

# Globalisation, Information Technology and Governance

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The world is going through one of the most remarkable periods of transformation in human history. Globalization is sweeping across nations. Rapid flows of goods, services, capital, technology, ideas, information and people across borders; increased financial integration of the world economy; and rise of knowledge as a key driver of economic growth are resulting in new challenges and opportunities for development. Improvements in transportation have resulted in a dramatic decline in the costs of transporting goods by air, water, and ground. Technological developments in computing and telecommunications have reduced transaction costs. With decreasing trade and investment restrictions, shrinking economic distance, more mobile resources and integrated world financial markets, socio-economic trends are fast transmitting across national boundaries. Innovations in transportation, information and communication technologies are resulting in unprecedented levels of integration between separated parts of the globe. Economic activity is now structured on the “international” rather than the “national” level. It takes place in a highly integrated, electronically networked and knowledge-based environment. Exchange rates, interest rates and stock prices are now intimately connected across countries through a globally integrated financial market. Globalization and technology are defying the handicaps of distance and time. Volumes of data and money are quickly transferring between nations. Systems have enabled faster dissemination of ideas, quicker interactions, easier management of interconnections, and integration of business.

Data on trade in goods (imports and exports), private capital flows and foreign domestic investment (FDI) as percentage of Gross Domestic Product (GDP), and growth in international tourist arrivals, tourism receipts and expenditure indicate that globalization has expanded considerably in recent decades [UNCTD (2004)]. The world value of total merchandise exports from all countries in current dollars more than trebled between 1980 and 2002 - from \$2,031 billion to \$6,414 billion. One-third of these exports were from developing countries. Similarly, the value of total exports of services over the same period quadrupled from \$385 billion to \$1,611 billion. About one-fourth of these were from the developing world. During 1980-2002, the world inward foreign direct investment stock grew ten-fold - from \$699 billion in 1980 to \$7,122 billion in 2002. Developing countries accounted for about one third of the inward FDI stock in 2002.

Several factors account for the rapid globalization during the last two decades. These include:

- fewer trade and investment restrictions and lowering of tariffs,
- decline in transport and communication costs,
- rise of the tertiary economy and growth of service industries,
- expansion of trade in merchandise and services,

- growth in foreign direct investment (FDI) and private capital flows,
- expansion of market-seeking and efficiency-seeking operations of transnational corporations (TNCs) through FDI, mergers and acquisitions,
- advances in science and technology, including ICT, and the rise of the Internet,
- the “tradability revolution” – making services directly tradable and allowing “integrated production networks”,
- importance of skill and knowledge-based industries and the role of knowledge in total productivity and economic growth,
- business process outsourcing of corporate service functions,
- widespread democratization, and movement from “command and control” to “market-oriented” economies,
- importance of international organizations like World Trade Organisation and trade blocks making “rules of the game”, and
- growth of global social and political networks.

These factors, together with market forces, have given rise to today’s technology-driven, knowledge-based and increasingly integrated world economy.

Information and communication technology (ICT) has played a key role in globalization and integration. It has facilitated the heralding of a “Third Wave”, comparable to the First Wave, the Agricultural Revolution and the Second Wave, the Industrial Revolution. The world is shifting from a manufacturing-based industrial economy to a service-dominated and network-based knowledge economy. Trade in services, powered by ICT, is increasing too. The spread of ICT and the Internet are among the most distinguishing features of the new globalizing world. The “World Wide Web”, of which the Internet is a prime component, is becoming an epitome of the global society. With its decentralized and interconnected networks spanning the globe, the “Internet” has emerged as a symbol of globalization. The number of Internet users in the world grew 26% between 2001 and 2002. In 2001, 27% of Internet users hailed from developing countries, a figure that rose to 32% of the world’s 591 million internet users in 2002. By the year 2008, 50% of the total Internet users could be in developing countries. Particularly significant growth is foreseen for Asia [UNCTD (2004)].

Information and communication technology (ICT) is emerging as an important catalyst for transformation of business, society, and government in the globalizing world. Today ICT forms the “backbone” of several industries, such as banking, airlines and publishing. It is also an important value-adding component of consumer products, such as television, camera, car, and mobile telephone. ICT has facilitated packaging of information and sending the same across the world at negligible cost. The new technology has increased the velocity of international business operations, division of labor, and integration of production processes. ICT has revolutionized the interactions between government, business and citizens – G2B, G2C and B2C, G2G, B2B and C2C operations. The Internet is regarded as one of the most revolutionary transformations that world trade has ever seen. It has enabled trade in services by allowing them to be split into components, each of which can be located where it can be produced most efficiently and at the least cost. It is no longer necessary for providers and users to be physically close to each other. As a result,

IT-enabled services are increasingly globalizing in the same way as manufactures did for decades. ICT has led to a shift in trade from atoms to bits, a movement from tangibles to intangibles, from manufactures to services, and a transition from the industrial world to the information world.

The use of ICT by enterprises – or e-business – is closely connected with the growth of the Internet. In 2002, 95% of e-commerce took place in the developed countries. The United States is by far the largest user of e-commerce. In 2001, annual business-to-business B2B online sales in the United States totaled \$995 billion. The value of e-commerce in the European Union in 2002 was estimated at around \$185 billion to \$200 billion. In the Asia-Pacific region, it was expected to grow rapidly, to about \$200 billion in 2003. In Latin America, \$6.5 billion of online B2B transactions were forecast for 2002 and \$12.5 billion for 2003. African B2B e-commerce was expected to amount to \$0.5 billion in 2002 and \$0.9 billion in 2003, with South Africa accounting for 80% to 85% of these figures [UNCTD (2004)].

To be a multi-national company in the past, one had to be huge. One needed offices around the world to handle not only the corporate affairs but also local laws, customs, government functionaries and distribution of products. Today people in different locations can form a virtual company and access the global market. The manufacturing of bits could happen any where and at any time. Virtual corporations, informal collaborations and joint ventures are increasing in number. This will be more so when we move to a '24X7' environment, where entities are open for business for 24 hours per day, 7 days a week. This will lead to a situation of 'anything, anywhere, anytime'. The virtual corporations bring together expertise and experience relating to multiple tasks in a quick and cost-effective manner. The industrial age created scale economies from manufacturing with uniform and repetitive methods in any one given location and at one time. The information age exhibits the same scale economies, but with little regard for space and time.

IT has become a key to the evolution of our practices in many areas: education, communication, personal relations, business management, work effectiveness, productivity, etc. Teleworking and telecommuting are becoming a reality. People are logging into their computers and carrying out work from home, hotels, aeroplanes, and the like. Sale and purchase of products on the Internet, electronic procurements and auctions, service delivery on electronic counters, remote diagnosis and telemedicine provide examples where business can be transacted without the limitations of time, distance or corporate law. Distance sometimes acts in the opposite direction. Replies from remote places are often received quicker than those from physically closer locations. Time zone changes allow people to answer e-mails while the sender is asleep. The concept of an e-mail ID signifies how physical distance is losing meaning. Geography is no longer the limiting factor to global trade that it once was. The post-information age is likely to be "a place without space".

Information and communication technology has brought in a new era of managerial innovation and productivity. ICT has enabled many of the most important process and product innovations in the last decade. It is emerging as an effective tool to achieve performance improvement at the level of the firm, industry and economy. It has been instrumental in improving operations, enabling redesigning of

business systems, and creating new opportunities. Companies are using ICT to improve systems and processes, streamline existing processes, and spread efficiency. They are differentiating innovative products and creating value networks. The largest impact of ICT on productivity has been in ICT-producing and information-intensive industries. ICT has been instrumental for technology-led transformation in sectors such as semi-conductors, computer manufacturing, securities, brokerage, wholesale and retail trade, retail banking and telecommunications.

The world is fast moving towards a knowledge economy. This is due to growing cross-border transmission of knowledge through trade, foreign investment, movement of natural persons, technology transfer and electronic communications. The Internet is spearheading a consultative and participatory global culture. Information superhighways facilitate the instantaneous movement of weightless bits and bytes. More people, more often and more intensely now engage in the world as a single location. Technological advancement and reduction in costs have enabled various actors in the economic process enter into relationships with other actors of the world quickly and cost-effectively. The “World Wide Web” provides a transparent window through which global experiences and best practices are shared. It enables knowledge-networking, learning, saving costs of trial and error, and avoiding uncertainties. Knowledge is power and information is the key to knowledge. ICT facilitates data information transmission, knowledge acquisition, dissemination and creation of a value chain. International exchanges act as conduits for knowledge transfer. Knowledge-intensive sectors like education, health and bio-technology hold promises of phenomenal growth due to the advances in ICT. Developing countries need not re-create costly knowledge; they have the advantage of acquiring and adapting knowledge already available in the richer countries. ICT facilitates this.

While information and communication technologies have created new opportunities for economic growth and development, their diffusion across the globe and within countries has been highly uneven. Critics argue that globalization produces a sharp dichotomy between the technology ‘haves’ and ‘have-nots’ – an economy in which the benefits of change are captured by transnational corporations and their highly skilled work force. They contend that ICT is creating a structural under-class, who are the victims of ‘digital divide’. In a democracy with an active media, growth processes that benefit some while excluding others are not perceived as equitable or sustainable. The distributional equity issues associated with globalization and new technologies need to be addressed.

Globalization and new technology present many avenues for improving governance. ICT has opened up new opportunities for governments to manage things differently and do business in a more efficient manner by managing information effectively and re-engineering processes. United Nations identifies the following areas where governmental operations can be improved by application of ICT:

- e-Government: This applies to inter-organizational relationships, and includes policy coordination, policy implementation and public service delivery.

- e-Administration: This applies to intra-organizational relationships, and includes policy development, organizational activities and knowledge management.
- e-Governance: This applies to interaction between citizens, government organizations, public and elected officials, and includes democratic processes, open government and transparent decision-making.

A defining characteristic of traditional public sectors has been the existence of a large physical infrastructure. This was to deliver programmes through a network of service delivery points and offices across a country. The physical infrastructure was the most effective way to deliver public goods and services directly to citizens. ICT now allows governments to experiment successfully with new ways of delivering services without the service providers and clients being physically close to each other.

Information and communication technology is acting as a catalyst for organizational transformation and change in government by influencing governance in several ways:

- reaping scale economies and improving efficiency by automation of complicated and repetitive governance tasks;
- reducing personal interface of citizens and business with public service providers and cutting delay, red tape, corruption and harassment; and
- enhancing transparency by making information available to citizens through web sites, reducing information monopoly, and empowering citizens to put pressure on public officials to deliver better performance.

ICT allows simplification of complicated government processes and better management of performance. As Osborne and Gaebler observed:

*“Government is famous for endless figures and forms. To an outsider, it seems like an industry that pays an enormous amount of attention to numbers. People in government are always counting something or churning out some statistical report. But most of this counting is focused on inputs; how much is spent, how many are served, level of service each person receives. Very seldom does it focus on outcomes, on results”*

*David Osborne and Ted Gaebler: Reinventing Government, 1992*

Information and communication technology now provide opportunities to governments to better manage results, measure and monitor performance. They are learning how to structure a rich universe of information and integrate it into decision making for results.

While providing numerous opportunities for better governance, globalization and ICT have also brought in many new challenges for governments. These pertain to creating networks and an environment for absorption and growth of information

technology, bridging the digital divide, management of laws and regulations, knowledge management, and capacity building for information management.

The Global Information Technology Report uses a Networked Readiness Index (NRI) to assess the comparative progress of countries along different dimensions of progress in ICT. NRI is defined as "the degree of preparation of a nation or community to participate in and benefit from ICT developments". The Index is a composite of three components: the environment for ICT offered by a given country or community; the readiness of the community's key stakeholders (individuals, businesses, and governments) to use ICT; and finally, the usage of ICT amongst these stakeholders. Comparisons on NRI between countries over the years suggest that the differences between nations and regions in terms of ICT readiness are large, with considerable polarization. Further, disparities in the levels of ICT readiness and usage translate into disparities in the levels of productivity and prosperity. The governments need to take steps to enhance e-readiness and e-capability of all sections of the society. They need to bridge the digital divide.

National laws developed through national political processes tend to be local and physical. These laws are normally enforced within physical borders. Regulatory regimes relying on "lawful jurisdiction" are subject to limitations in a world of information technology and integration. In emerging cyber markets, national frontiers mean too little. The difficulty of isolating where activities take place on the Internet, the intangible nature of goods and services exchanged over it, and the anonymity that the Internet provides, present formidable challenges for any legal system. Traditional laws are unsuitable to deal with the virtual economic and social activities with transnational implications. A legal framework for the cyber markets needs to be established in addition to the strengthening of property rights, contract laws and regulatory environment for ICT-related activities. Laws pertaining to companies, anti-trust, patents, copyrights, defamation and obscenity, censorship, retail trade regulation and licensing, consumer protection, etc. require structural changes to be useful in the globalization scenario. For example, laws need to be developed to deal with situations such as occurring when a product ordered through the Internet never arrives or turns out to be defective. Similarly, a host of laws dealing with e-governance, data standards, and e-security needs to be designed. Electronic business, including e-commerce, is bound to gain importance in the years to come. It requires an appropriate framework of rules and regulatory mechanisms.

Knowledge creation, transfer and diffusion are emerging as the key focus areas for governments. Knowledge externalities transcend national borders. If people could free-ride the knowledge associated with an innovation, the innovator will have no incentive to invest in the costly process of creating knowledge. Left to their own, firms will tend to under-invest in research and development (R&D) and under-produce knowledge. There is thus a need for public policy to encourage R&D activities. Public interventions aimed at promoting the transfer and diffusion of technology might include public funding of basic research, networked infrastructure, protection of investments in reputation, including patent protection laws, copyrights and other forms of intellectual property rights, R&D tax credits, international treaties and attracting foreign direct investment from transnational corporations specializing in knowledge. Public policy is required to ensure that the right incentives are provided by governments for the creation and dissemination of knowledge by the

private sector agents. Governments need to facilitate acquisition, absorption and communication of knowledge. They also need to undertake direct measures to address information failure when the market does not provide knowledge services adequately. Governments can facilitate the operation of markets by requiring the disclosure of information that reduces the cost of market transactions. With the growing importance of services in the economy, the need for information on the quantity and quality of services assume critical significance. Many services are in the nature of public goods. The operation of markets in these services requires effective regulation by government.

There is also another emerging issue. ICT has greatly facilitated the flow of information to governments. This often outpaces the capacity of governments to process, assimilate and address it. The governments face an environment where increasing volumes of information are transmitted more rapidly and more widely than ever before. They are grappling with how to use this growing volume of data. The management of information technology is itself a big challenge for governments and public servants so as to avoid the “garbage-in and garbage-out” syndrome. A critically important requirement to harness the power of ICT for improving governance is to enhance the capacity of public institutions and civil servants to make use of information to their advantage. Building e-governance capabilities is essential to harness the power of new technology.

International cooperation is another key challenge that national governments face. Such cooperation, supported by international institutions and pluralistic decision-making, can help countries in several ways to secure greater benefits from domestic policies. Shared commitments and coordinated approaches can avoid beggar-thy-neighbor policies, address international spillovers, curb the abuse of market power, lessen transaction costs, reduce information asymmetries, promote technology transfer, and assist in capacity building. It can play a valuable role in augmenting investment, infrastructure and human capital in low-income countries. Equity in the international economic order, however, is a key issue. A significant part of the humanity does not have the capacity to shape its own living environment, let alone international policies. Many of the poorest countries remain marginal in spite of impressive macro gains from globalization. The affluent countries need to be persuaded to share a small gain from their globalization proceeds for those left out of the mainstream. Developing countries have to fight for a just and equitable global order.

The challenge of the state in a fast-globalizing and high technology world is to serve both as a conduit for the forces of change and a catalyst to promote, absorb and manage change. Governments have a crucial role to play in connecting what is happening globally to what is needed locally. They need to interpret and communicate to citizens the implications of globalization for public policy decisions. They must assist citizens and business to reconcile and combine global imperatives and local interests. Governments have to strike a balance between harnessing the advantages of globalization and providing a secure and stable social and economic domestic environment for growth and poverty reduction. Globalization is making governance more complex and challenging by bringing in new political, social, technological and institutional complexities in addition to economic opportunities.

Dealing with the impacts of globalization requires the governments to assume new or additional roles:

- to understand the interdependence of national, international and global issues;
- to ensure that local dimensions of public policy issues are reflected in how national interests are represented in the international arena;
- to ensure that the impacts of global changes inform the management of local issues;
- to facilitate people harness the opportunities of wealth creation made possible by global markets;
- to provide safety nets for those adversely affected by liberalization and global changes; and
- to address the issues of capacity creation to cope with emerging challenges – both for people and administration.

While new technologies have the potential of improving governance, they are by no means sufficient for good governance. Governments need to understand, manage and lead change effectively. There is a need for building capability of the state and its apparatus to adapt to the new realities and exploit the opportunities for development and poverty reduction presented by globalization. They have to do so in an environment where their control over national trade and investment policies is dwindling and where international cooperation is assuming critical importance.



## References

Dicken, Peter. 2003. *Global Shift: Transforming the World Economy*. London: Paul Chapman

Dutta Soumitra, Bruno Lanvin and Fiona Paua. 2003. *The Global Information Technology Report*. Oxford University Press.

International Monetary Fund. 2003. *Global Economic Outlook: Public Debt in Emerging Markets*

Nordstrom, H. "Trade, Income Disparity and Poverty: An Overview": in *Trade, Income Disparity and Poverty*, eds D. Ben-David, H. Nordstrom and L.A. Winters. Special Studies No. 5 (Geneva: World Trade Organisation. 1999.)

Organisation for Economic Co-operation and Development (OECD). 2001. *Science, Technology and Industry Outlook: Drivers of Growth: Information Technology, Innovation, and Entrepreneurship*. Paris: Organisation for Economic Co-operation and Development.

--- 1998. *Open Markets Matter: The Benefits of Trade and Investment Liberalization* (Paris: OECD)

Rondinelli, A. Dennis & G. Shabbir Cheema. 2002. *Reinventing Government for the Twenty-First Century: State Capacity in a Globalizing Society*. Kumarian Press, Inc.

Stern, Nicholas. 2002. "Dynamic Development: Innovation and Inclusion." Munich Lectures in Economics, Ludwig Maxmillan University, Centre for Economic Studies. Munich, November 19.

Wolcott. P., L. Press, W. McHenry, S. Goodman, and W. Foster. 2001. "A Framework for Assessing the Global Diffusion of the Internet," *Journal of the Association for Information Systems* 2(Article 6).

World Bank. 2002. *World Development Indicators 2004*.

World Trade Organisation. 2004. *World Trade Report 2004: Exploring the linkage between the domestic policy and international trade*

United Nations. 2004, *World Investment Report 2004: The Shift Towards Services*.

United Nations Conference on Trade and Development. 2004. *Development and Globalization: Facts and Figures*. United Nations. New York and Geneva

United Nations Development Programme (UNDP). 2001. *Human Development Report: Making New Technologies Work for Human Development*. New York: Oxford University Press

--- 2003. *Human Development Report. Millennium Development Goals: A compact among nations to end human poverty*