology Order: Opportunities and Challenges for Korea*, STPI International Conference, 5 September, Seoul, Korea.
36. Dosi, G., (1984), *Technical Change and Industrial Transformation*, MacMillan, London.
37. Douglas, M. and Isherwood, B., (1980), *The World of Goods*, Penguin, Harmondsworth.
38. Drucker, P.F., (1992), 'The New Society of Organizations', *Harvard Business Review*, Volume 70, Number 5, September-October, pp. 95-104.
39. Due, R., (1992), 'The Real Cost of Outsourcing', *Information Systems Management*, Winter, pp. 78-81.
40. DuGay, P. and Salaman, G., (1992), 'The Cult(ure) of the Customer', *Journal of Management Studies*, Volume 29, Number 5, pp. 615-633.
41. Dunleavy, P., (2004), 'Government IT Performance and the Power of the IT industry: A Cross-National Analysis', *The Fourth Social Study of IT Workshop at the LSE*, London, March 22-23.
42. Eccles, T., (1992), 'Brief Case: Delaying Myths and Mezzanine Management', *Long Range Planning*, Volume 25, Number 4, August, pp. 105-107.
43. Escobar, A., (1992), 'Reflection on "Development": Grassroots Approaches and Alternative Politics in the Third World', *Futures*, Volume 24, Number 6, pp. 411-436.
44. Fairbrother, P., (1991), 'In State of Change: Flexibility in the Civil Service', in Polert, A. (ed.), *Farewell to Flexibility*, Blackwell, Oxford, pp. 69-83.

45. Fillipowski, D., (1993), 'Downsizing Isn't Always Rightsizing', *Personnel Journal*, November, Volume 72, Number 11, p. 71.
46. Forester, T., (ed.), (1985), *The Information Technology Revolution*, Blackwell, Oxford.
47. Forester, T., (1987), *High-Tech Society*, Basil Blackwell, Oxford.
48. Forester, T., (ed.), (1989), *Computers in the Human Context: Information Technology, Productivity and People*, Blackwell, Oxford.
49. Forrester Research Inc., (1993), 'Re-engineer Yourself', *Computerworld*, Volume 15, Number 51, June, p. 70.
50. Fountian, J., (2004), 'Enacting Technology in Cross-Agency Initiatives: Structure Transformation or Consolidation?', *The Fourth Social Study of IT Workshop at the LSE, London*, March 22-23.
51. Freeman, C. and Perez, C., (1988), 'Structural Crisis of Adjustment, Business Cycles and Investment Behaviour', in Dosi, G., Freeman, C., Nelson, R., Silveberg, G. and Soete, L. (eds.), *Technical Change and Economic Theory*, Pinter, London, pp. 38-66.
52. Gartner Group, (1994), 'Laying the Foundation for the Workplace of the Future', *Conference Trip Report*, Gartner Group Inc. Pacific Symposium, Gold Coast, Australia, November, p. 43.
53. Gateway Information Service Inc., (1992), 'Re-engineering', *Computerworld*, Volume 15, Number 24-25, December, p. 46.
54. Geisler, E., (1993), 'How Strategic is Your Information technology?', *Information Technology*, Volume 36, Number 1, January/February, pp. 31-32.
55. Glasson, B.C. and Rusli, A., (1994), 'A Preliminary Examination of Some International Responses to Ten Populist BPR Questions: Unearthing BPR Concepts Throughout A Content Analysis', in *Proceedings of the 5th Australian Conference on Information Systems*, Melbourne, Volume 1, September, pp. 99-112.
56. Gransey, E. and Roberts, J., (1992), 'The Experience of Growth in Small High Technology Firms', Paper presented to the 9th EGOS Colloquium, May, Berlin.
57. Greengard, S., (1993), 'Don't Rush Downsizing: Plan, Plan, Plan', *Personnel Journal*, Volume 71, Number 11, November, pp. 64-76.
58. Habermas, J., (1979), *Communication and the Evolution of Society*, Polity Press, Cambridge.
59. Hammer, M., (1990), 'Re-engineering Work: Don't Automate, Obliterate', *Harvard Business Review*, Volume 68, Number 4, July-August, pp. 104-112.
60. Hammer, M. and Champy, J., (1993), *Re-engineering the Corporation: A Manifesto for Business Revolution*, Harper Business, New York.
61. Hayek, F., (1945), 'The Use of Knowledge in Society', *American Economic Review*, Volume 35, Number 4, pp. 519-530.
62. Henderson, J., (1991), *The Globalization of High Technology Production: Society, Space and Semiconductors in the Restructuring of the Modern World*, Routledge, London.
63. Hensler, D., (2000), 'Cooperation in the Competitive Environment of New Growth Economics', in Zineldin, M. (ed), *C&C Proceedings, 1st International Conference on Cooperation and Competition*, Växjö University, Sweden.
64. Higgins, W., (1988), 'Swedish Social Democracy and the New Democratic Socialism', in Sainsbury, D. (ed.), *Democracy, State and Justice: Critical Perspectives and New Interpretations*, Almquist and Wiksell, Stockholm, pp. 69-90.
65. Hill, S., (1989), *The Tragedy of Technology*, Pluto Press, London.
66. Hill, S., (1990), 'Changing the Technological Trajectory: Addressing the "Trailing Edge" of Australia's Historical Culture', *Future*, Volume 22, Number 6, pp. 272-297.
67. Hilton, S. and Gibbons, G., (2002), *Good Business: Your World Needs You*, Thomson Texere, New York.
68. Hutchins, D., (2004), 'Outsourcing the Commonwealth', *Information Week*, December-January, pp.26-31.
69. Jameson, F., (1984), 'Post-modernism and the Consumer Society', in Foster, H. (ed.), *Postmodern Culture*, Pluto Press, London, pp. 74-83.

70. Johnson-Eilola, J., (1996), 'Relocating the Value of Work: Technical Communication in a Post-industrial Age', *Technical Communication Quarterly*, Volume 5, Number 2, pp. 245-270.
71. Kakabadse, A. and Kakabadse, N., (2001), *Geopolitics of Governance*, Palgrave, New York.
72. Kakabadse, A. and Kakabadse, N., (2002), *Smart Sourcing: International Best Practice*, Palgrave, London.
73. Kakabadse, N. and Kakabadse, A., (2000), *Creating Futures: Leading Change Through Information Systems*, Ashgate, Aldershot.
74. Kauffman, R.J. and Weill, P., (1990), 'An Evaluative Framework For Research on the Performance Effects on Information Technology Investment', *Information System Research*, Volume 1, Number 4, December, pp. 377-388.
75. Kellner, D., (1988), 'Post-modernism as Social Theory: Some Challenges and Problems', *Theory, Culture and Society*, Volume 5, Number 2-3, pp. 54-67.
76. Kilmann, R.H., (1985), 'Introduction', in Kilmann, R., Saxton, M. and Serpa, R. (eds.), *Gaining Control of the Corporate Culture*, Jossey Bass, San Francisco, pp. i-ix.
77. Korac-Boisvert, N., (1993), 'Vulnerability Analysis of IT Strategic Planning in Commonwealth Countries: Patterns for IT Transfer', *Journal of Contingencies and Crisis Management*, Volume 1, Number 1, March, pp. 58-63.
78. Korac-Boisvert, N. and Kouzmin, A., (1994), 'The Dark Side of Info-Age: Social Networks in Public Organizations and Creeping Crisis', *Administrative Theory and Praxis*, Volume 16, Number 1, April, pp. 57-82.
79. Korac-Boisvert, N. and Kouzmin, A., (1995a), 'IT Development: Methodology Overload or Crisis?', *Science Communication: An Interdisciplinary Science Journal*, Volume 17, Number 1, September, pp. 57-89.
80. Korac-Boisvert, N. and Kouzmin, A., (1995b), 'Transcending Soft Core Disasters in Public Organizations', *Information Infrastructure and Policy*, Volume 4, Number 2, pp. 131-161.
81. Korac-Kakabadse, N. and Kouzmin, A., (1997), 'From "Captains of the Ship" to "Architects of Organizational Arks": Communication Innovations, Globalization and the "Withering Away" of Leadership Steering', in Garnett, J.L., and Kouzmin, A. (eds.), *Handbook of Administrative Communication*, Marcel Dekker Inc, New York, pp. 681-716.
82. Kouzmin, A. and Korac-Boisvert, N., (1995), 'Soft-Core Disasters: A Multiple Realities Crisis Perspective on IT Development Failures', in Hill, H. and Klages, H. (eds.), *Trends in Public Sector Renewal: Recent Developments and Concepts of Awarding Excellence*, Lang Publishing House, Berlin, pp. 89-132.
83. Kouzmin, A., Korac-Kakabadse, N. and Jarman, A., (1997), 'Economic Rationalism, Risk and Institutional Vulnerability', *Risk, Decision and Policy*, Volume 2, Number 1, March (in press).
84. Kreigler, R., Dawkins, P., Ryan, J. and Wooden, M., (1988), *Achieving Organizational Effectiveness: Case Studies in the Australian Services Sector*, Oxford University Press, Melbourne.
85. Leiss, W., (1978), *The Limits to Satisfaction*, Marion Boyars, London.
86. Lyotard, J.F., (1984), *The Postmodern Condition*, Manchester University, Manchester.
87. Marceau, J. and Jureidini, R., (1992), 'Giants and Dwarves: Changing Technologies and Productive Inter-linkages in Australian Manufacturing Industry', in Marceau, J. (ed.), *Reworking the World: Organizations, Technologies and Cultures in Comparative Perspective*, de Gruyter, New York, pp. 151-170.
88. Monbiot, G., (2000), *Captive State: The Corporate Takeover of Britain*, Macmillan, London.
89. Morgan, C. and Murgatroyd, S., (1994), *Total Quality Management in the Public Sector*, Open University Press, Buckingham.
90. Morgan, G., (1983), *Beyond Method*, Sage, Beverly Hills.

91. Mosher, F.C., (1980), 'The Challenging Responsibilities and Tactics of the Federal Government', *Public Administration Review*, Volume 40, Number 6, November-December, pp. 541-548.
92. Muetzelfeldt, M., (1988), 'The Ideology of Consumption Within the Mode of Production', Paper presented to the Sociological Association of Australia and New Zealand Conference, Canberra, May.
93. Muetzelfeldt, M., (1992), 'Organizational Restructuring and Devolutionist Doctrine: Organization as Strategic Control', in Marceau, J. (ed.), *Reworking the World: Organizations, Technologies, and Cultures in Comparative Perspective*, Walter de Gruyter, New York, pp. 295-316.
94. Nader, J., (1995), 'Seers Look Forward to 2095', *ABM*, April, pp. 106-109.
95. Organization for Economic Cooperation and Development (OECD), (1987), *Evaluation of Research - A Selection of Current Practices*, OECD, Paris.
96. Organization for Economic Cooperation and Development (OECD), (1992a), *Technology and the Economy: The Key Relationships*, OECD, Paris.
97. Organization for Economic Cooperation and Development (OECD), (1992b), *Structural Change and Industrial Performance*, OECD, Paris.
98. Organization for Economic Cooperation and Development (OECD), (1995), *The OECD Science and Technology Review*, Number 15, OECD, Paris.
99. Organization For Economic Cooperation and Development (OECD) (1997), *OECD Policy Brief No. 2-1997*, OECD, Geneva.
100. Organization For Economic Cooperation and Development (OECD)(1999), *OECD Principles of Corporate Governance - Financial Markets and Corporate Governance Report*, OECD, Geneva.
101. Osborn, D. and Gaebler, T., (1992), *Reinventing Government: How The Entrepreneurial Spirit is Transforming the Public Sector*, Addison-Wesley, Reading.
102. Perez, C. and Soete, L., (1988), 'Catch Up in Technology: Entry Barriers and Windows of Opportunity', in Dosi, G., Freeman, C., Nelson, R., Silverberg, G. and Soete, L. (eds.) *Technical Changes and Economic Theory*, London, Pinter, pp. 458-479.
103. Peters, T.J. and Waterman, R.H., (1982), *In Search of Excellence; Lessons From America's Best-Run Companies*, Harper and Row, New York.
104. Pettigrew, A., (1987), 'Context and Action in the Transformation of the Firm', *Journal of Management Studies*, Volume 24, Number 6, pp. 18-26.
105. Porter, G. and Kakabadse, N., (2003), 'An Addictive Perspective on Technology and Work', *Seventh International Human Resource Management (IHRM) Conference*, Limerick, 3-4 June.
106. *Public Eye* (1993), 'PS Stress Levels Underestimated', 3 June, pp. 1-2.
107. Radford, N., (1994), 'The School to Work Transition', *DEET Times*, Volume 7, December, p. 2.
108. Ramos, J., (1994), 'Producing Change That Lasts', *Across the Board*, March, pp. 29-33.
109. Reynolds, L., (1994), 'Can Government Be Reinvented', *Management Review*, Volume 5, January, pp. 14-21.
110. Robey, D. and Boudreau, M.C., (1999), 'Accounting for the Contradictory Organizational Consequences of Information Technology: Theoretical Directions and Methodological Implications,' *Information Systems Research*, Volume 10, Number 2, pp. 167-185.
111. Roszak, T., (1986), *The Cult of Information*, Lutterworth, Cambridge.
112. Sahal, D., (1981), *Patterns of Technological Innovation*, Addison-Wesley, Reading.
113. Savoie, D., (1994), *Thatcher, Reagan, Mulroney in Search of a New Bureaucracy*, University of Toronto Press, Toronto.
114. Selznick, P., (1957), *Leadership in Administration: A Sociological Interpretation*, Harper and Row, New York.
115. Shaiken, H., (1985), *Work Transferee: Automation and Labour in the Computer Age*, Holt, Reinhard and Winston, New York.
116. Smelser, N., (1963), *Theory of Collective Behaviour*, Free Press, New York.

117. Soesastro, H., Pangestu, M. and McKendirck, D., (1990), 'Summary of Chapters and Discussions', in Soesastro, H. and Pangestu, M. (eds.), *Technological Challenge in the Asia-Pacific Economy*, Allen and Unwin, Sydney, pp. 299-326.
118. Stanton, S. and Power, B., (1992), 'From Resistance to Results: Mastering the Organizational Issues of Re-engineering', *Insights Quarterly*, Fall, pp. 76-84.
119. Thacker, J.B., (1990), 'Positioning System Management - the Major Problem for Management and Management Education', Paper presented at the Australian and New Zealand Academy of Management's (ANZAM) Annual Conference on Management Education, Launceston, December, pp. 1-22.
120. The Canberra Times (1993), 'Compo Cases Surge Up by 61 Per Cent', 6 September, p. 5.
121. The Economist (2003), 'Radical Thoughts on our 160th Birthday - Survey of Capitalism and Democracy', Volume 367, Number 8330, June 28, pp. 1-16.
122. The European Council, (1994), *Europe and the Global Information Society: Recommendations to the European Council (Bangemann Report)*, The European Chancel, Brussels, May.
123. Toffler, A., (1980), *The Third Wave*, William Morrow, New York.
124. Tushman, M.L. and Nelson, R.R., (1990), 'Introduction: Technology, Organizations and Innovation', *Administrative Science Quarterly*, Volume 35, Number 1, March, pp. 1-8.
125. Upton, D., (1992), *The Management of Manufacturing Flexibility*, Working Paper of the Graduate School of Business Administration, Harvard University, Boston.
126. Van Maanen, J., (1994), 'An Interview With John Van Maanen', *OMT Newsletter*, Academy of Management, Winter, pp. 14-16.
127. Webster, F. and Robins, K., (1986), *Information Technology: A Luddite Analysis*, Norwood, Ablex.
128. Weill, P. and Olson, M.H., (1987), 'Managing Investment in Information Technology: Mini-Case Examples and Implications', *MIS Quarterly*, March, pp. 24-36
129. Weill, P., (1992), 'The Relationship Between Investment in Information Technology and Firm Performance: A Study of the Value Manufacturing Sector', *Information System Research*, Volume 3, Number 4, December, pp. 307-333.
130. Weir, D., (1993), 'Not Doing the Business: Why There is no Decent Management Research', *The Times Higher Education Supplement*, 30 April, p. 17.
131. Welch, D., (2003), 'How Nissan Laps Detroit', *Business Week*, December 22, pp. 60-62.
132. Wheatley, M., (1992), *The Future of Middle Management*, British Institute of Management, Oxford.
133. Womack, J. and Jones, D., (1994), 'From Lean Production to the Lean Enterprise', *Harvard Business Review*, Volume 72, Number 2, March-April, pp. 93-103.
134. Woods, N., (1988), 'Editorial' and Introduction to *Globalization: Definitions, Debates and Implications*, Oxford Development Studies, Volume 26, Number 10, pp. 8-23.
135. World Commission on Environment and Development (WCED)(1987), *The Brundland Commission Report*, WCED, Paris.
136. Zemke, R., (1988), 'Putting the Squeeze on Middle Managers', *Training*, November, pp. 67-74.