# 'ICT POLICY' FOR ICT SERVICE MANAGEMENT – ROLE OF BUSINESS ORGANISATIONS IN NATIONAL REFORMS AGENDA FOR SERVICES SECTOR

**Mohammed Alsudairi**, King Saud University, Riyadh, Kingdom of Saudi Arabia <u>mas@ksu.edu.sa</u>

Muhammad Kamal, Brunel Business School, Brunel University, UK muhammad.kamal@brunel.ac.uk

### Abstract

Several governments around the world have made significant endeavours and allegiances to deliver new National Reforms Agenda (NRA) in order to drive sustained prosperity for their citizens e.g. the cases of Australian, Georgia, Kingdom of Saudi Arabia (KSA) governments etc. In general, the rationale for transformation in NRA has been manifold such as: (a) healthier and more active the population, the stronger the economy; (b) the more skilled the population, the higher the productivity; (c) the greater the degree of social inclusion, the greater the workforce/stakeholder participation and (b) improving individual government's investment climate and strengthening democratic and political institutions. Notwithstanding, in the present and coming decades nationals of different countries around the world are (to a greater extent due to the credit crunch) and further will be facing immense challenges, due to mounting competitiveness in the global economy. Some governments are highly aware of the magnitude and complexity of these challenges. Nevertheless, resolving these challenges is not merely within the jurisdiction of the national government – success will essentially hinge on a collaborative working relationship within all levels of governments (e.g. local, national, central) and business/trading stakeholders. As a result of this collaboration, formulating and consigning prosperity to citizens. The research carried out in this paper strives to exemplify the objectives of the national reforms in general. In addition, structural change of the reformation policy is presented to the business organisations for the purpose of enabling them by focusing on Information and Communication Technologies (ICT) based participation and productivity in service management.

Keywords: National Reformation, Service Management, Participation, Productivity, ICT Policy.

## **1. NATIONAL REFORMATION**

In the recent years, governments at different levels (i.e. local, national and central) around the world have made significant undertakings and adherence to deliver NRA with the aim to drive persistent prosperity for their citizens. In doing so, raising the living standards, assisting in addressing the global competition and improving service delivery by augmenting their nation's productivity and participation over coming decades (Macintosh and Whyte, 2008; Anonymous, 2006; Irvin and Stansbury, 2004). The NRA encapsulates a range of measures to ensure best-practice regulation making and assessment, including: (a) establishing and sustaining effectual arrangements to exploit the efficiency of new and amended regulation and circumvent excessive conformity costs and restrictions on competition; (b) targeted annual public reviews of existing regulation to identify priority areas where regulatory reform would provide significant net benefits to business organisations and the community; (c) the identification of supplementary reforms that enhance regulatory consistency across jurisdictions or lessen replication and coincide in parameter and in the role and operation of regulatory bodies; and (d) an aim to adopt a widespread framework for benchmarking, quantifying and reporting on the dictatorial encumber.

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Several determinants have contributed towards the initiation of such national reforms agenda in different economies. For example, changing organisational (public and private) economical conditions worldwide (Hoyt and Gerloff, 2000), constituent's attitudes and behaviours towards government service delivery (Welch et al., 2005; Ongaro, 2004), significant technological transformations (Irani et al., 2007), and drive by the industry towards more rigorous, higherskilled, higher-yield products and services (Navarra and Cornford, 2009) indicate that the economy is continually changing and developing. Similarly, the resilient augmentation in output in the services sector (e.g. public sector including local government, healthcare organisations etc.) in recent decades is a reflection of this change (Kamal et al., 2009; Triplett and Bosworth, 2000). Within these determinants of global economic success, significant innovations in ICT in the recent years have substantially impacted on the operational activities of different economies and their partner business organisations (Grimsley and Meehan, 2007; Irani et al., 2005). Navarra and Cornford (2009) report that the global ICT programs are often explicitly linked to transformative agendas; they aim to make a big difference and change things. Examples would include electronic government (e-Government) projects to re-invent government, regional health Information Systems (IS), or programs established within the frameworks of international development activity and focused on the notion of good governance (Ciborra and Navarra, 2005).

The preamble of different technologies including the Internet has facilitated many governments to better confront with development challenges, compete more effectively in the global economy and interact and deliver services more efficiently to their citizenry (Beynon-Davies, 2005; Salmela and Turunen, 2003; Newman et al., 2001). Navarra and Cornford (2009) report that indeed ICT is the primary actor enabling national and regional economies to develop new social and organisational capacity and exploit new knowledge assets. According to WSIS (2004), this leads to a better ability to participate in the wider global economy and serves as a primary means to achieve social and economic development. On the other hand, for the business organisations this technological upheaval has equally proved to be effectual and productive (Brynjolfsson and Hitt, 2000). Albeit numerous technological transformation, in the present and coming decades nationals of different countries are and will be facing immense challenges, due to mounting competitiveness in the global economy (Anonymous, 2007). Some governments are highly aware of the magnitude and complexity of these challenges (Anonymous, 2007). Nevertheless, resolving these challenges is not merely within the jurisdiction of the national government - success will essentially hinge on a collaborative working relation within all levels of governments (e.g. local, national, central) and business/trading stakeholders. In addition, within this concerted operational association, several researchers accentuate that ICT can play a critical role in further facilitating governments to better confront development challenges and to compete more effectively in global economy (Beynon-Davies, 2005; Beynon-Davies and Williams, 2003).

### 1.1 Objectives of National Reformation

National reforms agenda is a vital reform initiative that is close to the heart of many public administration policy makers across these countries. Literature indicates that any theory of the manner in which government policies are formulated and implemented, and the effects of the actions on other economies, requires an understanding of the behaviour of major types of government institutions, their policy makers, citizens and other stakeholders (Teisman, 2000; Sabatier, 1991). Several governments e.g. taking the case of Australia – their government has been advocating since 2005, particularly through the Council of Australian Government (COAG), that all governments around the world need to develop a new NRA with regulatory reform and human capital at its heart. Throughout the 2006, within the Australian government, the officials from all jurisdictions worked hard to make their NRA a reality. As work advanced on this – whether through ongoing discussions with the commonwealth and other jurisdictions, or through the development of specific reform proposals – state jurisdictions remained convinced of the potential and necessity of a new reform agenda.

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The national reformation agenda is characterised by the strong emphasis on human capital -a healthy, skilled and motivated population - and on social inclusion, particularly for the indigenous population whose life chances are seriously below the rest of the community. Alongside the human capital and social inclusion elements of reform is the continuation of the microeconomic reform agenda to promote competition, reform the regulatory system and better co-ordinate and provide infrastructure provision. Thus, the following three elements are essential to the NRA:

- *Competition Reform:* to make our economy more competitive and continue with the successful reformations of the 21<sup>st</sup> century;
- *Regulation Reform:* to reduce the red tape burden on businesses; and
- *Human Capital Reform:* to improve health, learning and work related outcomes for all citizens and other stakeholders.

It is argued that significant gains can be made through completing the competition reforms and reducing regulatory burden. It also argued that the proposed new human capital reforms agenda offers the biggest economic potential and that additional reform opportunities should look at new reform initiatives linked to increasing the productive capacity of our people through health, education and training and work incentives. It has recognised the need to complete competition reform and also reduce the burden of regulation on our business. Another significant opportunity for governments is to reduce the burden of red tape on our businesses. The regulatory burden can be improved through addressing both the process (via gate-keeping arrangements) and outcomes (via targets that can be objectively verified). In addition, under each of the three main reform areas, but particularly the human capital stream, there are broad categories of reforms that are inter-jurisdictional and are designed to provide economic and social benefits. These reforms are intended to improve outcomes in health, education and training, and to improve workforce participation and productivity. The NRA is seen as crucial in addressing the challenges of population ageing, technology change and global competition.

Despite, the aforesaid reforms will create greater productivity and higher labour force/citizens' participation and will improve the standard of living in the decades ahead. While this prosperity is appreciated, what must not be done is to become complacent and presume that it will continue indefinitely. There are changes ahead that are inevitable, and as an authoritative body (government) we must be ready to respond to them. The global economy continues to become more competitive; and our own economy is evolving from an industrial economy into a knowledge-based one. Governments therefore have to show a keen interest in policies that will stimulate knowledge based economic growth. The two key areas of focus to meet this demographic challenge are ICT based participation and productivity (Anonymous, 2006).

## 1.2 Key Areas of Focus

### 1.2.1 Participation

The phenomenon of participation via ICT or simply termed as electronic participation (e-Participation) is receiving increasing consideration, exhibited by recent ICT implementations, government reports, and research programs in the public sector (Sæbø *et al.*, 2008; Grönlund and Horan, 2005). Macintosh (2004) also highlights that participation is related to the tradition of participatory, self organised democracy and grassroots communication and discussion processes. Sæbø *et al.*, (2008) and Sanford and Rose (2007) support that electronic participation involves the extension and transformation of participation in societal democratic and consultative processes, intervened by ICTs. Policy setting of the commonwealth governments have a significant influence on labour force participation decisions (as this satisfies one of the basic democratic principles i.e. citizen participation in decision-making) including taxation, superannuation and

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welfare policy (Fuchs, 2006; Macintosh, 2004; Irvin and Stansbury, 2004; Grindle and Thomas, 1990). There appears to be increasing realisation in government bodies that they need to give additional attention to the citizens and other labour force, become more liable and responsive to them, and get them involved in policy making process where and when feasible (Vaughan, 1993). Proponents of greater citizen participation in the government policy making process have ranged from government agencies and organisational departments to academic institutions to the citizens themselves (Rowe and Frewer, 2000). In recent years, however, there has been a growing body of literature within political science and national and international policy studies that directly and indirectly uses, discusses and analyses the processes involved in government policy making processes (Parsons, 2002; Rowe and Frewer, 2000; Blom-Hansen, 1999). The states also have influence over policies, as well as other relevant influences, and therefore the opportunity to increase skilful labour force participation rates and maintain aggregate labour force participation rates. It therefore makes sense that the commonwealth governments and the states/territories work together to meet the challenges of the current population. To contribute to these policy challenges, the national government may establish a workforce participation taskforce of industry, union, academic and community representatives to advise the government on strategies and initiatives to encourage maximum workforce participation (Anonymous, 2006).

#### 1.2.2 Productivity

Productivity growth has been a key driver of income and GDP growth in recent decades and has been driven to a large extent by microeconomic reform, with the liberalisation of trade and investment, deregulation of capital markets, more flexible institutional arrangements for labour markets, and the restructuring of public utilities (Gardiner et al., 2004; Ghani and Suri, 1999). Gardiner et al., (2004) states that if competitiveness has any meaning then it is simply another way of saying productivity; that growth in national living standards is essentially determined by the growth rate of productivity. Porter (2003), who has been amongst the most influential writers on 'competitive advantage' - of firm, industries, nations and regions and cities - also, suggests that the best measure of competitiveness is productivity. Porter and Ketels (2003) also support that a nation's standard of living is determined by the productivity of its economy, which is measured by the value of its goods and services produced per unit of the nation's human, capital and natural resources. Productivity depends both on the value of a nation's products and services, measured by the prices they can command in open markets, and the efficiency with which they can be produced. Productivity allows a nation to support high wages, a strong currency and attractive returns to capital, and with them a high standard of living (Porter and Ketels, 2003). As part of the broader microeconomic reform agenda to boost productivity and growth, governments have shifted systematically from directly providing virtually all infrastructures to creating markets where competing public and private suppliers can efficiently provide infrastructure services. The promotion of strong productivity growth must be a continuing focus of governments. Skills are an important driver of productivity. A more skilled worker is not only more likely to be part of the labour force; he or she will also be more productive. Skills are particularly important at the enterprise level as they enable firms to improve their competitiveness. Ensuring the skills system is delivering an appropriate and flexible mix of skills will be an important component of maximizing productivity in coming decades.

### **1.3 Reformation Policy**

The nature of globalisation and global economic change has been a subject of immense academic and industrial research during the past two decades (Yeung, 2002). During this era, global economic conditions have changed markedly, with a more open and knowledge based economy encouraging worldwide competitiveness and creating access to new markets (Dicken, 2003; Singh, 1994). In addition to the ever-growing integration of the international economy and associated transformations in the nature of competition between nations and business

organisations, many have suggested that the world is also undergoing a new, far-reaching technical revolution as a result of the rise in the significant technological transformations (Singh, 1994; Haggard and Webb, 1993). Moreover, output and employment have shifted towards higher value-add products and services as businesses have sought new opportunities. Literature exemplifies that this trend is expected to continue (Dicken, 2003; Yeung, 2002). National reformation based policy should consider to take advantage of this change, given our strong professional sector and our even spread of industry. Economic reforms, regardless of their aggregate effects, have distributive consequences, creating benefits for some while imposing hardship and loss on others. Whether reform succeeds and endures can thus hinge on the ability of the government to mobilise political support for the program and to manage the opposition (Haggard and Webb, 1993).

One of the most promising strategies is to tackle welfare, with policies aimed at increasing the availability and affordability of quality education, training and skill development, employment conditions and improving the general health of the citizens etc., by the intervention of ICT are predicted to have lasting positive effects on labour force participation. On the other hand, it is well argued by many researchers that the focal point of participation via ICT (i.e. e-Participation) is the citizen/labour force and the purpose of participation is to increase citizen/labour forces' abilities to also participate in the political process and transformation of digital government information and services (Sæbø *et al.*, 2008; Tambouris *et al.*, 2007). Macintosh (2004) highlights this as an opportunity for consultation and discourse between government institutions and citizen/labour force. Several other researchers have strongly emphasised that the time is coming when more direct forms of participation by citizen/labour force in the day-to-day workings of the legislature will be possible and in such cases of citizen/labour forces' involvement in public decision-making and implementation would eventually lead to more responsive and effective policy-performance (Kanstrup *et al.*, 2006; O'Rourke *et al.*, 2006).

### 1.4 Structural Change – A Proposal

Changing market conditions, consumer access to new or emerging markets, technological change, and the drive by industry towards more intensive, higher-skilled, higher-yield products and services means that the economy is continually changing and evolving. The strong growth in output and employment in the services sector in recent decades is a reflection of this change. The new national framework to be established had a role to play as a collaborative initiative, recognising both state governments and the commonwealth, along with industry. The structure included: shared funding distributed through a common planning process; dual accountabilities; the creation of a Council of ICT Education and Training (CIET); and the establishment of a commonwealth statutory agency for providing the basis for industry leadership of the national training system. Principles of cooperation, a commitment to funding growth and the establishment of national arrangements for the recognition and regulation of training are important. However, in recent times the commonwealth's commitment to a collaborative approach has stalled.

### 1.4.1 Principles of Proposed Structure

Principles of the proposed structure can be categorised into two broad groups such as: *Public Policy/Administration Principles* that include: (a) simplicity and clarity of functions wherever possible; (b) broad national frameworks (to reflect the breadth and national nature of the issues); (c) state and local responsiveness; (d) a focus on quality outcomes for clients and the community; and (e) efficiency and encouragement of appropriate investment and innovation. Whereas, the other group is *Education and Training Principles* that includes: (a) quality educational provisions that engender confidence in national consistency; (b) national standards and outcomes (qualifications); (c) choice in provision; and (d) training supply and demand responsiveness.

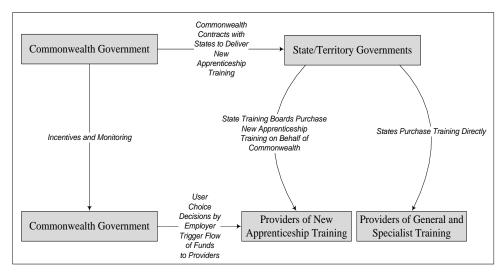


Figure 1. Proposed Funding and Accountability Structure

# 2. ICT POLICY

The objective of the policy is to target and achieve industry recognised best practice approaches and benchmarks for ICT services management in government department and agencies to meet business requirements in the form of establishing standards and guidelines. Successful ICT service outcomes that support business activities and leverage technology capabilities are fundamental to effectively enabling the delivery of government's service management capability. Well established ICT operational and management disciplines and structures need to be in place to achieve this effectively and efficiently. The ICT policy will support the increased sharing and reuse of the best practice processes and procedures between departments and agencies within the government and externally with business organisations. Adoption of such an ICT policy will facilitate the following benefits in government organisations such as: (a) increased interoperability between departments, (b) increase the mobility of ICT service staff, (c) meaningful benchmarking across departments and (d) shared ICT management terminology. Whereas, the key drivers to support the policy on ICT service management include among others:

- Improve alignment of ICT services management with business requirements;
- Improve the quality of services delivered to users;
- Reduce the long term cost of ICT services management;
- Transparently managing costs associated with ICT services;
- Reduce risks of disruption of ICT services;
- Introduce a common standardized approach to establish a common understanding and taxonomy related to issues concerning provision of ICT services management; and
- Providing overall effective ICT services management as a whole.

## 2.1 Regional Programme Strategy Framework

- Democratic Governance for Human development, aimed at enhancing political, economic, and social frameworks for poverty alleviation;
- Sustainable development, to address the poverty environment nexus and effective governance of trans-boundary natural resources;
- Globalisation and economic governance, intended to promote a more equitable era of globalisation through the prioritisation of pro-poor policies and sustainable human development;
- Gender development, ICTs, and crisis prevention as cross-cutting themes; and

• Policy Development and Dialogue on issues such as e-Strategies, e-Policies and support to an enabling environment for ICT development as e-Consultation.

#### 2.1.1 Priorities in Regional IT Services

- Implementation of IT Business Strategy
  - Knowledge management and networking
    - ERP implementation
    - Corporate portal implementation
- Connectivity and IT infrastructure enhancement
- Supporting corporate operations selected to lead UNDP pilot practice projects
- Supporting corporate operations re-profiling and business re-engineering

### 2.1.2 Core Services

- National ICT strategies based on a comprehensive 'e-Readiness' assessment.
- Policy and regulatory frameworks to promote ICT diffusion, access and use Technical and end-user capacity to use and apply ICTs, including women's access to ICTs, financial services, e-Commerce and knowledge networks
- E-competitiveness through small and medium-size enterprises and development of ICTbased products and services
- E-government and e-Governance (e-Democracy).

## 2.1.3 Support Services

- Development of integrated policy frameworks for ICTs.
- Support for public-private ICT partnerships.
- Design and implementation of regional and country-level ICT pilot programmes.
- Good practices in supporting ICT access and use.
- Strengthen UNDP/UN knowledge management competencies

### 2.1.4 Signature Services

- Policy development and dialogue
- Access
- Knowledge creation and content development

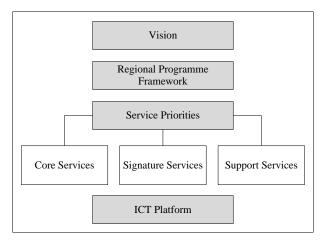


Figure 2. ICT Services Framework

#### **3. CONCLUSION**

In summarising the aforementioned literature analysis, the authors report that the following viewpoints are vital such as: national reformation policy must be aligned with ICT policy; corporate operations must be viewed as business web services in compliance with government policy; global business solutions need to be driven by ICT based applications, ICT can no more be an ad-hoc; the strategy is about collaboration, integration and semantic web services portals and applications; business decision authority should be decentralised but the software and data storage should be centralised; software applications are to be made commercial off the shelf packages and UN and UNDP consultations must promote harmonisation agenda.

#### REFERENCES

- Anonymous. 2007. 'The History of the National Reforms Agenda', Available at: www.dpc.vic.gov.au/.../The%20History%20of%20the%20NRA%20For%20Website.pdf
- Anonymous. 2006. 'National Reforms Agenda: The Case for Sharing the Gains', *Victorian* Department for Treasury and Finance Discussion Paper, 1-21.
- Anonymous. 2006. 'Human Capital Reform: Report by the COAG National Reform Initiative Working Group', National Reform Initiative Working Group for COAG, Available at: <u>http://tafecentre.vic.edu.au/?page\_id=631</u>
- Beynon-Davies, P. 2005. 'Constructing Electronic Government: The Case of the UK Inland Revenue', International Journal of Information Management, 25(1): 3-20.
- Beynon-Davies, P. and Williams, M. D. 2003. 'Evaluating Electronic Local Government in the UK', Journal of Information Technology, 18: 137-149.
- Blom-Hansen, J. 1999. 'Policy-making in central–local government relations: balancing local autonomy, macroeconomic control, and sectoral policy goals', *Journal of Public Policy*, 19(3): 237-264.
- Brynjolfsson, E. and Hitt, L. 2000. 'Beyond Computation: Information Technology, Organizational Transformation and Business Practices', *Journal of Economic Perspectives*, 14(4): 23-48.
- Ciborra, C. and Navarra, D. D. 2005. 'Good governance, development theory and aid policy: Risks and challenges of E-Government in Jordan', *Journal of Information Technology for International Development*, 11(2).
- Dicken, P. 2003. 'Global Shift: Reshaping the Global Economic Map in the 21st Century', 4th edition, London: Sage.
- Fuchs, C. 2006. 'eParticipation Research: A Case Study on Political Online Debate in Austria', ICT&S Center, Research Paper No. 1., 1-26.
- Gardiner, B., Martin, R. and Tyler, P. 2004. 'Competitiveness, Productivity and Economic Growth across the European Regions', *Regional Studies*, 38: 1045-1067.
- Ghani, E. and Suri, V. 1999. 'Productivity Growth, Capital Accumulation, and the Banking Sector: Some Lessons from Malaysia', *World Bank Policy Research Working Paper*, No. WPS2252.
- Grimsley, M. and Meehan, A. 2007. 'E-Government information systems: Evaluation-led design for public value and client trust', *European Journal of Information Systems*, 16: 134-148.
- Grindle, M. and Thomas, J. 1990. 'After the Decision: Implementing Policy Reforms in Developing Countries', *World Development*, 18(8).
- Grönlund, Ä. and Horan, T. 2005. 'Introducing e-GOV: History, definitions and issues', *Communications* of the AIS, 15: 713-729.
- Haggard, S. and Webb, S. B. 1993. 'What do we know about the political economy of economic policy reform?', *World Bank Research Observer*, 8: 143-168.
- Hoyt, J. and Gerloff, E. A. 2000. 'Organizational environment, changing economic conditions, and the effective supervision of technical personnel: A management challenge', The Journal of High Technology Management Research, 10(2): 275-293
- Irani, Z., Elliman, T. and Jackson, P. 2007. 'Electronic transformation of government in the UK: A Research Agenda', *European Journal of Information Systems*, 16: 327-335.
- Irani, Z., Love, P. E. D., Elliman, T., Jones, S. and Themistocleous, M. 2005. 'Evaluating e-Government: Learning from the experiences of two UK local authorities', *Information Systems Journal*, 15(1): 61-82.
- Irvin, R. A. and Stansbury, J. 2004. 'Citizen Participation in Decision Making: Is It Worth the Effort?', *Public Administration Review*, 64(1): 55-65.

Alsudairi and Kamal

- Kamal, M. M., Weerakkody, V. and Jones, S. 2009. 'The Case of Enterprise Application Integration in Facilitating E-Government Services in a Welsh Authority', *International Journal of Information Management*, 29(2): 161-165.
- Kanstrup, A. M., Rose, J. and Torpe, L. 2006. 'A Multi-Perspective Approach to eParticipation', Demo-Net
  The Participation Network: European Research Workshop: in conjunction with the 7<sup>th</sup> Mediterranean Conference on Information Systems, Venice, Italy, 3-6.
- Macintosh, A. and Whyte, A. 2008. 'Towards an evaluation framework for e-Participation', *Transforming Government: People, Process & Policy*, 2(1): 16-30.
- Navarra, D. D. and Cornford, T. 2009. 'Globalization, networks, and governance: Researching global ICT programs', *Government Information Quarterly*, 26(1): 35-41.
- Newman, J., Raine, J. and Skelcher, C. 2001. 'Transformation Local Government: Innovation and Modernisation', *Public Money and Management*, 21(2): 61-68.
- Ongaro, E. 2004. 'Process management in the public sector: the experience of one-stop shops in Italy', *International Journal of Public Sector Management*, 17(1): 81-107.
- O'Rourke, K.C., McQuillan, H. and Hayes, N. 2006. 'eParticipation: Time to Take Stock?', Demo-Net The Participation Network: European Research Workshop: in conjunction with *the* 7<sup>th</sup> *Mediterranean Conference on Information Systems*, Venice, Italy, 1-2.
- Parsons, W. 2002. 'From muddling through to muddling up Evidence based policy making and the modernisation of British Government', *Public Policy and Administration*, 17(3): 43-60.
- Porter, M. E. 2003. 'The economic performance of regions', Regional Studies, 37(6/7): 549-578.
- Porter, M. E. and Ketels, C. H. M. 2003. '*UK Competitiveness: Moving to the Next Stage*', DTI Economics Paper 3, London: Department of Trade and Industry.
- Rowe, G. and Frewer, L. J. 2000. 'Public Participation Methods: A Framework for Evaluation', *Science Technology Human Values*, 25(1): 3-29.
- Sabatier, P. 1991. 'Toward Better Theories of the Policy Process', *Political Science and Politics*, 24: 147-156.
- Sæbø, Ø. Rose, J. and Flak, L. S. 2008. 'The shape of eParticipation: Characterizing an emerging research area', *Government Information Quarterly*, 25: 400-428.
- Salmela, H. and Turunen, P. 2003. 'Competitive implications of information technology in the public sector: The case of a city geographic information system', *International Journal of Public Sector Management*, 16(1): 8-26.
- Singh, A. 1994. 'Global economic changes, skills and international competitiveness', International Labour Review, 133(2): 133-167.
- Tambouris, E., Liotas, N. and Tarabanis, K. 2007. 'A Framework for Assessing eParticipation Projects and Tools', Proceedings of the 40th Annual Hawaii International Conference on Hawaii International Conference on System Sciences, HICSS 2007, Hawaii, 1-10.
- Teisman, G. R. 2000. 'Models for Research into Decision-Making Processes: On Phases, Streams and Decision-Making Rounds', *Public Administration*, 78(4): 937-56.
- Triplett, J. and Bosworth, B. 2000. 'Productivity in the Service Sector', Unpublished paper. Brookings.
- Vaughan, E. 1993. 'Individual and cultural-differences in adaptation to environmental risks', *American Psychologist*, 48(6): 673-80.
- Welch, E. W., Hinnant, C. C., and Moon, M. 2005. 'Linking Citizen Satisfaction with E-Government and Trust in Government', *Journal of Public Administration Research and Theory*, 15(3): 371-391.
- WSIS 2004. 'Financing ICT for development: A review of trends and analysis of gaps and promising practices', Geneva: ITU.
- Yeung, H. W. C. 2002. 'The limits to globalization theory: a geographic perspective on global economic change', *Economic Geography*, 78: 285-305.