2000

Invisible IT-Harmes and Emerging "Wicked" Issues for Public Policy

Nada Korac-Kakabadse
Cranfield University, n.korac-kakadadse@cranfield.ac.uk

Alexander Kouzmin
University of Western Sydney, a.kouzmin@uws.edu.au

Andrew Korac-Kakabadse
Cranfield University, a.korac-kakabadse@cranfield.ac.uk

search

Invisible IT-Harems and Emerging "Wicked" Issues For Public Policy

Dr. Nada Korac-Kakabadse
Senior Research Fellow
Cranfield School of Management
Cranfield, Bedford, NK43 OAL, UK
N.Korac-kakabadse@cranfield.ac.uk

Alexander Kouzmin
Foundation Chair in Management
Graduate School of Management
University of Western Sydney, Australia
a.kouzmin@uws.edu.au

Andrew Korac-Kakabadse
Professor of International Management Development
Cranfield School of Management
Cranfield, Bedford, MK43 OAL, UK
A.Korac-kakabadse@cranfield.ac.uk

This paper explores the effects of current IT polices and corporate and government praxis in the arena of technological development and use. It also explores global trends that lead toward futures that a majority of the world population, arguably, would not choose and should actively seek to avoid.

It emphasizes growing discrepancies between information rich and information poor, segregated by an invisible technologically-imposed boundary and further controlled by surveillance technology creating newer social cleavages and IT-harems. The paper also explores the future of employment in an information society and concludes with "wicked" policy issues for urgent consideration.

Introduction

The rapid economic transformation to "market fundamentalism" has been coupled with the rise of (neo)conservative governments, employers and powerful business factions which threatened macro-economic balance (Drucker, 1993; Soros, 1999). The emergence of "market fundamentalism", the idea that markets need only be regulated by forces of profit and competition, has distorted the role of capital to the extent that it 'is today a greater threat to open society than any totalitarian ideology' (Soros, 1999: 89). Both developed and emerging economies, alike, irrespective of their political alliance, are attempting to improve economies by adopting the "market" as the arbiter of "good" in a range of policy areas; most notably the workforce.

This is further reinforced by IT polices that provide further power to those who, already, have disproportionate influence within the large corporations and the state (Rokkan, 1996:105).

Globalization and the Changing Role of the State

A growing number of national policies are being built upon the widely-held belief of economists that the state should divest itself of many traditional areas of activity in both social and market environments on the premise that the natural operation of markets will result in "efficient" outcomes. Many question the rationale behind this economic liberalization, as in virtually every economy, where such policies have been implemented, it is commonly observed that this is only achieved at the expense of reduced levels of social welfare, rising rates of unemployment and, in some cases, instability in financial markets (Ormerod, 1994; Krugaman, 1999; Soros, 1999).

Others observe that current global transformations re-arrange the politics and economics of the coming century so that 'there will be no national products or technologies, no national corporations, no national industries' (Reich, 1991:7; Ohmae, 1995). Reich (1991: 77) further argues that there will no longer be national economies. What will remain 'rooted within national borders are the people who comprise a nation'. Reich (1991:113) points out that what is increasingly being traded between nations is 'less finished products and increasingly more specialized problem-solving (research, product design, fabrication), problem identification (marketing, advertising, customer consulting) and brokerage (financing, searching, contracting) services, as well as certain routine components and services, all of which are combined to create value'.

The emergence of the "global option" would have been in-conceivable without advancements in IT, particularly telecommunications (Castelles, 1989; Henderson, 1991), since the root of global re-structuring is a "techno-economic" process establishing a whole range of new organizational possibilities, facilitated by computer-related physical technology, and creating a new world order.

The expansion of surveillance in the modern political order, in combination with the policing of "surveillance", radically transforms the relation between state authority and the governed population, compared with the traditional state. 'Administrative power now increasingly enters into the *minutiae* of daily life and the most intimate of personal actions and relationships' (Giddens, 1985: 309). With ever increasing dependency on the electronic modes of storage, collection and dissemination of information, the possibilities of accumulating information relevant to the practice of government are almost endless.

'Control of information within modern, pacified states with very rapid systems of communication, transportation and sophisticated techniques of sequestration, can be directly integrated with the supervison of conduct in such a way as to produce a high concentration of state power' (Giddens, 1985: 309). Proudhon's 1851 writings summarize this state as he writes that to be governed 'is to be watched, inspected, spied upon, directed, numbered, regulated, enrolled, indoctrinated, preached at, controlled, checked, estimated, valued, censured and commanded by creatures who have neither the right, the wisdom nor the virtue to do so' (Proudhon, 1923: 293).

The IT-Harem Metaphor

The invisible IT-harem is a metaphor for an invisible barrier set up against dis-advantaged individual's potential (physically challenged, "have-nots", women, ethnic minorities, poor). IT-harems are considered to be enclosures without walls, but ones that are implicitly constraining (Korac-Boisvert, 1994). The Islamic word "harem" comes from *haram,* "forbidden", the opposite to *halal,* "permitted". Traditionally, in Islam, women were both the forbidden ones and those to whom almost everything was forbidden, separated from the world of man by a *huddud,* a secret barrier.

The *abaya* or *chuddar,* the outer garment worn by women in traditional Muslim societies, which covers women from a head to toe, is perceived by some, and in particular those with fundamentalist values, as liberating - it provides personal freedom in allowing women to roam, away from the roving eyes of men, and social freedom, women being protected from view as an object of desire, thus, providing women with reassurance of their value and self-respect in society (Di Giovanni, 1998). Others argue that *abaya* is a symbol of oppressiveness, as it imprisons women and impinges on their rights for self-expression and liberation (Di Giovanni, 1998).

In a similarly contested vein, some have argued that IT has a liberating power, particularly for those who are socially, economically, physically or geographically handicapped (Turkle, 1984). Others have urged that IT has a power to enslave, as it gives power to those who know how to exploit IT over those on whom information is recorded and manipulated (Webster, 1990). Thus, like fundamentalists who perceive the *abaya* as a return to traditional values, optimists perceive a society transformed radically for the better and IT as a tool for liberation and empowerment (Turkle, 1984). Pessimists see IT as a tool for increasingly inhumane and despotic capitalism (Webster, 1989; 1990) in the same vein as the secular modernist perceives any attempt to force women back into *abaya,* or even the home, as an imprisonment, exploitation and misery (Di Giovanni, 1998).

The technocratic dream of a technological "fix" cannot be extended to all social ills (Korac-Kakabadse and Kouzmin, 1996; Kouzmin, Korac-Kakabadse and Korac-Kakabadse, 1999b). This is perhaps most evident in developing societies, over the last decade, where often highly divisive effects of attempts to introduce high technologies into developing societies' programmes are found.

The crucial question is whether there is the will to bring about social justice through IT policies. Will IT promote a more caring, sharing world or will IT development and implementation be dominated by media and technology multi-nationals which promote more selfish values that give free reign to redistributing wealth in their own favour?

Some argue that the new information technologies will help the poor become literate, learn how to plant new crops or sell their services within an expanding information marketplace. However, such "opportunities" are predicated on such citizens being provided with the communication systems; hardware, software and training needed to join the "IT-harems", otherwise known as the "information club" (Dertouzos, 1998; Kouzmin, Korac-Kakabadse and Korac-Kakabadse, 1999a). In absence of such help, they cannot even get started. Computing and technology have implications for praxis and, as such, are as political as any other sort of practices with social repercussions (Dertouzos, 1998). IT policy discourse that arises is political, to greater or lesser degree. Some try to demonstrate their a-political nature, by ignoring or concealing what is at stake, socially, in technological change they bespeak.

The information gap between rich and poor in the world is not difficult to assess. For example, the Bangladesh economy devotes one-tenth of one per cent to hardware and software products and related services. In the US, the corresponding figure is one hundred times larger - ten per cent of the US economy goes to IT (Dertouzos, 1998). Since the average Bangladesh citizen is 30 time poorer than the average American, the disparity, per person, between US annual expenditure on IT is even more staggering - an average of US$3,000 for each American compared to US$1 for each Bangladeshi (Dertouzos, 1988). Similarly, with poor Americans, there is an equally obvious dissonance between IT expenditures in the inner city and the suburbs - people struggling for the daily bites of food having nothing left over for "bytes" of information (Detouzos, 1998). Whereas the rich, who can afford to buy the new technologies, use them to become increasingly productive and, therefore even richer, the poor stand still. Thus, left to its own devices, the information revolution will increase the gap between rich and poor nations and between rich and poor people within nations.

Even across America there is a troubling "digital divide"; a study by the Progressive Policy Institute (PPI) ranks the 50 states on how well they are adapting to the new E-economy. The study uses criteria such as number of high-tech jobs, quality of educational technology, per centage of population on-line, commercial Internet domains and available venture capital (Dunham, 1999).

Isolation is increasingly problematic for information societies as personal relations are seen by sociologists 'as the mortar of society. It is through such relations that people are taught norms that make for smooth social interaction, are assisted in times of trouble, and become contributing members to broader social life. When individuals are alone, they, by definition, do not benefit from social life; when a society has made isolated members it is prone to crumble' (Derlega and Margurlis, 1982:160; Fischer and Phillips, 1982: 21; Peplau and Perlman, 1982:8).

Increasing social isolation is proving to be technology-based on two accounts; due to loss of "off-line" social skills (Turkely, 1997) and, secondly, due to socio-economic depravation of "virtual connectivity" or "information reach". These currently limit those who have physical access to required technology (Evans and Wurster, 1997; *The*

Weekend Australia, 1999:6-7). The policies government, public and private sector adopt now will shape the socio-economic opportunities for the next 10 or 20 years.

Problematic Technology Transfer

Despite having almost 80 per cent of the world's population, developing economies are responsible for only four per cent of global research and development (UNDP, 1992: 40). 'Poor infrastructure may be the most visible distinguishing characteristic of developing countries' (Austin, 1990: 53). In 1985, over one billion people in developing societies were living in poverty; one third of their total population (World Bank, 1990). Research and development in developing societies capacity is highly restricted, constrained by capital shortages, foreign exchange shortfalls, lack of infrastructure and other contextual factors. Considering the price of hardware, software and Internet access, those that are most in need of getting their social justice cause publicized via Internet are those least likely to be able to publicize it. Meanwhile, the economic effect of IT industries is (and will remain) to redistribute wealth, overall, to those already wealthy.

Thus, exported technology 'really exports a new form of dependency' (Morgan, 1986:311). This is further exacerbated by the multi-nationals' disguise of "excess" profits and the avoidance of 'paying appropriate taxes in host nations through creative "transfer pricing"' (Morgan, 1986:311). Thus, undue confidence in the redemptive power of technology can often prevent policy makers from exploring other strategies needed to empower the "powerless".

From the perspective of the developing countries' policy-design elite, gross disparities in economic performance, research and technology underlie a "new imperialism" that threatens to keep less-developed nations in a position of "perpetual thralldom" (IDRC, 1989; Henderson, 1991). Castelles (1989:16) suggests that the real cleavage in societies may be 'between countries integrated in the international structure of production and those excluded from it'. Furthermore, in developing countries, information is expensive and not accessible to everyone, leading to information being withheld from development initiatives at grass-root levels (De Soto, 1989). This is further compounded by the fact that in some developing countries it is not only that information is not free, but also that one must strive to get it.

The Development Problematic: IT and Poverty

Uptake of electronic banking, shopping and the development of other electronic services might further increase social division within, and between, societies and between "haves" and "have-nots" within society. Even today, people without telephones, credit cards and bank accounts are marginalized, whilst, in the future, the same will happen to anyone lacking access to the Internet (Bray, 1997). Whilst globalization has been held as a facilitator of universal prosperity, an estimated 1300 million people live in absolute poverty (Muller, 1998). Furthermore, two billion inhabitants on this planet do not yet have electricity and about half of the current world population has never made a simple telephone call.

Even within wealthy economies, there is a large disparity between the consumption patterns and living standards of the richest and poorest. For example, at least 37 million are unemployed, 100 million are homeless and nearly 200 million have a life expectancy of less than 60 years (UN, 1998). Equally worth noting is the degree of future social division, illustrated by the findings of the United Nations Human Development Report for 1998. The report (UN, 1998) shows that while the consumption bill of the planet is US$24 trillion a year, the global distribution of the consumption bill is alarming. For example:

- The US population consume £8 billion a year on cosmetics, which is US$2 billion more that the estimated annual total needed to provide basic education for everyone in the world.

- Americans and Europeans spend US$30 billion a year on pet food, which is US$4 billion more than the estimated annual additional total needed to provide basic health and nutrition of everyone in the world.

The belief that globalization or information technology, somehow, will contribute to developing poorer economies by spreading available global capital more evenly then before is difficult to sustain in developing economies. Some have argued that rather than promoting integration, globalization has shown itself to be a factor for exclusion, exemplified by the current debt of the global South, which stands in excess of US$2 trillion (Muller, 1998). These, the poorest of the world's economies, repay US$250 to the rich North every minute of the day (Muller, 1998).

When the IMF came forward with bailout funds and its infamous "restructuring" programmes, South Korea was forced to change social and labour polices which were not directly responsible for the financial crises. Furthermore, the IMF "rescue funds" did not go to South Korea at all, but were, rather, used to repay the external investors whose market manipulations had caused the collapse (Moore, 1998). In addition to the fact that globalization undermines democracy, as governments relinquish power to transnational corporations (TNCs) and multilateral insinuations, under current arrangements, only a 20 per cent minority benefit from free-markets and free trade (Muller, 1998). TNCs have evolved into gigantic engines for generating capital growth and TNC-dominated bureaucracies, exemplified by the IMF, World Trade Organization (WTO) and World Bank, are being given global decision-making power over a wide range of issues loosely called economic. These insinuations are rapidly taking over roles previously carried out by the national governments.

This new power is most prominent in the global and regional surveillance systems which are carried by various government, often for the benefit of large corporations.

IT and Political Surveillance and Control

Surveillance technologies are one of the fastest growing areas of the technology of political control. Instead of investigative crime, a reactive activity, the fastest-growing trend is towards tracking certain strata, social classes and races of people (Korac-Boisvert and Kouzmin, 1994), living in red-lined areas *before* any crime is committed (De Courcy, 1998). For example, with the new surveillance system, Memex, it is possible to quickly build a comprehensive picture of virtually anyone by gaining electronic access to their records, cash transactions and cars held. Surveillance technology can be defined as devices or systems which can monitor, track and assess the movements of individuals, property and other assets (EUDGR, 1998). Much of surveillance technology is used to track the activities of dissidents, human-right activists, journalists, student leaders, minorities, trade union leaders and political opponents (De Courcy, 1998).

A report by the European Union's Directorate General for Research (EUDGR, 1998) shows that the technologies for intrusive monitoring of almost every action of almost every citizen already exists. These technologies, if and when employed, will prove significant weapons in the fight against terrorism, but widespread use, even in democratic countries, could lead to the severe abuse of power. These technologies can be classified in three broad categories, namely *surveillance*, *identification* and *networking* and are often used in conjunction with video cameras and face-recognition or biometrics and ID cards (EUDGR, 1998).

Such surveillance systems raise significant issues of accountability, particularly when transferred to authoritarian regimes. For example, the cameras in Tienamen Square were sold as advanced traffic control systems by Siemens Plessey (De Courcey, 1998).

Whilst mobile companies are busy installing equipment which allows them to track the location of anyone who has a phone switched on, this technique can be used by interested parties who can adapt lap-top computers and simply tune in to all the mobile phones active in the area by cursing down to specific numbers. Such parties can search for numbers "of interest" to see if these are active (Pike, 1998; *The Economist,* 1999). There is, increasingly, growing numbers of electronic devices and software packages that contain identification numbers that can interact with each other and, at the same time, collect information on users - exemplified by Microsoft personal computers - that transport unique identification numbers whenever a personal computer user logs on the Internet (*The Economist,* 1999).

However, the bugs and taps pale into insignificance compared to the national and international state-run interception networks (Pike, 1998). For example, what is not widely known is that built into the international digital telephone system protocol, CCITT, is the ability to take phones "off the hook" and listen to conversations occurring near the phone, without the user being aware that it is happening (Poole, 1998). This effectively means that a national dial-up telephone-tapping capacity is built into these systems from the beginning. Similarly, the digital technology required to pinpoint mobile-phone users for incoming calls means that all mobile phones in a country, when activated, are mini-tracking devices, giving their owners' whereabouts at any time, and with this information being stored in the company's computers for up to two years (EUDGR, 1998).

Furthermore, within Europe, all e-mail, telephone and fax communication are routinely intercepted by the United States National Security Agency (NSA), transferring all target information from the European mainland, via the strategic hub of London, then, by satellite, to Fort Mead, in Maryland, via NASA's biggest base for electronic spying and crucial hub, at Menwith Hill, in the North York Moors of the UK (Poole, 1998; Port and Resch, 1999). The ECHELON globe-trading system, run by the NSA, is a combination of spy satellites and sensitive listening stations. It eavesdrops on just about everything - electronic communication across national boarders, phone calls, faxes, telex, E-mail, Internet, plus radio signals; including short-wave, airline and maritime frequencies (Port and Resch, 1999; *The Economist,* 1999). It stretches around the world to form a targeting system on all the key Intelsat satellites.

ECHELON works by indiscriminately intercepting very large quantities of communication and then siphoning out what is valuable, using artificial intelligence aids, such as Memex, to find key words. While there is much information gathered about potential terrorists, there is a lot of economic intelligence, notably intensive monitoring of all countries economic activities (Poole, 1998). Like other technological tools, ECHELON is subject to political abuse, as illustrated during the Reagan Administration, when intercepted phone calls by Michael Barnes, then a Democratic Congressman from Maryland, to Nicaraguan officials via transcripts, were leaked to the press (Port and Resch, 1999).

ECHELON also backfired in two, known, instances where Canadian intelligence officers, collaborating with the US, used ECHELON to pick up information on a pending US and China grain deal so that Canada could steal the business with lower prices (Port and Resch, 1999). Unfortunately, information encryption is no guarantee of privacy either. The NSA has little trouble unscrambling messages encoded with most commercial software as the NSA can break "crypto" schemes with crypto-keys as long as 1,028 bits and, perhaps, more (Port and Resch, 1999).

Some argue that the power of the Intranet, in its current state, lies in its resistance to governmental regulation and that its ability to speed information past censors and across boarders makes it a force for freedom of expression (France, 1999; Gibson, 1999). The reality is that, in addition to these attributes, there is a down side to the Internet as it is, and can be, used as an electronic vehicle for propaganda, government control, spying, mis-information, vengeance

and even terrorism (Gibson, 1999). With growing concern about the Internet's potential to invade people's privacy, politicians are considering new laws to prevent the revolutionary communication channel from being mis-used. However, proposed regulations will not prevent Internet mis-use by governments themselves, as exemplified by their use of the ECHELON system.

Scenarios of IT-Driven Futures

Dominant trends, well-established within the global system, do not lend themselves to a world of peace, prosperity and plenty; rather they lead to a world devastated and dominated in nearly every respect (Slaughter, 1999). A World Health Organization study predicts that of all diseases in the next decades, *depression* will rank second among leading illnesses *(The Economist,* 1998).

The British IT systems and service company, ICL Systems, has completed an in-depth forecast entitled *The Next Step* (Prodromou, 1998). The study predicts how the next 50 years of technology will radically change lives. A snapshot from *The Next Step* study suggest that (ICL, 1998):

- children will be given an electronic identity at birth, a unique global electronic address that will be used throughout their lives;
- the concept of the weekend will disappear, as people will mix work and discretionary time to fit their lifestyle;
- individual organ cloning will be performed at birth;
- screens the size of a credit card will be used as global video phones;
- new diseases and medical conditions such as "information overload" and "information shock" will emerge; and
- there will be need for a statutory body to ensure security concerns are met in order to ease fears of "big brother" controlling people's lives.

The global economic tendency to reduce job security, increase distress, corrode cultural diversity, limit access to knowledge and human rights when less than 5 per cent of the world's population uses computers *(Hong Kong Business,* 1998) is disturbing. Although driven by economics, the globalization process is basically a new political structure (Johnston and Kouzmin, 1998). Globalization co-exists with rising poverty, unemployment, exclusion and inequality.

The US workforce is moving steadily towards a 24-hour-a-day, 7-days-a-week economy in which only 55 per cent of US workers are employed full-time during the day (Presser, quoted in Kleiman, 1996). Some studies suggest that over the past twenty years, working hours have gone up, in the US, by the equivalent of one extra month a year (Handy, 1995). Extensive downsizing through informatization and management restructuring throughout the global economy has led to longer hours for those who have jobs (Sharp, 1996). In the US, for example, employees believe that working harder and longer is necessary to keeping a job (Sharp, 1996). In self-imposed downsized or "anorexic" organizations, top management assumes that remaining employees will devote 50, 60 or 70 hour a week to get the job done (Clark, 1997). IT has facilitated downsized business executives to follow itineraries that place them on a global, round-the-clock time schedule, subject to laptops, modems, faxes and e-mail at any time of the day (Tonn and Petrich, 1998: 270).

A Wall Street Journal poll found that 80 per cent of respondents describe their lives as busy to the point of discomfort as the info-age produces a society in a "real time" mode composed of people who are 'economically pressed, politically depressed and socially stressed' (Beeman, 1996: 3).

Although there always has been tension in industrial society between work, family and leisure, it is more so in an information-economy where work places major constraints on the amount and quality of people's discretionary time and attention (Lobel, 1992). Lives are harried and, necessarily, self focused.

Unemployment and Economic Exclusion as "Wicked" Public Policy Dilemmas *Par Excellence*

Rittel and Webber (1973: 160) first coined the phrase "wicked" problems not because these properties are themselves ethically deplorable but because they are akin to that of being "malignant"; "vicious"; "tricky" or "aggressive". In addition to problems of poverty, environmental crisis, crime and discrimination, IT and its development is a new "wicked" issue for public policy.

Recognition of inter-relationships between IT and other wicked issues is important as breadth of understanding and attention needs to be given not only to IT but, also, to sustainable development, community safety and a safe environment. There is a need to be inclusive, not exclusive, in the search for connections and to resist the trappings of the organizational perspective (Clarke and Stewart, 1997; Korac-Kakabadse, Korac-Kakabadse and Kouzmin, 1998).

Complexity of employment policy is far reaching, incorporating IT policy and encroaching on crime, societal well-being and the environment. Because unemployment is a wicked issue, it represents intractable problems, imperfectly understood. It is important that it is widely discussed in order to achieve better understanding and to draw upon the experience of those who face these problems at their point of greatest impact - the unemployed (Clarke and Stewart, 1997). The voice of those who are unemployed, who are discriminated against, live in crime-ridden areas, face poverty and are already located in "IT-harems", have to be heard if the rarity of these issues is to be understood (Clarke and Stewart, 1997). There are, naturally, sharp conflicts and strong disagreements in, and between, components of an effective policy but these disagreements are more frequently about ideology, tactics, priorities and language, than about effective public policy to reduce unemployment in the face of the information revolution.

Conclusion: Transcending Over-Economized Employment Policies

Government policies of the political right have not been able to show, once the active role of government is withdrawn, how individual liberty, alone, can answer the insecurity and remorseless inequity of an open, information-driven economy. Equally, the Left has found it difficult to sustain the conventional functions and fixed structures of government as a workable response to new sources of social and economic exclusion. There is a need for a new way - a choice between market freedoms, with its army of the working poor, and unreconstructed public provision, with all the failings and burgeoning costs of the welfare state.

That economic globalization should precipitate a multi-leveled crisis for public policy at national, regional and local levels is increasingly understood by political actors across the ideological divide (Johnston and Kouzmin, 1998; Andrews and Kouzmin, 1999). At a time when Economics has dominated, so overwhelmingly, Public Policy and Public Management discourse, the conspicuous inability of Economics to theorize about the strategic emergence of knowledge as a central variable in increasing information-driven contexts is particularly startling. As Latham notes (1998:52), following Peter Drucker, 'so far, there are no signs of an Adam Smith or a David Ricardo of knowledge' (Drucker, 1993:167). Quite remarkably, new pools of knowledge are regarded as outside the parameters by which economic growth is modeled within conventional theories of Economics. The fact that IT companies, which generate employment multipliers of twenty times that of heavy industry, can be ignored in economic policy, as is the on-going role of government in fostering economic growth, is of policy concern to many.

The political divide is now best conceptualized as a four-plane matrix' (Latham, 1998:xxiv) split by:

- The struggle between Capital and Labour (the class question);
- the policy conflict between economic nationalism and economic internationalism (the nation/state question);
- the emergence of the information rich and information poor (the cognitive skills question); and
- the difficult re-alignment of social relations between individualism and community (the social/identity question).

What is clear is that traditional government intervention into the economic arena - more subsidies, more regulation, more protection, in an attempt to exercise leverage over private capital, is failing in the sphere of IT and globalization.

The public sector has important roles to play in easing the strain of economic adjustment. According to Latham (1998:69), this can be done through the creation of new forms of employment, relying on the enhancement of fixed economic assets of nations and regions, especially in the public investment in infrastructure and direct employment creation. Yet, 'the semi-permanent high rates of unemployment in most western nations are a result of market failure - a catastrophic mis-match between the mobility of capital on a global scale and the relative immobility of labour market skills and participants at regional and local levels' (Latham, 1998:100). These problems of market failure in skill formation and employment location lie outside the scope of orthodox economic theory. Thus, the unemployment crisis for many western economies reflects a crisis in economic theory.

Problems of economic exclusion in skill formation and the spatial distribution of employment have rarely entered into the political debate in most western liberal democracies. The pre-occupation with current account deficits (putting aside, for the moment, whether public - or private-sector borrowing is the major contributory factor to such deficits), ignores the central importance of *human capital* deficits in enhancing national gain sharing in equitable and socially cohesive ways.

But, how is the "dismal" science of Economics to respond to such public policy challenges provided by its natural ally - footloose" capital? Factors of technology and management in economic analysis are, conventionally, disregarded as "externalities" (Marglin, 1971) - an epistemological device known only to the discipline of Economics as it assumes away the complexities of industrial, increasingly informational and corporatist, economies.

The centrality of the government's role in developing human capital is of particular significance. Globalization and IT developments are having a profound impact on the nature of work and social organization. Apart from the long-term political issue of profound economic exclusion, the change in the employment base of an economy, from manufacturing output to services, has been associated with politically unacceptable manifestations of a "pink-collar" workforce - the emergence of a part-time, casual and highly-feminized work-force (Kouzmin, Korac-Kakabadse and Korac-Kakabadse, 1999b). The significance of a knowledge-based society is not reflected in current, over-economized public policy.

The information society witnesses a smaller, weaker, hollowed-out, out-sourced, de-skilled public sector very much under "capture" from rent-seeking business interests and unaccountable management consultants imposing "re-engineering" and "down-sizing" strategies through "template" consulting (Micklethwait and Wooldridge, 1996) designed, arguably, to capture declining public-sector revenues as appropriate rents. Contrary to fiscal crisis arguments of the state, a dismantled state will need to be eventually "re-invented", as "a smart state", concerned with a shrinking public domain and with the need for strategic development of *human capital* at a very time when its revenue-base to perform these functions and sustain related costs are at a minimum. This central contradiction of a future "smart state" mitigating "footloose" capital and the employment-displacing abuse of IT will hopefully not

depend so slavishly on current limited epistemological capacities of Economics in the face of globalization-doom and public policy impotence projected by many (Boyer and Drache, 1996). The combination of an informational/knowledge illiterate Economics, driving a Neo-Liberal and globalizing policy agenda, with an aggressively innovating and digitizing IT industry, should raise concern about social and economic exclusion increasingly predicated on IT-harems.

References

Andrews, C. and Kouzmin, A. (1999), '"Naming the Rose": New Public Management Discourse in the Brazilian Context', *International Review of Public Administration*, Volume 4, Number 1, pp. 11-20.

Austin, J.E. (1990), *Managing in Developing Countries: Strategic Analysis and Operating Technologies,* Free Press, New York.

Beeman, L. (1996), 'Too Many Things To Do and Too Little Time To Do Them', *The Oak Ridger,* 3 May, p. 3.

Boyer, R. and Drache, D. (1996), *States Against Markets: The Limits of Globalization,* Routledge, New York.

Bray, P. (1997), 'Yield to Electronic Impulse: The Internet', *The Sunday Times,* 20 April, p. 22.

Castelles, M. (1989), 'High Technology and the New International Division of Labour', *Labour and Society*, Volume 14, Number 1, pp. 7-42.

Caulfield, C. (1998), *Masters of Illusion: The World Bank and the Poverty of Nations,* Pan Books, Macmillan.

Clark, K. (1997), 'How to Make Traffic Jams a Thing of the Past', *Fortune,* 31 March, p. 34.

Clarke, M. and Stewart, J. (1997), *Partnership and the Management of Co-operation,* Institute of Local Government Studies, London.

De Courcy, A. (1998), 'From Clinic to Classroom: Power of Experimental Learning, *Collage Teaching,* Volume 46, Number 4, Fall, pp. 40-45.

Derlega, V.J. and Margulis, S.T. (1982), 'Why Loneliness Occurs: The Inter-Relationship of Social-Psychological and Privacy Concepts', in Peplau, L.A. and Perlman, D. (eds.), *Loneliness: A Sourcebook of Current Theory*, *Research and Therapy*, John Wiley and Sons, New York, pp. 152 -165.

Dertouzos, M.L. (1998), *What Will Be: How the New World of Information Will Change Our Lives*, Harper Edge, New York.

De Soto H. (1989), *The Other Path: The Invisible Revolution in the Third World,* Harper and Row, New York.

Di Giovanni, J. (1998), 'The Big Cover-up', *Vogue Australia,* Number 12, December, pp. 144-147.

Dunham, R.S. (1999), 'Across America: A Troubling "Digital Divide", *Business Week*, (European Edition), 2 August, p. 39.

Drucker, P. (1993), *Post-Capitalist Society,* Harper Business, New York.

European Union Directorate General for Research (EUDGR) (1998), *An Appraisal For Technology of Political Control - Report,* EUIDG, Brussels.

Evans, P.B. and Wurster, T.S. (1997), 'Strategy and the New Economics of Information', *Harvard Business Review*, Volume 75, Number 5, September-October, pp. 71-82.

Fischer, C.S. and Phillips, S.L. (1982), 'Who is Alone?: Social Characteristics of People with Small Networks', in Peplau, L.A. and Perlman, D. (eds.), *Loneliness: A Sourcebook of Current Theory*, *Research and Therapy*, John Wiley and Sons, New York pp .21 - 39.

France, M. (1999), 'The Net: How to Head Off Big-Time Regulation', *Business Week,* 10 May, pp. 73-34.

Gibson, H. (1999), 'Web of Spies', *Time,* Volume 153, Number 20, p. 35.

Giddins, A. (1985), *The Nation-State and Violence,* Cambridge University Press, Cambridge.

Handy, C. (1995), *Beyond Certainty: The Changing Worlds of Organizations,* Harvard Business School Press, Boston.

Henderson, J. (1991), *The Globalization of High Technology Production: Society, Space and Semi-Conductors in the Re-structuring of the Modern World*, Routledge, London.

Hong Kong Business (1998), 'For the Record: Internet Users - Asia Pacific', Volume 17, Number 198, December, p.2.

ICL, (1998), *The Next Step*: *Report,* ICL, London.

International Development Research Centre (IDRC) (1989), *Sharing Knowledge for Development: IDRC's Information Strategy for Africa,* International Development Research Centre, Ottawa.

Johnston, J. and Kouzmin, A. (1998), 'Who are the Rent-Seekers?: From the Ideological Attack on Public Officials to the "Pork Barrell" *Par Excellence* - Privatization and Outsourcing as Oligarchic Corruption', *Administrative Theory and Praxis*, Volume 20, Number 4, pp. 491-507.

Kleiman, C. (1996), 'More Workdays are Work-Nights', *Chicago Tribune,* 30 March, p. 7.

Korac-Boisvert, N. (1994), 'The Need For Cultural Change', *Case Analysis: Volume 2*, November, DEET, Canberra, pp. 1-3.

Korac-Boisvert, N. and Kouzmin, A. (1994), 'The Dark Side of Info-Age Social Networks in Public Organizations and Creeping Crises', *Administrative Theory and Praxis: A Journal of Dialogue in Public Administrative Theory,* Volume 16, Number 1, April, pp. 57-82.

Korac-Kakabadse, N. and Kouzmin, A. (1996), 'Molecular Innovation and Molar Scanning Strategies For the Adoption of New Information Technology in Learning Organizations', *Public Productivity and Management Review*, Volume 19, Number 4, June, pp. 434-454.

Korac-Kakabadse, N., Korac-Kakabadse, A. and Kouzmin, A. (1998), 'The Role of IT in Changing Psycho-Social Contracts: A Multi-Stakeholder's perspective', *Knowledge and Process Management*, Special Issue on Business Process Phenomenon: Consequences and New Horizons, Volume 5, Number 2, June, pp. 132-140.

Kouzmin, A. and Korac-Kakabadse, N. (1997), 'From Phobias and Ideological Prescription: Towards Multiple

Models in Transformation Management For Socialist Economies in Transition, *Administration and Society,* Volume 29, Number 2, May, pp. 139-188.

Kouzmin, A., Leivesley, R. and Korac-Kakabadse, N. (1997), 'From Managerialism and Economic Rationalism: Towards "Re-inventing" Economic Ideology and Administrative Diversity,' *Administrative Theory and Praxis,* Volume 19, Number 1, pp. 19-42.

Kouzmin, A., Korac-Kakabadse, N., and Korac-Kakabadse, A. (1999a), 'Information Technology and Development: Creating "IT-Harems", Fostering New Colonialism or Solving "Wicked" Policy Problems?', paper presented at the Public Administration and Development Jubilee Conference on the Last 50 years and the Next 50 years: A Century of Public Administration and Development, St Anne's College, Oxford University, 12-14 April.

Kouzmin, A., Korac-Kakabadse, N., and Korac-Kakabadse, A. (1999b), 'Globalization and Information Technology: Vanishing Social Contracts, the "Pink Collar" Workforce and Public Policy Challenges', *Women in Management Review*, Volume 14, Number 6, pp. 230-251.

Krugaman, P. (1999), *The Return of Depression Economics*, Norton and Company, New York.

Latham, M. (1998), *Civilizing Global Capital: New Thinking For Australian Labour*, Allen and Unwin, Sydney.

Lobel, S.A. (1992), 'A Value-Laden Approach to Integrating Work and Family Life', *Human Resource Management'*, Volume 31, Number 2, pp. 244-265.

Marglin, S.A. (1971), *What Do Bosses Do?: The Origins and Functions of Hierarchy in Capitalist Production,* Discussion Paper Number 222, Harvard Institute of Economic Research, Harvard University Press, Cambridge.

Micklethwait, J. and Wooldridge, A. (1996), *The Witch Doctors: What the Management Gurus are Saying, Why it Matters and How to Make Sense of it?,* Mandarin Paperbacks, London.

Moore, R.A. (1998), 'The Police State Conspiracy', *New Darwin,* Number 51, November-December, pp. 57-62.

Morgan G. (1986), *Images of Organizations,* Sage, Beverly Hills.

Muller, D. (1998), 'Behind the World Financial Crisis', *New Darwin,* Number 51, November-December, pp. 17-20.

Ohmae, K. (1995), *The End of the National State: The Rise of Regional Economics,* Free Press, New York.

Ormerod, P. (1994), *The Death of Economics,* Faber and Faber, London.

Peplau, L.A. and Perlman, D. (1982), 'Perspective on Loneliness in Therapy', in Peplau, L.A. and Perlman, D. (eds.), *Loneliness: A Sourcebook of Current Theory, Research and Therapy*, John Wiley and Sons, New York, pp.1 - 20.

Pike, J. (1998), 'ECHELON: The Global Spy Network', *Coalition For Constitutional Liberties,* Volume 1, Number 12, 5 May, on-line citation at http://www.freecongress.org

Poole, P.S. (1998), 'ECHELON: America's Secret Global Surveillance Network', http://www.euronet.nl/~rembert/echelon/16119801.htm, http://www.euronet.nl/~rembert/echelon/1998.html

http://www.euronet.nl/~rembert/echelon/16119801.htm.

Port, O. and Resch, I. (1999), 'They're Listening to Your Calls', *Business Week,* 31 May, pp. 58-60.

Prodromou, A. (1998), 'Walk "This Way",' *Information Age,* August September, pp. 10-14.

Proudhon, P.J. (1923), *General Idea of the Revolution in the Nineteenth Century*, (translated by Robinson, J.B.), Freedom Press, London.

Reich, R.B. (1991), *The Work of Nations: Preparing Ourselves For 21st Century Capitalism,* Simon and Schuster, London.

Rittal, H.W.J. and Webber, M. (1973), 'Dilemmas in a General Theory of Planning', *Policy Sciences,* Volume 6, Number 1, pp. 76-84.

Rokkan, S. (1966), 'Numerical Democracy and Corporate Pluralism', in Dahl, R. (ed.) *Political Oppositions in Western Democracies,* Yale University Press, New Haven, pp. 94-105.

Sharp, D. (1996), 'So Many Lists, So Little Time', *US Weekend,* 15-17 March, pp. 4-6.

Slaughter, R. (1999), 'Towards Responsible Dissent and the Rise of Transformational Futures', *Futures,* Volume 31, Number 2, pp. 147-154.

Soros, G. (1999), *The Crisis of Global Capitalism: Open Society Endangered,* Public Affairs, New York

The Economist, (1998), 'Depression: Spirit of the Age', Volume 349, Number 8099, pp. 113-121.

The Economist, (1999), 'The End of Privacy: The Surveillance Society', Volume 351, Number 8117, pp. 105-107.

The Weekend Australian (1999), 'The Digital Divide', 27-28 February, pp. 6-7.

Tonn, B.E. and Petrich, C. (1998), 'Everyday Life's Constraints on Citizenship in the United States', *Futures,* Volume 30, Number 8, pp. 783-813.

Turkle, S. (1984), 'Women and Computer Programming', *Technology Review,* Volume 87, Number 8, November-December, pp. 48-50.

Turkley, S. (1997), *Life on the Screen: Identity in the Age of the Internet*, Touchstone Books, New York.

United Nations, (1998), *Human Development Report,* United Nations, New York.

United Nations Development Programme (UNDP) (1992), *Human Development Report:1992,* Oxford University Press, New York.

Webster, J. (1989), 'Gender, Paid Work and Information Technology', paper presented to the PICT Gender and ICT Workshop, Brighton Polytechnic, May.

Webster, J. (1990), *Office Automation: The Secretarial Labour Process and Women's Work in Britain,* Harvester Wheatsheaf, Hempstead.

World Bank (1990), *World Development Report:1990,* Oxford University Press, New York.