Chapter 1
From Governance to e-Governance

1.1 Catching Up with Governance Reforms or Racing Through ICT

In the decades to follow, the nature of governance will be highly influenced by the spread of information and communication technology (ICT). ICT (information and communication technology) is commonly used for a combination of IT (information technology), IS (information systems) and CT (communication technology), particularly the Internet. It would be interesting to place at this point the concern expressed by Cees Hamelink in his keynote address to the first preparatory meeting for the UN World Summit on Information Society (WSIS) in 2003, 'It is disconcerting that in the context of the "Information Society" the notion "communication" has disappeared. Yet the real core question is how we should shape future "communication societies"…'. However, the fact that ICT does not observe geographical and cultural boundaries demands a new form of regulatory system which applies surveillance without dispiriting and monitoring without protectionism. With the world societies increasingly moving onto the Internet-driven world, governance is likely to redefine its boundaries to suit the needs of changing times. The perplexing question is to encourage the use of technology for facilitating inclusive governance without letting government sink into technological determinism.[1]

Undoubtedly, governance is likely to acquire an extended reference to e-governance to be able to describe its full potential of influencing policies and lives of citizens. Notwithstanding the technological control of the nature and direction of information, governance across nations would have to deal with the technological simulation of human consciousness in institutional processes. The change from 'rain-weather-daylight' regulated work culture of the pre-industrial era to the 'clock-driven' industrial societies – the world has transcended all of these defining

[1] Technological determinism is a condition when governments start treating technology as one-stop solution to all governance problems. They would then ignore larger substantive governance reforms, deliberative democracy and interactive society to implant mega models of technology.

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features and moved into one of the most fundamental transformation in recorded history. Eric Hobsbawm (1995, p. 8) writes that the revolution in transport and communication has virtually annihilated time and distance. Countries which have already moved in the direction of applying information and communication technology tools in governance suggest that this change is much more than just a wadding device to governance as some perceive it to be. Governance is already a matted with 'e' which suggests 'electronic governance' or 'digital governance' so that many of the traditionally inherited pathologies of bureaucracy and politics may be surpassed to achieve a 'low cost and low friction' governance (Viniegra 2012, p. 1). e-Governance has already demonstrated its potentially powerful ability to supply unmitigated administrative dispersal, transparency and accountability without compromising its inbuilt succour to control governance to the extent of making public institutions dependent of 'e' and rendering a strong civil society to impact upon the government. To bypass such a surge of power and ability to bring many policy transformations for the good of the society would be rejecting a golden platter full of solutions and alternative designs. Besides, little or half-hearted measures on the e-front, at this point of time, may be inviting and also empowering the undeserved in decision making and subsequently hastening the much feared public and private institutional catastrophe. Experience of the rise and fall of governments across the world in recent past and the belligerence of trans-national commerce indicates that this is not the time for administration to sink into routine slumber but to emerge as leaders to supervise the drift of governance towards digitisation and direct the e-route towards development, equity and sustainability.

The 'catching up' witnessed in the first and the second developmental decades of the 1960s and 1970s took an entirely new turn as catching up did not mean more development but more technology which litters the countryside as discarded skeletons (Eric Michaels 1990, p. 20). The electronic waste is one of the most fatal devastation of land and water, notwithstanding the environmental disasters which are waiting to wipe off a healthy human society.[2] Thus, more land was required to expand e-governance as business units within cyber cities which constituted an ICT Special Economic Zone as production units.

Experience across the transitional countries of Asia Pacific region also suggests that while there is enormous activity on the e-front of governance, much of this has merely streamlined assembly line kind of e-activity devoid of innovation, original thinking and leadership in e-governance. The large-scale production of technically trained young e-workers, engineers and administrators in the last two decades has camouflaged production as innovation and engineers from IIT as the real leaders of e-governance. The technical bureaucracy has taken over regular generalist bureaucracy. As a consequence technological determinism or the potential power of technology with its nuts and bolts science is considered to be an answer to many e-governance problems. Moreover the science of 'e' takes a larger share of funds

[2] Grossman (2006) notes that the world generates somewhere between 20 and 50 million metric tons of 'e-waste' every year, which includes LCD screens but keeps the calculations on mobiles on hold as all phones which are bought may not necessarily lead to discarding the older ones.

and attention as it carries with it some subtle sense of urgency and lack of alternative design, while the community administration's direct participatory strategies including the need to reform bureaucracy become secondary and sometimes treated as an extension of e-governance. Thus, e-governance is promoted in many regions and in many departments as part of the TINA[3] ideology which eventually berates non-technical forms of policy resuscitation.[4] Interestingly, for the rest of its life, the failed 'e-practice' becomes a 'best practice' song of technical bureaucracy. This may not be misunderstood as an effort to make a case for regular bureaucracy but to emphasise an increasing need for interdisciplinary institutional mechanisms to bring e-governance as countries are littered with such failed practices which were designed over sophisticated and flawless technical systems. The present work is a comparative analysis of e-governance in selected countries of the region through multivariate comparison of data on public sector institutions, regulatory measures, practices, access, degree of coordination and management, a futuristic vision and transparency of service delivery. This study would highlight findings from country experiences of e-governance and create a vision for critical understanding of its adoption into citizen's life and achieve a reasonable rather than an unjustified race towards swank wired governance.

1.2 Understanding e-Governance

The lure of accelerated economic growth led the bandwagon of e-governance in the Asia Pacific. The UNDP document on human development in 2001 (UNDP 2001, p. 2) was upbeat to declare the agenda of ICT in governance, 'People all over the world have high hopes that these new technologies will lead to healthier lives, greater social freedoms, increased knowledge and more productive livelihoods'(UNDP 2001). Since 2001, e-governance has travelled a long distance from the ideal of a one-stop solution to all governance problems to a more intractable problem of implementation, inclusive development and upgradation. Many fear that it has been a severe drain on resources and public institutions without improving institutional accountability. Many studies highlight failures of e-governance (Heeks 1999; Sachdeva 2006; Felix et al. 2011; Viniegra 2012). As it emerges out of these studies that while there is no one single reason for the failure of e-governance, there is also one dominant reason why they have mostly failed which is one principle of organisational management philosophy of the Luther Gulick and Lyndall Urwick's 'Papers on Science of Administration' written in 1937, i.e. the principle of 'coordination'. However, the challenge of coordination has become more externalised in contrast to Gulick and Urwick's understanding of

[3] There is no alternative (TINA) but to adopt it instantly.

[4] This is indicating a non-technical attempt to revive a failed policy through people's participatory efforts, skill development, legal changes and accountability measures for bureaucracy and community practices.

coordination within and between government agencies and departments. Currently, e-governance requires not just coordination within government agencies but more profoundly a coordination which extends towards business, law and civil society. Failure to develop an institutional ability to coordinate various public agencies, technological structures, human variables and data supply systems and bring them all under the driving force of a dynamic leader makes many e-governance initiatives redundant in the first few years of their implementation. Therefore, the standard argument for institutional reforms, which had been navigating through governance studies, suits e-governance as well as is strongly brought out in a wide-ranging empirical analysis of American states by Tolbert et al. (2008, pp. 549–563).

e-Governance suggests wired governance. If governance is understood as a concept which is wider than that of government and refers to a 'looser and wider distribution of both internal and external political and economic power' (Lofchie 1989, pp. 121–122), then wiring such disparate and dissimilar centres of power and activity would make the system too susceptible to deadlocks and distrust. The earlier system of e-government, which connected all government departments on wire or computer's local area network, was simpler as it was merely connecting offices which were ideologically and normatively similar. The challenge of e-governance is to bind this looseness prevailing within governance, where dissimilar organisations and institutions come together for achieving the ends of development. As governance refers to a system of rules by which the productive and distributive life of society is governed (Leftwich 1994, p. 371), e-governance has a high potential of achieving ends of economic and human development. It retains the governance feature of pursuing collective interests and striving for legitimacy as it is with governance. Ironically, much of this is bypassed to achieve technological ends which lead to failure of e-governance projects.

Most definitions on 'e-government' in contrast to those on 'e-governance' indicate a limitation of freedom to collaborate and use discretion to unite in versatile set of strategies. The United Nations Public Administration Network (www.unpan.org) defines e-government as '… utilizing the internet and the world-wide-web *for delivering government information and services to citizen*'. Similar to this, the Organisation for Economic Cooperation and Development (OECD) defines e-government as '…the use of information and communication technologies and particularly the *Internet, as a tool to achieve better government*'. Even the World Bank definition of e-government as 'the *use by government agencies* of information technologies, such as Wide Area Networks, the Internet, and mobile computing, that have the *ability to transform relations with citizens, businesses, and other arms of government*. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions'. The International Telecommunication Union (ITU) is closer to the de facto location

of e-government which is to *improve managerial effectiveness and to promote democratic values and mechanisms*.

The e-governance is to be understood in its outreach activities and the significant role in public policy from the formulation stage to its implementation as well as evaluation. These outreach activities do not belong to e-governance per se but to governance, which, because of its inherent limitations, is not able to resolve. Given that 'e' is an extension and continuation of governance, it would do what governance does. According to Keohane and Nye (2000), 'Governance implies the processes and institutions, both formal and informal, that guide and restrain the collective activities of a group. Government is the subset that acts with authority and creates formal obligations. Governance need not necessarily be conducted exclusively by governments. Private firms, associations of firms, nongovernmental organizations (NGOs), and associations of NGOs all engage in it, often in association with governmental bodies, to create governance; sometimes without governmental authority'. Kettl (2002) also suggested that 'Governance is a way of describing the links between government and its broader environment - political, social, and administrative'. These definitions have paved the way for greater freedom and also caution in adopting models of e-governance; once governance goes online, the controls may shift from regular bureaucracy and political executives to technological regimes who would supply softwares, hardwares and varieties of technologies to keep e-governance going, so much so that many global technology regimes may occupy the steering seat to control governance through e-governance. This is the point which the present genre of country governance has reached and which now requires them to coordinate on governing the global supply, regulations and management of 'e' technology itself or 'governing the Internet'[5] appropriately being referred to as 'Internet governance' which makes the invisible wire underneath governance more accountable and visible to respective countries.

Governance, on a narrower side, is a technical strategy to deliver goods and services to citizens, but considering the diversity of interests and differentials prevailing in developmental and democratising processes in each society, this narrower meaning of governance may not be appropriate. Governance has a broader meaning which builds, manages and sustains institutions to achieve well-being of citizens. This broader meaning suggests that governance is the art and science of the configuring power and managing resource distribution to achieve political and economic control. This entails that governance is about a legal framework for regulating income, wealth and control of political authority. While the promoters of the ICT technology have insisted on an apolitical and technical meaning to e-governance, yet it is obvious that the nature of governance does not change once it is transferred to the e-wire. ICT serves as a tool in governance to overcome limited human capacities and geographical hindrances of difficult terrains, distances and land disruptions.

[5] D'Monte (2013).

It is simpler to build a wired electronic network of communities than to actually bring these communities physically closer and communicative with each other. It is also simpler to prevent most of the bureaucratic pathologies such as the 'red tape' (Bozeman 2000), Parkinson's behaviour (Niskanen, and Niskanen 1971), rent seeking (Krueger 1974) and politicisation (Peters and Pierre 2004) by creating a wired electronic network highlighting accountability and transparency of processes. This helps to overcome or compensate for many human deficiencies which affect implementation and create obstinate structural obstructions in performance.

The new e-location of governance raises various concerns as it is technologically driven by a new breed of administrators who are engineers. Considering their training and occupational perceptions, they work in a cause-effect and cost-benefit framework of analysis, leaving aside some of the dominant strands of political decision making which brings technological and marketing deviations, investment compromises and implementation-related geographical bargaining which takes place in the implementation process. Thus, eventually, e-governance is decisive and deterministic in development and service delivery but is nevertheless laden with the fear of being ideologically dogmatic and inflexible. In contrast to the failures in governance which indicate gaps and weaknesses in participation, legislative processes and bureaucratic pathologies, the failures in e-governance are directed to revisit softwares and vendors who were responsible for magical transformation of society through technology. A good example to this is the open-source software debate which has diverted issues of equity and social justice from community programmes to technological systems, and consequently social engineering has been replaced by strategic technological implantations. Interestingly the technology companies blur the understanding between the 'sentient' and the 'simulant' which are interesting terms borrowed from physics to explain the objects which naturally exist as part of the organic chain of evolution and those which are implanted or replicated from the original formula. Much of the 'e' comes into governance as a 'simulant' and not through the 'sentient' organic chain of human evolution.

The element of 'e' in a lowest common denominator is information and communication technology (ICT), but its spread in the public policy domain is all encompassing from the home computer, Internet, television, mobile phones, iPhones, satellite surveillance and all media-related technology to defence systems and missile control systems. As the Report of the Digital Review of Asia Pacific[6] (2009–2010) mentions, 'ICTs are not a single neutral technology, but a complex field of activity encompassing many different technologies and various types of information that existed prior to these technologies coming into being'. ICT appears benign as it helps overcome poverty, but the metaphysics of information generates new controls of the whole governance systems and the benign

[6] http://web.idrc.ca/openebooks/456-7/

may mutate to a powerful 'Neuromancer[7]', the character of Gibson's (1984) science fiction. These new inhabitants of public policy were all set to redefine the boundaries of political science (Hassler and Donald 2008). and public administration. Governance acquires a new meaning and appropriates new authoritativeness as it advances into the 'cyberspace' creating a 'consensual hallucination' (Gibson 1984, p. 51).

Thus human perception about governance depends much upon how the element of 'e' is conceived. A lot has been written on the failures or successes of 'e-governance' programmes, notwithstanding the cultural framework within which it operates in the desired direction. There are terminological clarifications which are required before one proceeds any further into the debate. The 'e' in governance has far-reaching ability to intercept public as well as private lives of people much beyond anyone's imagination and control. This raises several ethical questions, but most important is that the ICT may spin itself out of governance and start dictating rather than listening and assisting stakeholders.

The need for governance and the idea of uploading it over electronic systems almost came together, perhaps to release the congestion of traffic around the public sector through automation and assistive intelligence for decision making. Whether it is a dilemma of chicken and egg or the deliverance of the Siamese twins, the 'e' has since then shown no signs of walking away; on the contrary the relationship has become thicker and more dependable. There are many reasons for this besides the multi-stakeholder partnership which the public sector has to deal with.

The decade of the 1980s had handcuffed developing countries with the structural adjustment policies of Bretton Woods institutions, while the developed world encountered the impact of cold war by refining its interceptor technology to enhance surveillance against their citizens and beyond national boundaries. The increasing sophistication of information and communication technology during this decade facilitated global capital flows around the world and increased dependence of high-technology markets upon unstoppable inventions in electronic hardware, software, digital data processing, biometry and cryptography. The new technology started unfolding itself into a form which was more omnipotent and intimidating than whatever could be controlled by the government while applying it to many of its development programmes.

[7] *Neuromancer* is a 1984 novel by William Gibson, written at the time of the rise of computers. *Neuromancer* is a kind of cyberpunk or the undefinable as Gibson writes (New York: Ace Books). Coined by Bruce Bethke as the title of his short story 'Cyberpunk', published in 1983 (http://en.wikipedia.org/wiki/Cyberpunk#cite_note-2, http://en.wikipedia.org/wiki/Cyberpunk#cite_note-3). It features advanced science, such as information technology and cybernetics, coupled with a degree of breakdown or radical change in the social order (http://en.wikipedia.org/wiki/Cyberpunk#cite_note-4). Cyberpunk works are well situated within postmodern literature (http://en.wikipedia.org/wiki/Cyberpunk#cite_note-5).

1.3 Central Argument of the Book

The book delineates the political vision, administrative attitudes, institutional responses and e-readiness of selected countries in the Asia Pacific towards new challenges of transition to e-governance. The central argument which drives the book is the fact that e-governance is the future direction of governance, and nations in the Asia Pacific could channelise this movement through dynamic collaboration, knowledge partnerships for mutual learning and replicating successful practices. The MDG Goal No. 8 has already explained and emphasised the need for collaboration for achieving developmental targets and lamented the neglect with which nations have treated it. Some of the major concerns which the book would discuss are given below:

- *Preventing technological determinism by democratising the Internet:* e-Governance is the defining factor for governance in coming times and whether nations want or not, they would be driven into it as they were driven into globalisation two decades ago, despite the anxieties against it. The spread of technological determinism which has been arriving with e-governance can be countered by taking some pre-emptive measures. This would mean that governments should strengthen democracy, interactive citizenry and deeper penetration of the Internet in society so that e-governance does not create a digital divide and obstruct goals for an inclusive governance.
- *Bringing governance reforms as a precondition to e-governance*: As e-governance rides over the governance framework, the framework may influence its performance. Thus, e-governance is not a substitute for governance reforms nor is it a strategy to bypass pathologies of bureaucracy. A malfunctioning government can bring a catastrophic drain on the country's resources by attempting to implement e-governance systems.
- *e-Governance is a global activity driven by Internet users:* e-Governance is dependent upon the larger number of Internet users having IP addresses and email IDs. This entails that governments should be driven by knowledge and futuristic vision of decision makers who could relate to citizens' requirements, country's demands and global challenges in an appropriate manner. Concomitantly, governments should be adequately equipped to interact with global technology regimes of Google, Yahoo and Apple which help dispersal of Internet in society. e-Governance is a global activity with the strongest players being those who have the capacity to influence global technology regimes.

This work encounters *three* challenges:

First, the *progress on e-governance is pathetically slow even though there is an ever-increasing traffic of citizens over the Internet every day.* The laggard attitude of governments towards e-governance is not a result of an inert civil society as the scores of their interactive and communicative behaviour in other e-forums and social media are much higher. Table 1.1 is an indication of the rousing zeal amongst citizens to use Internet and Facebook (and other social networking forums). Government websites and communicative networks are generally believed to be

Table 1.1 Internet active and communicative societies

Countries	Internet users 2000	Internet users 2012	% Population penetration	% Internet users in Asia	Facebook users	% Facebook of total Internet users
China	22,500,000	538,000,000	40.1	50	633,300	0.117
S. Korea	19,040,000	40,329,660	82.5	3.7	10,012,400	24.82
Australia	6,600,000	19,554,832	88.8	80.5	11,680,640	59.73
India	5,000,000	137,000,000	11.4	11.4	62,713,680	45.77
Malaysia	3,700,000	17,723,000	60.7	1.6	13,589,520	76.67
Philippines	2,000,000	36,600,000	32.4	3.1	29,890,900	81.66
Indonesia	2,000,000	55,000,000	22.1	5.1	51,096,860	92.9
Pakistan	133,900	29,128,970	15.3	2.7	7,984,880	27.41
Sri Lanka	121,500	3,222,200	15	0.3	1,515,720	47.03
Bangladesh	100,000	8,054,190	5	0.7	3,352,680	41.62
Nepal	50,000	2,690,162	9	0.2	1,940,820	72.14
Afghanistan	1,000	1,520,996	5	0.1	383,220	25.19
Bhutan	500	150,548	21	0	82,040	54.49

Source: Internet World Statistics, http://www.internetworldstats.com/stats3.htm, Accessed 26 March 2013

uninspiring and not motivating enough for citizens to sustain interaction. To compensate for the staid government websites, UNDP has set up interactive online governance communities like the ICT Solutions Exchange, Decentralisation Community or Gender Community which have become platforms of open dialogue, mutual learning and knowledge sharing between administrators and citizens. These e-communities extend and transcend beyond political boundaries in the region and conform to the objectives of collaborative search for replicating successful practices and sharing local alerts against designs which are likely to generate negative externalities and backlash.

Second, despite the rising number of Internet users in the Asia Pacific, *the Internet penetration into society is extremely low and feeble due to which e-governance programmes fail to influence or catalyse government policies on development and well-being.* This is also creating a digital divide, whereas the poor, differently abled and girls are being pushed to the periphery for not being able to access the Internet and benefitting out of many online opportunities. The scores of access to the ordinary masses have been so low that despite huge investments ranging from almost INR 40,000 crore in India (NeGP budget), TK 2.81b. and TK 10.97b. spent in Bangladesh(BanglaGovnet) and PKR 2.6 b. (ITS Notification, 19.10.2002) already exhausted in Pakistan (TRE survey) for the development of ICT infrastructure and procurement proposals, the percentage population outreach efforts have not shown any significant change (see Table 1.1). Despite adequate investments in South Asian society, governments have somewhere been inactive or ignorant of radical interventions to generate a meaningful e-governance. By accessing comparative data from a variety of national, global and statistical online sites, it is fairly clear that e-governance has been more speedily adopted and implemented in commercial and financial establishments rather than the government welfare sites. One reason for the slow adoption of e-governance in government as compared

to the private establishments has been that companies undertake experimental risks more readily in commercial standardised transactions which are able to deliver measurable profits. On the other hand, governments work amidst a political framework of constitutional accountability due to which most e-ideas are implanted through the borrowed wisdom of hired technical experts.

Third, to meet deadlines and targets, *most e-policies are seldom revisited or evaluated during implementation as a result of which several negative tradeoffs take place to selectively highlight success stories to international donor agencies and obtain a political mandate back home.* The urgency of implementing e-governance has primarily been to improve country's economic position through revenue collection, widening the tax net, balance of payments and wealth regulations, banking reforms involving transparency about cash reserve ratio, credit worthiness and foreign investments. Thus, while e-governance reforms have dramatically transformed those departments which deal with revenue collection and savings such as the income tax and banking departments, they have a highly scattered and patchy record of parliamentary and administrative reforms, service delivery and judicial reforms. In this context it has been mentioned previously that several meaningful e-governance studies conducted in the last decade have raised concerns about the economic priorities of e-governance policies in abeyance of productive collaborations with citizens. Scholars have identified culture, capacity, skill development, literacy, content and affordability as issues which need to receive attention of the government. The present study takes a social science approach to study e-governance within its ecosystem composed of technology regimes, community of expertise, politics of the state, leadership, peoples' aspirations and ethnographic and geographic influences. The most important factor is the government's ability to live up to the expectations of the new and emerging population of younger professionals who are time tied and e-savvy and have an ability to create a storm on the social media. A futuristic vision may help in implementing most of the e-governance policies with an embedded sensitivity towards this new class of citizenry. A comparative data along with a critical theory analysis may analyse country-level efforts in coping up with all these facets of e-governance.

1.4 Rise of the Internet

The history of Internet is a story of collective, coordinated and passionate team research by engineers at MIT, but its origin has been in an environment which our younger generation may not believe it to be. Internet has originated out of ARPANET (Advanced Research Projects Agency Network), a very small network of computer-based network information exchange fashioned by scientists working out of the American Military Industrial Complex in response to perceived cold war threats (Castells 2000). The objective of this early Internet system was to protect the military industrial data from a nuclear holocaust wipeout. Thus, access to this Internet did not allow users from Europe to browse freely into all its spaces. However,

Internet has grown to be very different from what it originally was, because it has moved out of a very restricted and closely monitored science-based specialised exchange system to a diversified and distributed diffusion of information exchange amongst citizens and administrators as well as the market.

Their work suggests that Internet technology has four main aspects which have contributed to its growth: research on packet switching[8] and ARPANET, operations and management, social aspects where a broad community of 'internauts' continuously work to evolve technology to make it more user friendly and lastly its commercialisation or its effective transition to information infrastructure (Kahn et al. 2012). The rise of the Internet has been an American phenomenon, a typical strategy in the direction of American exceptionalism where organisational effectiveness and efficiency as a mathematical design could be established to manage business. Internet, in this manner, could be treated as one more philosophy after the Scientific Management era to achieve higher productivity through a set of mathematically deduced principles. Yet, organisational theory was the most neglected section of the Internet as the Internet decided a future of its own with the coming of globalisation. The origin of the Internet lies in the year 1962 when JCR Licklider at MIT discussed his 'Galactic Network' concept as part of his dream to connect computers on a global scale for accessing data and programmes from any site (Kahn et al. 2012). The American government organisation ARPA (Advanced Research Project Agency) which was at least three times changed to DARPA (Defence Advanced Research Project Agency) played a crucial role in developing the Internet. The first book on the subject of networking was published in 1964 by Leonard Kleinrock at MIT, who again, in 1976, published another book on the subject of the ARPANET. In 1969 the research team was successful in connecting four host computers to launch Internet in the making. The present day open architecture networking was well demonstrated by Robert Kahn in one of the biggest International Computer Communication Conference (ICCC) in 1972. This developed a new protocol called Transmission Control Protocol/Internet Protocol (TCP/IP). This gradually led to some other applications, including packet-based voice communication or Internet telephony and research on file sharing and viruses. Since Internet had wider applications, the World Wide Web emerged by virtue of the TCP/IP. Initially only three networks were formed – the ARPANET, Packet Radio and Packet Satellite along with their initial research communities; this evolved to spread the network for global developmental needs. Some developments are worth mentioning here as these innovations are habitually being used by non-technical communities such as the social scientists in research and widespread development of LANS, PCs and workstations along with the fundamental navigating power of the 'Ethernet technology', developed by Bob Metcalfe at Xerox PARC in 1973. This spread of a very large number

[8] Packet switching is a digital networking communication method that packs up all types of data into specially formatted units called 'packets' and delivers them across computer network connections, typically routing information from source to destination using network switches and routers (for further details, see Mitchell, Bradley (2013). What is packet switching on computer networks? at http://compnetworking.about.com/od/networkprotocols/f/packet-switch.htm).

of independently networks or LANs made the single table of hosts impossible. At this time Paul Mockapetris invented the Domain Name System (DNS) which distributed host names to a hierarchical system such as .com, .org or .net. After sometime even this distribution became overcrowded and had to be further distributed to regional networks with an Interior Gateway Protocol (IGP) used inside each region of the Internet and an Exterior Gateway Protocol (EGP) used to tie the regions together.

The privatisation of the Internet technology started in 1995 when the National Science Foundation (NSF) of the USA brought in a number of regional and privately managed networks to build national capacities. Currently there are 50,000 networks across the world with around 29,000 networks in the USA alone. While the Internet defies not only corporate control but also any other form of centralised institutional control, as was the case with previous communication and media technologies such as the radio and television (see Hauben and Hauben 1997; Norris 2001, Elmer 2002). Thus, Internet and the p2p (peer-to-peer) exchange has also rendered somewhat more artificial the appearance of 'information scarcity' – the perception that news represents a difficult-to-obtain resource (Garcelon 2006, p. 57). A special issue of a publication by Scientific American in 1996 on 'Key Technologies for the 21st Century' starts with a mild warning from John Rennie (p. xi) about the uncertainties of technical innovations, 'Even the greatest ideas and inventions can flounder, whereas more modest steps forward sometimes change the world'. Thus, some of the fundamental technologies which lie in the backwaters of the mighty Internet have a capacity to change the domain of governance but in turn may impose new tensions over it.

Microprocessors, being the most basic to run the Internet, have led to a chain of inventions such as computers, laptops, fax machines, sophisticated automobile technologies, wrist watches and other home and office appliances. It has been estimated that their performance has increased 25,000 times since they were invented in the 1960s. On the basis of its size, it was named a 'microprocessor' and could be made in bulk, thereby keeping its cost very reasonably low. The scope and rate of improvement in computer microprocessors or chip design technology have moved so fast that the present processors are many times faster than the previous ones.

This enormous boom of science is not expected to continue with the same pace in coming times. The challenges of fast-rising global procurement cost, implementation handicaps and the need for consistent expert support of administrative innovators may not sustain these technologies in the Asia Pacific, especially as they are being adopted on a scale which is beyond administrative capacity to supervise and set directions for.

Another powerful back-end Internet technology is that of 'wireless networks'. This technology has revolutionised the metros as well as the countryside by delivering personalised communications to people and basic telephone services to underprivileged poor, who never dreamt of having one ever in their lifetime. Invented by Guglielmo Marconi, this experiment of sending radio waves has grown into a wireless network which is becoming digital and more 'intelligent'. It is a technology to locate roaming subscribers and customise the services they receive. An increasing

improvement in microelectronics, digital radio and signal processing has spread the usage with speed and vigour across the developed and transitional countries.

The need for technology in governance and changing lifestyle demands of citizens has brought in an increased control of governments over decisions of great national importance. One such is the contestations involving 'predation over the spectrum space'. Governments have to issue or auction licenses and allot space on radio spectrum around the frequency of 2 GHz for this personal communication services (PCS). This in turn brings an obligation of infrastructural installation on the licensees to move PCS systems. Since this requires capital investments which most government network companies are not in a position to make, thus the government opens up for investment from private telecom companies. These companies in turn bargain for more spectrum space and on service providers so that spectrum could be used more cost-effectively. Hence, while this has served to help people in developing and transitional countries in connecting them to global markets, it has also made governance of technology intensively fuzzier and therefore open to high-level corruption in government.[9]

A technology which has been changing the course of data management, retrieval and national security domains especially of counter-terrorism and militancy prevention activities of governments is artificial intelligence, or AI. It has emerged as a storehouse of commonsense knowledge from its first invention in Dartmouth College in 1956. This is being increasingly used in face recognition, medical diagnoses, security devices, airports and customs, automobiles and appliances. It is nevertheless laden in problems which have prevented its growth to the level of its two previously described technologies. First, there are commonalities of expressions, language and linguistic features which prevent a commonly applicable programme to study, direct or guide objects. Secondly, an object may have multiple contexts, hence the limited capacity of AI to take up the job of human brains. Third, most intelligible detections are based on commonsense understandings and intuitive push. Thus, an excessive promotion of AI may give a feeling of sophisticated technology but, in many areas where governments unthinkably push the installation of this technology, may turn out to be an avoidable investment. This is where technodeterminism rules decision making. AI is not just a support to mind as in computers but has replaced mind with a computer and therefore raises serious philosophical questions about the cognitive experiences fed in this computer which replaces the mind. If this technology originates in a Western developed country, then how could one expect a diagnosis on features related to a developing or underdeveloped society? Thus, AI has become a highly debated technology in present times.

Thus, the new ICT technology which combines authoritative controls over both knowledge storage and communication has started mediating choices made by people and governments. Andrew Feenberg[10] insists in all his writings on a critical

[9] The 'Spectrum Scam' which has led to the axing of leading ministers and executives in India, which has rocked the Parliament several times of the UPA's ruling regime, is suggested an additional reading but is not being discussed here, since this is not the focus of the book.

[10] Transforming Technology, p. 3.

theory of technology that the design of technology is an ontological decision fraught with political consequences. In all circumstances such decisions tend to exclude a large majority of citizens clustered at the lower end of the socio-economic system in every country developed or underdeveloped. Thus, technology of this sort cannot bring any fundamental change in society such as a radical poverty eradication drive unless it is democratically transformed.

The power of the Internet is grossly misunderstood, and the technical bureaucracy is by and large so drenched in the technological systems, as much as the generalist bureaucracy is engrossed in its politics that the combination of the two always escapes the policymakers attention. The e-governance is already going to be affected by the debates over control of the domain name space and intricacies of the next generation of IP addresses. While technology and a serious understanding about its functionality and appropriate use cannot be ignored at any point, it is also imperative for departments, ministries and agencies to collaborate within the country as well as in regional and global platforms so that technology is tamed to serve the interests of people in the most intelligible and cost-effective manner. Internet is continuously growing, and one does not know that with the speed with which numerous 'ontologies' are being constructed over the World Wide Web (WWW), the Internet may become a place for intense battle of the belligerent political and ideological hacker groups to control it. To quote the closing statement of the article posted on its site by the Internet Society,[11] 'If the internet stumbles, it will not be because we lack for technology, vision, or motivation. It will be because we cannot set a direction and march collectively into the future'.

e-Governance is one of the most powerful tools of governance in present times. It is embedded within the information and communication technology which has come to control not just the processes of development but also the minds which generate pedagogies of development. Thus, the world is likely to be steered by a design which would move the world in one particular direction and bypass a number of parallel trends and alternate designs which bring continuity and sustainability in development. A critical insight would deepen understanding on the cross-cultural and diverse governance perspectives which lie beneath the outstanding superstructure of e-governance in the Asia Pacific. The objective is to explain and clarify the relationship between e-governance and larger institutional reforms to strengthen governance and then to explore those manifold strategies which make them complementary and supplementary to each other. This presumptive relationship between the 'e' and 'governance' is also expected to highlight many of those missing links in implementation which retard performance and prevent the achievement of any of developmental goals.

The rapid strides towards e-governance take a visible turn with the beginning of the year 2000. As citizens fretted the intrusion of this new technology-based governance interventions, most nations also felt the need to provide a legal framework to it. Information and Communication Technology Act was passed by the legislatures of

[11] Retrieved from http://www.internetsociety.org/sites/default/files/Brief_History_of_the_Internet.pdf.

Pakistan, India, Bangladesh, Sri Lanka, China, Malaysia and Nepal as development and good governance became more and more dependent upon the ICT technology.

This is followed by three extremely important United Nations documents: the *Digital Review of Asia Pacific* (starting 2003–2004), the *UN E-Government Development Database Surveys* (starting 2004) and the *Global Information Technology Report* (2012). Amongst many institutions which have been actively participating in data management activities, United Nations Public Administration Network, World Economic Forum, World Bank, Central Information Technology Office (WB), International Telecommunication Union along with the World Economic Forum and organisations such as the Orbicom, INSEAD and IBM have led the movement towards increased sophistication of e-governance research. Databases such as www.worldeconomist.com, www.internetworldstats.com, www.tradingeconomics.com, TRE Surveys, Lirneasia.net, APNIC database for the Asia Pacific and www.nationmaster.com have set up a large number of indicators and sub-indicators which contain a well of knowledge for any researcher to analyse differentiated data to understand issues woven around e-governance in the region. These databases and publications on e-governance initiated a competitive environment in seeking investments, funding, partnerships and software research in connecting people and strengthening governance. United Nations generated new indices in line with the well-being indicators annually presented in the form of Human Development Index (HDI). These were the e-Governance Index (EGI), e-Readiness Index (ERI), Networked Readiness Index (NRI), Web Measure Index (WMI), Telecommunication Infrastructure Index (TII) and Human Capital Index (HCI). These indices attend to the problem of biases embedded into qualitative assessments and make benchmarking and measurement more authentic. Such a sophistication sets measurable directions and dimensions for countries to achieve e-governance targets. e-Governance has generated so much interest across the globe that several databases have been built to sustain and initiate new and innovative analytics and ideas.

The march of the Internet into the lives of people in Asia Pacific has been rapid. The www.internetworldstats has brought together data from sources such as Nielsen Online, ITU and Facebook. This is the most recent data till 31 December 2012 which suggests that 44.8 % use Internet in Asia as compared to 55.2 % in the rest of the world. However, the discouraging part is that out of the Asian population of 55.9 %, only 27.5 % have access to the Internet, whereas in the rest of the world, out of a much less population of 44.1 %, the Internet users constitute 42.9 % (Internet World Statistics, http://www.internetworldstats.com/stats3.htm, accessed on 26 March 2013). India, Sri Lanka and China added 27 %, 26 % and 25 %, respectively, to their Internet user population; Nepal, Pakistan and Bhutan added 53 %, 217 % and 301 % population of Internet users. Afghanistan took a giant leap by demonstrating a 15–20 % growth of Internet users. Table 1.1 suggests that transitional economies have a better market for Internet, and as economy stabilises and requisite governance reforms settle down, the percentage rise of Internet users also stabilises. Australia, South Korea and Malaysia represent a more stable advance of Internet. The social vibrancy in terms of cyber group interaction and online communities is

very high in Malaysia, India, Indonesia, the Philippines and Australia. This work at a later stage would link this up to a surveillance society, the norms of which are still active in the governance of China and Pakistan. Informal and formal data collected from visits to Pakistan has brought out some brave facts about their society and especially about their women. A large number of the population including that of educated and professional women in Lahore, Karachi and Peshawar insist going on the Facebook and other social media Internet sites despite the blockage and bans declared by the government on one side and Talibani groups on the other.

The data given in Table 1.1 suggests that the spread of Internet in Asian countries has been patchy and uneven. While China constitutes almost half of the Internet users in Asia, India has only 11.4 % and the rest of the South Asian countries fall below one per cent usage barring Pakistan which is little above these. Another interesting fact which is further going to help understand the relationship of accessibility to Internet with better well-being of people in South Korea, Malaysia, Indonesia and the Philippines is the fact that Internet is better dispersed; its penetration into lives of people is not confined to the privileged few but is much deeper. Table 1.1 suggests that even though the number of Internet users has not increased as astoundingly as China, yet they have a much higher accessibility scores or deeper penetration into their population.

ICT influences the fun loving educated young population as much as it controls hard facts about decision making and governance, looking for connecting strategies in relationships at work or in informal groups, elderly people opening a discourse over community portals called ‘addas’ or ‘abodes’ or city activists generating support and marketing ideologies and culture. ICTs now are safely perched at the centres of the most indomitable offices of political power and unassailable supply chains in banking and commerce. Never in the history of technology would one find such close proximity of technology to politics and business and a technology which advances with the willing support of varieties of modern world messiahs like the media baron Keith Rupert Murdoch,[12] world visionary saints like the late Steven P. Jobs[13] and strategic genies such as Bill Gates,[14] Bob Young and Marc Ewing.[15]

[12] He is an American Australian business tycoon who shot into popularity due to his rapid strides in controlling the digital media and expanding it into a monopoly business through ‘News Corporation’ owning over 800 companies in more than 50 countries with a net worth of over $5 billion.

[13] The iconic co-founder of the Fortune 500 Apple Company which not only ushered in an era of personal computers and touch screens but also a cultural transformation of all entertainment business in music, movies, iPhones and social networking sites on digital media. He died on 5 October 2011.

[14] The American software genius and business leader in computers and founder of Microsoft Company which is constantly innovating softwares for personal computers and for long remained uncontested in the market.

[15] Bob Young and Mark Ewing are two founders of the Open Software movement called the Red Hat movement in 1993, which since then has broken the Microsoft’s expensive monopoly of softwares. Red Hat has decontrolled ownership of these softwares for the benefit of smaller businesses, firms and public sector applications. Red Hat movement can be referred to as a digital grassroot movement serving the interests of the underprivileged in electronic industry.

Any understanding of ICT is based on praxis or an ability to implement the theory. This would mean that ICT would carry the intention of fulfilling a particular function. Politics of the perplexing questions surrounding this function as the nature of this technology would depend upon the kind of users which it would attract and the objective which it sets for itself. The three questions about the function, the users and the objectives of ICT are best responded through the e-governance strategies which nations adopt for development and poverty reduction. The success of ICT depends upon the synergy created by a multi-stakeholder participation in the e-governance programmes. Ability to formulate laws for intellectual property, copyrights restrictions, regulating pricing and privacy, deterring cybercrimes and helping forensic research suggests that applications of ICT depend more upon the activity outside technology. There are many best practices to substantiate this argument such as the Mahiti Shakti, an e-governance programme successfully introduced by a District Magistrate in Godhra after the riots and later made self-steering through innovative support systems generated within the market. Similarly, TaraHaat in Bundelkhand could be launched only through the political leadership and grassroot cultural interaction to mobilise participation of poor tribal population around the Orchha town in Bundelkhand. Thus, the 'People First' argument governs the success of ICT applications, but this effort should reflect into appropriate laws and regulations which help dissemination of information rather than stifle the usage.

ICT has redrawn the map of democracy and participation across the world. Originally meant to enhance managerial capabilities through computerisation of records and data within offices and corporations, it has grown into a dominant form of governance itself. Thus, in less than a decade, governance reforms became identified with ICT-enabled activity set to transform lives of millions of poor in India and other regions of the world. The technology juggernaut is moving forward, and, increasingly, segments of society find themselves displaced or simply left behind as a consequence (Gurstein 2000, p. 2). Fundamental to the idea of ICT-driven development is the issue of providing a 'least minimal access' which depends the least on technological solutions but upon a complex ramification of citizen's right to education, health, equality and employment which form fundamental ethical principles of democratic theory some times referred to as an 'Access Rainbow' (Clement and Reagan 1996) suggesting a coterminous of technology with socio-economic and physical access issues. Internet management and governance itself is currently one of the biggest challenges for governance as any laxity on this front may deter foreign investment, global partners as network providers, system builders with a futuristic vision and sense of sustainability. Government would work on the razor's edge in governing the Internet and at the same time preventing the Internet bureaucracy from submerging itself in some form of technological determinism[16] unsuitable for development in transitional and poor countries.

[16]Technological determinism as explained earlier is a combination of treating 'technological sophistication as the best solution' and thus popularise a new lexicon of terminology such as hardware, software, connectivity, online support, community networks, use-nets, e-lists, World Wide Web, bandwidth, e-governance, online participation, telework and service design. Most of these are ill defined and therefore provide little insight into the processes of technological applications

1.5 Globalisation and ICT

Speaking at the UNDESA (UN Department for Economic and Social Affairs) and IIAS (International Institute of Administrative Sciences) joint conference at New York in 2001, Anthony Giddens gave an outstanding description of globalisation. He explained that those who continue to suggest that globalisation is an expansion of the global market place or the role of financial institutions have not understood what globalisation is. According to him, 'globalization is the marriage between communications technology and computerization that has changed so much about our lives' (Giddens 2002, p. 88). Some of the changes which occurred during globalisation are the enormous growth of grassroot NGOs, rise of the investment state, global information about people and services, increased cross-country and offshoring manufacturing, telemarketing, production and service industry. A number of global technology innovations which have become a norm of living and working, such as ATMs, credit cards, satellite television, GPS, GIS, social media, Facebook, FaceTime, video conferencing, telemarketing, Skype and cyber communities of resident welfare associations across the world, animal and environmental activists and gender groups, are now difficult to live without. From bride hunting by a non-resident citizen to providing medical resuscitation assistance to a road side accident victim, ICTs have definitely brought people together. However, the criticism that these people who matter over the Internet are knowledge generators and information suppliers in contrast to the marginalised population which neither has access to the internet nor has the language to share emotions and knowledge may get further alienated and deprived should also be taken more seriously in the design of public policy. So globalisation has only deepened the pre-existing gulf between the technology-superior communities and technology-deprived communities in the world.

'The propinquity between globalisation and ICT' is not a matter of debate as globalisation could not have been possible without the global network which was already laid across the world by the ICTs. Generally, they are considered to be coming together, but the later discussion in this section would reveal that globalisation came riding the World Wide Web to connect businesses and services across the world. Governments discovered that this technology could be manoeuvred to obtain a cost-effective self-sustenance in times of economic crises. Globalisation provided an impetus to the ICT industry to knit the world together as the World Trade Organization is launched to manage global transactions, production and supply chains.

The present phase of globalisation begins from the anxieties created by the failed Bretton Woods institutions in the 1980s. When discussions on the Dunkel Draft was taking place in the early 1980s, Internet was already doing business and research in the USA and Europe as the academic, business and engineering communities were closely coordinating the applications, feasibility and viability of the Internet. While these Internet and business communities discovered amazing results about the

in development policy. It also puts corporates such as Microsoft, Apple Computers, Dell, IBM, Sony and Mitsubishi as the engines of state's developmental progress thereby closing the cycle of equitable access to all poor communities.

Internet's outreach and functional capability, they were not too sure about the areas where it could be applied and therefore held several meetings with vendors to learn about commercial requirements as well as convey whatever was possible through the usage of the Internet.

The Uruguay Round is the eighth round of this kind and is the longest round in the international trade history, taking 8 long years (1986–1993) to conclude. Hence its conclusion is a landmark. This round has been the most complex and ambitious. For the first time, its accords extend fair trade rules to sectors like agriculture, textiles, services, intellectual property rights (IPR) and foreign investments. With the signing of the Final Act agreement at Marrakesh in Morocco on 15 April 1994 by 117 governments giving approval to about 20 decisions, the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) virtually came to a conclusion. A Trade Negotiating Committee (TNC) was constituted as an overseeing body. Fifteen negotiating groups started to work on the issues. Many agreements such as the Multi-Fibre Arrangement (MFA) and agriculture were included in the GATT on one hand and on the other developed countries insisted upon the inclusion of trade-related intellectual property rights (TRIPs) and trade-related investment matters (TRIMs) within the GATT. In 1994, 117 countries sign the Marrakesh agreement in Morocco. The signing of the Final Act of Uruguay Round has paved the way for setting up of the World Trade Organization (WTO) with effect from first January 1995 as a successor to GATT. The preparatory committee setup for creating the WTO is to take up, inter alia, issues like labour standard, immigration policies, competition policies and financial services in its agenda. Till such issues are resolved, a great deal of ambiguity about the precise nature of the final multilateral system will remain. In 1991 when the Indian government adopted the New Economic Policy and alongside most Asian states had moved deeper into global market economy, the business was largely led by the multinational corporations or the trans-national businesses.

Most Asian countries lagged behind in technology. The WTO agreement had already paved the way for the developed countries for not transferring their technological innovations to the Asian region. The monopoly rights of the USA over technology of ICT had launched the control of these MNCs over development in the south.

According to the World Health Organizations (WHO), the average expenditure on research work on any new discovery is estimated to the tune of Rs. 200 crores. The developing countries cannot afford such a huge amount of money for research work. When MNCs spend 18 % of their total expenditure on the research work in India, the corresponding figure is only 2 %. The adoption of the trade in services in 1994, the year when privatisation of the Internet has started, suggests that the service sector would all go online for use by the MNCs.

As the global marketplace expanded due to market integration and expansion, the ICT companies of the USA nearly tripled their market sales over the decade of the 1990s.

This income gain was greater for services and software and to some extent even the hardware. ICTs were changing the nature of task in business from routine administrative jobs to skill-based jobs in the labour markets (Bhagwati et al. 2004).

Globalisation has created a dispersal of knowledge communities which are 'information hubs' or as Haas suggests 'epistemic communities' which innovate and provide leadership in technological transformations in societies. McLuhan's metaphor of a global village is critical of communication models which fail to understand the multidimensionality of communication. As he writes (1989, p. 3) that present form of communication is 'all-at-onceness' data which moves at the speed of light. It is voice, print, image and sensory data delivered without sequential relationship. His criticism of the Shannon-Weaver model is in its failure to understand the modern day communication which is multidirectional, 'All Western scientific models of communication are – like the Shannon-Weaver model – linear, sequential, and logical as a reflection of the late medieval emphasis on the Greek notion of efficient causality' (1989, p. 3).

Globalisation of information has also brought to surface many invisible tensions of social existence and state prowess. In his book 'McWorld vs. Jihad', Barber (1995) reflects upon a 'McWorld tied together by communication, information, entertainment and commerce' vs. 'Jihad…against technology, against pop culture and against integrated markets, against modernity itself' (1995, p. 40). The United Nations provides a benign image to the much criticised globalisation by suggesting that ICTs could be harnessed to achieve global peace and development (United Nations 1998).

Globalisation arrived over the wings of the internet and the cage of the transnational companies. These companies did not loose any opportunity to generate internet networks for transactions in goods, services and financial transfers to propagate their business on a reduced manufacturing cost. The transition from governance to e-governance became a natural corollary of globalisation. However, this change produces a new paradigm of public management based on the emerging criterion of efficiency and performance.

1.6 e-Governance, Well-Being and the MDGs

More than seven billion people inhabit the earth now. Human Development Report 2010 indicates with concern the deepening divide between the wealthy and the poor. Resources are limited and so is the human will and capacity to limit consumption. Thus, vested interests divert resources to the powerful few. Despite the rising incomes and GDP of nations, the world remains a home for more than 1 billion people with less than $1 a day and more than 2 billion who live on less than $2 a day. The majority of people in poverty are women who globally earn roughly half as much as men. Approximately 600 million children live in extreme poverty.[17] This precarious state of affairs does not show signs of ending as the number of poor people living under $1.25 a day has increased from 421 million in 1981 to 456 million in 2005 (http://www.worldbank.org.in/). The Asia Pacific has rising incomes, but this has not translated into equitable distribution of resources to support the poor who languish in inhuman conditions of starvation, disease and death. This sentiment emerged

[17] The Chen and Ravallion (2008) research still stands as the latest comprehensive estimate of poverty in developing countries.

as the core of a new global discourse within United Nations in the mid-1980s. Human Development Index (HDI) was designed as an alternative signpost of progress, prosperity and well-being of nations. The GDP-driven conventional measurement of progress came under scathing attack, but the issue seemed too firmly seated in global developmental economics till 2010 when President Sarkozy lamented its obstinate presence despite the irrelevance to the issue of prosperity.[18]

Some dramatic changes were occurring in terms of global population which was a mere 1.6 billion in 1900 but grew to an additional 1 billion by 1950 and exploded to 3 billion more by 1995. The advances in medical technology had increased longevity and prosperity, pulled down hierarchies and levelled many social injustices. The governments were adopting various forms of democracy, and there were more people clustering around their administrators for services and demands. Population growth had been uneven in the Asia Pacific region. Many other calamities came associated with the population explosion which this region encountered. Land degradation, soil erosion, food crisis, famine and floods multiplied the number of poor, hungry and those suffering from varieties of preventable diseases.

Population explosion combined with increasing democratisation of countries in the Asia Pacific led to a pressure of demands and expectations. The decade of 1960s has been a period of severe economic downturn for the whole of Asia Pacific, and United Nation's continuous failure to turn the declared development decades into success stories indicated institutional failures. Thus, the primary contention of this work is to treat institutional failure as a raison d'être of e-governance. So 'e' has arrived as some form of a resuscitation measure to failing institutions or a design to fix immunodeficiency of governance.[19]

The 'e' by its very nature is endowed with the freedom of 'unbelongingness' or to be with none and everyone, yet exclusive and unbridled. Thus, the fear is that despite its applications and adoption for poverty reduction purposes, it may be easily hijacked to serve the vested interests. It can acquire manifold morphologies and can befriend quite unsimilar and disparate groups of people. It can traverse the boundaries of sacrosanct privacy and isolation and be placed as one of the most omnipotent discoveries of the period of globalisation. Its characteristics match that of global capital industry, the TNCs. The combination of the two helped the flight of global capital to unknown lands and hands and ended up in profits for the few stronger groups. The technology implanted programmes and their infrastructural requirements; subsequently, the city looked more beautiful and offices better organised; nevertheless, the nature of governance remained the same. The methodological

[18] The Pakistan Planning Commission economist Mahbub ul Haq had indicted the measurement of development through the GDP scale and broadened this dimension of measurement to many other areas of subjective well-being. In 2009, the French President Nicolas Sarkozy reiterated the sentiment at Sorbonne in Paris (HDR 2010, p. 12). This suggests that the persistence of most transitional countries to showcase the health of their economy through the only single dimension of GDP is also an effort to hide or ignore injustices behind the rapid strides in global advancement.

[19] 'A key issue is that the way that ICTs are conceived has a big impact on the efficiency of development projects, and the views of ICTs of policymakers and practitioners on the ground are often different'. 'ICT for development in Asia Pacific: Emerging themes in a diverse region' (Butt and Sarkar 2009–2010).

individualism which had been the lamp post of governance studies also guided the technology manufacturers, vendors and global funding agencies to deepen pre-existing social divisions of class, caste, gender, linguistic and race and then treat the pathology of digital divide with some more technology.

'e' when added to governance can have a transformational impact upon the way democracy functions. The digitisation of democracy has been able to transcend local disturbances and disruptions of the electoral processes but at the same time created new concerns on the ethics of social mobilisation and elite control of public policies. The biggest threat to democracy in present times is from the way powerful groups hijack social and administrative issues to desired personal ends. Thus, the state remains 'predatory'[20] more than ever before.

The 'e' has also pushed administrative reforms with new rigour and speed. This has brought 'e-governance' to a central location within the governance agenda. The face of modernisation and the drive towards sophistication have inspired governments to adopt high-end strategies like TQM, MIS and MBS, and the previously failed and discarded PPBS has acquired a new lease of life in the present day planning.

Poverty being multidimensional is now better understood as a problem of inaccessibility to services, inappropriate data to define vulnerability and failure of institutions to deliver capacities. With the above three characteristics entwined with governance, the issue of pro-poor governance becomes more politicised. The rise of NGOs and other civil society pressure groups has now intervened to facilitate service delivery and increased stakeholders and structures of implementation at the ground level. To coordinate such diverse groups having different interests for participation raises many more concerns of accountability and transparency.

Poverty has also remained an undying concern of public policy due to the terminological errors in defining development and progress. The 2004 World Development Report titled 'Making Services Work for the Poor' has indicated in detail that human development has lagged behind the increases in wealth. Thus, economic growth alone is not enough despite being essential as investments in health and education. These egalitarian concerns are surfacing due to the wealth getting accumulated with the wealthy top. The WDR 2004 has highlighted the fact that for most public services, there is more public spending on rich than the poor. It suggests that 'poor people are often trapped in a system of dysfunctional service delivery relationships' (2004, p. 12), but finding a way to decentralise controls over services, better information, increased public spending and appropriate monitoring can help deliver pro-poor services. This would however require a public expenditure tracking system so that the funds allocated for pro-poor services may be rightly directed. Therefore, public administration is expected to redesign or abandon the linear model of development to adopt an appropriate multivariate model that can connect, coordinate and balance various stakeholders in a policy

[20] Deepak Lal describes the state as 'predatory' due to 'its monopoly of violence (like that of a mafia gang controlling a neighbourhood) within its territory. The aim of this predatory state would be to maximise its net revenues and its net takings' (2004, In Praise of Empires, Globalization and Order, London: Palgrave Macmillan. p. 5).

Poverty reduction exercise can begin only if the actual poor are identified. This involves a complicated exercise which involves data on consumption per member in different households. Since data on consumption per household is difficult to obtain, researchers segregate people to quintiles on the basis of asset ownership. Besides, there are concerns related to gender, ethnicities, physically and visually challenged, migrants or those who sink into poverty due to various health emergencies or livelihood loss. The process of collection, aggregation and management of all these data is beyond human capacities to comprehend or too expensive and time-consuming for researchers. This task is slowly effectively transferred to the 'e' in governance which ensures better analysis and micro-level research. Every country in the Asia Pacific zone has a Bureau of Statistics and Programme Implementation for the state of people's well-being, employment scenario and issues of development, besides having an Office of Spatial Data for the country's complete information on land, water, forest and other environmental and geophysical issues. Quantifying poverty, justifying methodologies of quantification and corroborating national, regional and local information have been possible due to ICT.

MDGs have set a direction for 189 signatory states to the UN Millennium Summit in 2000 towards achieving a minimum standard of well-being in a nation. Even though the list is not comprehensive nor can that be a priority for all varying nations in the world, yet the agreement over eight basic goals characterises well-being. The targets of well-being are these goals (Box 1.1) which are to be achieved by the year 2015. The repeated failure of governments to provide a minimum standard of basic services required by a citizen to overcome chronic poverty and vulnerability to disease, debt and death led to the framing of these policy targets made mandatory for signatory countries. While this targeted approach had strict deadlines for country's governance, it also required knowledge and information for the implementing agencies to achieve them within the set time period.[21] e-Governance became the most sought-after tool in the decade following 2000 to achieve MDGs. The last Goal No. 8 intensified e-governance efforts with the objective of building

Box 1.1: Millennium Development Goals

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Improve maternal health
5. Reduce child mortality
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development

[21] See Singh, A. 2011, *Governance* http://onlinelibrary.wiley.com/doi/10 and Blindenbacher et al. (2010).

partnerships and carry out regional initiatives, which allow UNDP, governments and other development partners to identify, create, share and apply knowledge to solve priority development challenges. These efforts are of particular importance in the Pacific region especially the small island states which face multifarious challenges of development due to their size, remoteness and resources crunch. e-Governance has the capacity to overcome their remoteness, distance and geographical challenges and at the same time equip them with a disaster management tool which would improve life of citizens by bringing social, economic and environmental security. The threat of disasters and submergence due to climate change further increases the need for strong e-linkages with neighbouring mainland countries and with islands within. USPNet is a satellite communications network connecting 12 countries of the region through a live video. Many regional organisations have successfully pushed the e-governance networking in the region. The Pacific Island Forum, Info Development, Pacific Resources for Education and Learning (PREL) (http://www.pacificplan.org) and many other efforts of AusAid, UNESCO and Peoples First Network Rethinking service delivery and reducing transaction cost suggested e-Governance to be raised to a recognisable priority in member countries as an essential pillar in reforming local service delivery. Still, this policy dimension has however been severely contested on grounds of overgenerating substandard and misdirected e-governance programmes. The strict deadlines for fund use, arbitrary procurement processes in governance, lack of political leadership and unaccountable administrative performance raise anxiety of country governments to meet deadlines for quantitative targets without ensuring quality and sustainability of governance.

Achieving the mutually agreed Millennium Development Goals is the major concern of Asia Pacific countries, and this requires a mutual acceptability of commitments made, a global partnership which provides Asia Pacific to air their voice and creation of a network governance on socio-economic and environmental issues. The Brundtland Commission Report of 1987 (OUP 1987) had highlighted the world as having a ‘Common Future’, but the subsequent realities of the global unfolding of events have made partnership indispensable for survival. Chronic poverty persists in almost the whole of Asia Pacific despite a large number of innovations in poverty reduction strategies. The world developmental crisis led 189 UN member states at the September 2000 UN summit to accept a set of eight targets of development by 2015. Reducing poverty and achieving development have become the top agenda for the decade following the year 2000 through a targeted plan to overcome at least eight biggest vulnerabilities which have obstructed development.

Interestingly, in a 2005 Millennium Development Project findings and recommendations prepared by world’s leading policy analysts under the leadership of Jeffery Sachs (2005, London: Earthscan) to accelerate the policy process, there was no specific mention of e-governance or the ICT-driven innovations or reforms to speed up national efforts. The policy of development through the MDG-suggested pathway has been questioned by many scholars, but the important observation comes from the celebrity ICT scholar Richard Heeks. He has advised policy protagonists of the MDGs to be discerning on e-governance and creation of telecentres

as most of the e-governance projects have been adding to the technology garbage of governance around the Asia Pacific. Scholars have seen MDGs as a North-driven technology agenda: 'The MDGs are not the devil's brew, deliberately cooked up for the purposes of under-development. But nor are they tablets of stone that "shalt not be questioned". They do run the risk of skewing the development agenda, and they also run the risk of marginalizing ICTs' (Heeks 2005, 2008, pp. 26–33).

Scholars have also been finding the ICT connection to MDG a rather impulsive agenda of the North to be imposed with no choice over the South, and this has become a bane for e-governance programmes.[22] While simple applications of 'e' can transform the poor countryside, the state goes to adopt a technology which is exotic and complex (Heeks 2002, pp. 1–11). This mindset which prefers to rate higher any technology which appears complex and rare inadvertently alienates people from using it. Some of the expensive mega-plans such as the National e-Governance Plan for India or the Digital Bangladesh National project are close examples to this.

Irrespective of the connection of MDG policies to e-governance, most countries in the region are showing consistent improvement on their Human Development Indicators and their ability to collaborate in capital investments and resources generation. This positive energy is an outcome of their people being in constant communication with each other, sharing and debating policy outcomes as well as uniting to face environmental and political calamities together such as the tsunami and the battle against corruption. The leaders in broadband services, chip foundries, Internet, e-governance innovations and mobile telephony join many social groups to improve access and performance of public institutions in achieving MDGs. Currently, the need to achieve inclusive governance has intensified efforts across the South Asian region which has the highest number of poor in the world to enable e-technology to penetrate deeper into society for improving their access to development programmes. This has given a fresh impetus to develop a cost-effective convergence technology which is a combination of mobiles, television, radio and advanced satellite communication. The penetration of mobile telephony has been the highest and deepest in the poor regions as compared to other e-technologies, thus ensuring greater access to excluded communities as well as to Asia Pacific where digital divide has become a serious matter of concern for disseminating information and encouraging participation in developmental programmes.

ICT applications within the Asia Pacific have a daunting problem of digital divide to be resolved with the dissemination of this technology. On one hand this region has awe-inspiring success stories such as that of Singapore, Taiwan, Hong Kong and South Korea, while on the other, there are many failed developmental narratives from countries of South Asia and Pacific Islands. Notwithstanding the

[22] 'Today, the "e-Development" agenda has been pressed through the MDG filter, leaving many elements behind. We are left with an agenda that prioritises the use of ICTs in those domains in which they are often least able to be implemented, least able to succeed, least able to sustain and, hence, least able to make a contribution to development' (February 2005 | www.i4donline.net, p. 11).

Table 1.2 Changing demographic features as indicative of new governance challenges

HDI Rank	Countries	0–14 years population		Age dependency (young)		Age dependency (old)		15–64 years population		65+ population	
		2002	2011	2002	2011	2002	2011	2002	2011	2002	2011
2	Australia	20.13	18.95	29.99	28.13	18.97	20.33	67.13	67.36	12.74	13.69
12	S. Korea	19.92	15.95	27.83	21.99	11.86	15.89	71.59	72.53	8.49	11.53
62	Malaysia	32.65	29.92	51.62	45.92	6.48	7.55	63.25	65.16	4.1	4.92
92	Sri Lanka	25.42	24.89	37.54	37.32	10.16	12.62	67.7	66.7	6.88	8.41
101	China	23.31	19.07	33.62	26.29	10.61	11.54	69.33	72.56	7.36	8.37
114	Philippines	37.73	35.07	63.96	57.28	5.57	6.04	58.99	61.23	3.28	3.7
121	Indonesia	29.47	27.7	44.92	39.51	7.52	8.32	65.63	66.9	4.93	5.63
136	India	33.43	30.21	53.81	46.63	7.15	7.71	62.13	64.79	4.44	4.99
146	Bangladesh	35.47	34.87	58.77	47.41	6.92	7.15	60.35	64.7	4.18	4.62
146	Pakistan	39.41	34.84	69.66	57.27	7.11	7.12	56.57	60.83	4.02	4.33
157	Nepal	40.14	35.51	71.46	58.91	6.55	7.01	56.17	60.27	3.68	4.22

Source: World Development Indicators 2012, available at www.tradingeconomics.com
2002 Data
2011 Data

current rising graph of achievements, there is a common platform of challenges which all these countries are encountering without a sustainable remedy to offset the suffering. This is evident from the demographic features of the region which indicate the need for innovating governance structures to become more responsive, attentive and knowledgeable. Table 1.2 highlights certain demographic challenges and changing population dynamics in the region which in turn would entail a serious reinvention of government performance:

(a) Column one suggests that in all countries undertaken for this study, younger population from 0 to 14 years is decreasing. The drop is highest in Nepal, followed by Pakistan, China, South Korea and India. This is likely to impact upon the workforce available in competitive domains of government departments and commercial establishments. This is also likely to affect implementation of e-governance programmes or ICT-based developmental initiatives, outsourcing, offshoring (Call Centres) and service industry where the workforce is perceptively younger. This being the Asia Pacific region's major job market, the impact of reduced younger workforce may disrupt many operations.
(b) Column three, four and five suggest a substantial rise in the number of elderly people not just in the 65 plus category when most of them are 'not working' but also in the age dependency, old, category. Age dependency ratio, old, shows the ratio of older dependents (age 64 years plus) to the working age population (15–64 years). This suggests that the government should give urgent attention to a secure networking for home service delivery of products, medicines, nursing care, ambulances, medical assistance, security, bill payments and something which could be glimpsed as 'government at your doorstep' ('Sarkar Aapke Dwar' as named in India).

(c) Column two suggests that age dependency, young, has substantially decreased. The drop is highest in Nepal,[23] Pakistan[24] and Bangladesh.[25] While population control is one factor for the lesser number of young people in homes, this is also attributed to brain drain and migration for better opportunities (Castles and Miller 2009). As it is provoked by unstable political scenario, it is also pushed by the unreliable job market back home. China, South Korea, the Philippines, Indonesia and India are also on the higher side of age dependency, young, which is indicative of the fact that while the burden of caretaking for children has undoubtedly come down, yet the number of working young in the coming years and those who could provide family support to their ageing members in the family may drastically fall. This would need an interventionist state which could invest in preventing brain drain and migration and at the same time implement social security and support programmes for greater well-being of citizens.

ICT has a political agenda as most other technologies have, but this technology has the capacity to create vendor's access to the legislature only to marshal influence over procurement laws and competition regulations in a manner which is much difficult to expose than other procurements in government purchases. In the last 20 years which is the golden phase of this technology, many nongovernment and government missionaries have influenced debates in the Parliament and on many occasions even controlled the Parliament from within. Many such scandalising reports from Australia, India and Malaysia have featured in public discourse to reveal that ICT companies are represented by leading politicians in the Parliament. The Australian and Indian Parliament has been rocked several times with the charges of ICT vendors controlling debates on new technologies. In Australia, eBay, Cisco, SAP and Oracle are amongst some of those technology companies which are reported to have influenced some former politicians in government (Tung 2009), and in India was the notorious Ramalinga Raju's Satyam Computer Company's scam in which the company paid huge sums of money to the Andhra Pradesh Chief Minister Chandrababu Naidu to obtain favourable decisions in the State legislature to do business (http://www.ysrcong.com.). In UK, five technology giants, Oracle, Xerox, Dell, CSC Computer Sciences and Symantec, had a turnover of more than £7billion and earned £500million from taxpayer-funded government contracts and paid no UK corporation tax. Microsoft, which took £700million in government contracts, paid only £19million in tax (Daily Mail, Wednesday 3 April 2013, 12 pm).

[23] Manandhar, Shilu writes that 'every year 250,000 youths leave Nepal due to political, educational, employment and settling abroad' (2010).

[24] The research economist Abid Ali Abid from Pakistan revealed the data available with the Overseas Employment Corporation that more than 36,000–45,000 young graduates leave Pakistan annually for better opportunities abroad (The Daily Times, July 05, 2009).

[25] Rahman (2010) made a survey in Bangladesh to find out that if some young workforce population returned to Bangladesh; it was only for looking after old parents and providing cultural support to their children, but none said that they get better job opportunities, work environment or security or safety for themselves. Most Bangladeshi students and skilled workers prefer not to return unlike the trend lately being seen in India and China.

1.7 Rationale for Comparison and Methodology

In the first instance, it would be imperative to sketch a rationale for the selection of particular countries as a focus of comparative analysis in the Asia Pacific. This study is essentially a macro-level policy analysis which is logically emerging out of micro-level practices where many of the subjective and intangible sociological, cultural and political aggregation norms influence the implementation of e-governance. Considering the deep historical, anthropological, cultural and geographical varieties which exist over the Asia Pacific in contrast to Europe or America, it was evident that taken together, there would be a huge variance between and amongst populations spread in the region. For theoretical sampling purposes, the variables from different populations are obtained to understand their standard deviation and probability distribution. The following sociological and political variables are identified to indicate representative countries from each region:

1. History and origin of society
2. Nature of foreign rule and constitutional features
3. Political and administrative structures
4. Cultural and ethnic differences and conflicts
5. Rebuilding and development process in the globalisation period
6. Local government's role in governance and service delivery
7. Normative behaviour of administration

On this basis, five South Asian countries are found to constitute one group. Implementation of any ICT development policy passes through more or less similar trajectories given their commonality of history, land and people. Panchayats or local governments in villages act like autonomous republics and have managed to sustain customary practices of social control and institutional freedom despite a constitutional framework.

Southeast Asia is represented by Malaysia, Indonesia and the Philippines. The three nations have overlapping claims over many territories such as Sabah, North Borneo, East and West Kalimantan and continental shelf referred by Indonesians as 'Ambalat'. These countries have been undergoing violence due to ethnic rivalries and rise of militant disturbances. The locally active village governments like the Desa (village) or Kelurahan in Indonesia, Kempongs (villages) headed by Ketua (elected village chief) in Malaysia and Barangay (village) administered by Punong Barangay (chairman) have been relatively active and have maintained local economies. However, as Indonesia and the Philippines suffer serious governance inaction due to internal political crisis, Malaysia has been relatively better placed to pull through sincere structural reforms not just in the period of Tunku Abdul Rahman who was their first Prime Minister but also during Mohamad Mahathir's period.

The third group of representative nations from the East Asia region is constituted of China and South Korea. Due to their economic successes and ability to translate their weaknesses into success stories, these two nations have demonstrated strategic decision making, leadership and sustainable production to guide their political vision.

Table 1.3 Internet active and communicative societies

Countries	Internet users 2000	Internet users 2012	% Population penetration	% Internet users in Asia	Facebook users	% Facebook of total Internet users
China	22,500,000	538,000,000	40.1	50	633,300	0.117
S. Korea	19,040,000	40,329,660	82.5	3.7	10,012,400	24.82
Australia	6,600,000	19,554,832	88.8	80.5	11,680,640	59.73
India	5,000,000	137,000,000	11.4	11.4	62,713,680	45.77
Malaysia	3,700,000	17,723,000	60.7	1.6	13,589,520	76.67
Philippines	2,000,000	36,600,000	32.4	3.1	29,890,900	81.66
Indonesia	2,000,000	55,000,000	22.1	5.1	51,096,860	92.9
Pakistan	133,900	29,128,970	15.3	2.7	7,984,880	27.41
Sri Lanka	121,500	3,222,200	15	0.3	1,515,720	47.03
Bangladesh	100,000	8,054,190	5	0.7	3,352,680	41.62
Nepal	50,000	2,690,162	9	0.2	1,940,820	72.14
Afghanistan	1,000	1,520,996	5	0.1	383,220	25.19
Bhutan	500	150,548	21	0	82,040	54.49

Source: Internet World Statistics, http://www.internetworldstats.com/stats3.htm. data.worldbank.org/indicators

Pacific region has its sole representative in Australia. With its high Human Development Indicator rank at 2, Australia is in a position to explain with greater authenticity the story behind those large gaps in well-being and life chances, which continue to prevail in countries which have shown better e-governance records such as South Korea (HDI 12), Malaysia (HDI 62), China (HDI 101) or Indonesia (121). Besides, this Australia's information and communications technology (ICT) sector has emerged as one of the most highly developed and cost-competitive ICT platforms. ICT generates 5 % of GDP of Australia, and approximately half of GDP growth can be attributed to ICT. ICT is a key enabler for industries such as mining and energy, agriculture, finance and transport. Besides a strong local industry, many international ICT corporations have significant global operations based in Australia. For AIIA (Australian Information Industry Association) and ASOCIO, the pan-Asian grouping of national ICT associations, to promote SME collaboration, this is an area of growing interest. The AIIA report on outsourcing says that the offshore outsourcing represents a significant structural challenge for the Australian ICT industry with potentially profound and far-reaching impacts for both individuals and companies alike (Table 1.3).

The Australia Trade Commission (Austrade) which is Australia's trade and investment development agency emphasised that Australia is the region's strongest economies. It accounted for over 300,000 businesses generating in excess of Aus$120 billion in 2008–2009 and growing at a phenomenal speed of 12.8 % consistently every year. Thus, Australia surpasses the growth rates of markets in Japan, Hong Kong and South Korea. Australia has also emerged as a hub of ICT innovations and sustainable technology (Frost and Sullivan report). The demand for Australian products is significantly increasing in India and Southeast Asia, while in Bangladesh the investment and technology support is arriving from South Korea.

The last group of nations, i.e. Afghanistan and Bhutan, represents nations which have overcome the economic, geographical and political crisis valiantly to achieve ends of ICT. They would present a picture of success in ICT without translating it into e-governance and well-being.

Significant disparities in the degree of democratic development tarnish the achievement of Millennium Development Goals (MDG). These are disparities in income, educational attainment, gender and access to resources including training in science, technology, legal frameworks and governance which keep a large majority of people out of the social net. Alienation and marginalisation seep into efforts of reform leading to a completely uneventful and ritualistic policy implementation (see MDG in Human Development Report 2003, pp. 1–13). The report admitted that these goals cannot be realised with business as usual approach, but the pace of progress must be dramatically accelerated. It was also clarified that even though a stronger economic growth was required, yet growth alone will not be enough as policies also need to strengthen the links between stronger growth and higher incomes in the poorest households (p. 5 HDR 2003). For achieving this access to education, food, technology and health services becomes a dire requirement of sustaining growth. For Australia the issue is to sustain growth and development for a longer period of time in this competitive market system.

ICT services have played a major role in bringing South Asia out of stagnation and economic depression as trans-national banks and service industries like the American Express, British Airways, General Electrics, Canadian Nortel Networks and US's Texas Instruments were able to apply ICT to resuscitate their positions in the world market. The domestic market in India is well developed for a major outflow of FDI since Tata Consultancy, Infosys, Wipro and Satyam computers are at par with foreign rivals (McKinsey & Co Reports). Indo-Australian collaboration can safely broaden up in ICT services such as customer care, finance, human resources, billing and payments, administration and content development. Engineering, design, knowledge processing and logistics are further going to generate a major employment market which is slated to show the highest growth in coming times. The prospects of collaboration are bright in the South Asian region. In as early as 2004, the World Investment Report had foreseen a large-scale movement of Fortune 500 companies towards India, China and the Philippines (2004, p. 161). Looking at the composition of FDI services, one can notice the shift from trade and finance to IT-enabled corporate services including electricity, water, telecommunications and business where it has risen 14-fold. Even in telecom storage and transport, the rise is 16-fold and in business services 9-fold. What is of particular interest for this paper is that FDI inflow is decreasing in developed countries, while the outflow is increasing for which India is ranked as the foremost destination for reasons described in the World Bank Report (2004) as 'Firms are attracted not just by its base of low cost and skilled labour, it also has first mover and agglomeration advantages'. The report further states that 'the growing technological capabilities of Indian firms and their rising exports, particularly IT services are driving FDI growth'. This in turn has been strengthening regulatory systems, reliability of services and consumer protection laws. Thus, IT-enabled services have opened up doors for partnerships in legal services besides infrastructural issues.

1.8 Conclusion

This opening chapter of the book is an introduction to some of the basic concepts of e-governance, its relationship to governance and the challenges which are encountered in transition from governance to e-governance platforms. In recent years there has been an overflow of research findings on e-governance and writings on empirical micro-level analysis of e-governance. The focus has mostly been the development in the direction of better quality of services, improved accessibility and affordability. The chapter emphasises the point that e-governance is not just a technological tool for service delivery which in principle may not really be possible even if it is initially assumed to be so. It distances government from governance to technology outputs in specific areas which in many ways may gradually become irrelevant for citizens, thereby preventing them from accessing such services online with an invisible power holder. On the other side, such services, due to lack of interactive citizenry, are likely to drag on outmoded and user-unfriendly technology systems which in consequence may demotivate and discourage people to deal with government services online. Thus, the chapter emphasises the need for a citizen-driven technology, the alternative of which is an economic or a technology disaster in public services.

On hindsight, the rise of Internet is grounded in its democratic nature, decentralised management and ability to commercialise use of softwares for the new generation networking. The role of MIT experts in the USA is in developing the Internet technology and popularising its usability and feasibility for the market and government but most importantly disseminating information to absorb the rising number of people to the Internet. The origins of ISP/IP, DNS, regional inventories, microprocessors, wireless networks and artificial intelligence have all pushed the growth of Internet besides, at the same time, making it more sophisticated.

ICT-driven governance has its primary focus and concern to eradicate abject poverty of the Asia Pacific region and achieve the Millennium Development Goals (MDGs). This chapter does not deal with the philosophy and epistemology of e-governance which would be taken up in later chapters. However, the chapter is a factsheet about the need and indispensability of implementing e-governance for improving well-being in the Asia Pacific region. There are many new challenges of changing population profile and demographic developments in the region. The younger population is decreasing in some of the fast-growing nations. Dependent old population is increasing which is a significant development to identify directions and pathways for e-governance priorities. The chapter also raises concern about migration and brain drain, the prevention of which should be incorporated in the design of economy but also in convergence systems of offshoring and production management systems, preferably in the management of information systems. This may pave the way for understanding the need and notion of technological citizenship which is being ignored by the government. This chapter explains the fundamentals of e-governance and technology used for making it relevant and functional. It draws relationship of ICT with development, growth, MDGs and politics and suggests that

an appropriate and astute approach to technological development guided by standard principles of democratic governance can usher in a future of well-being, better human development and knowledge-based governance.

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