

Preface

The world is undergoing through challenges of an all-embracing technological revolution. Although this revolution has taken various names, but in deep sense it is a revolution of information technology, or an innovation in techno-economic paradigm, brought about by a set of neoteric information and communication technologies (ICTs). The enduring revolution of information technology combined with the forces of globalization has incited the aspirations and fears of countries at all levels of development, to leapfrog to this new economy. As a result many governments have formulated national ICT policies and strategies, where ICT is treated mainly as a thrust sector. Donors and aid agencies responded by piloting a variety of ICT applications for specific sectors or stakeholders, by including its components in developing projects, by dealing with telecommunications infrastructure as a free-standing sector, and foremost, by carrying out assessments of country-wide e-readiness (Rodriguez & Wilson, 2000; European Parliament, 2001). However, in the current status quo while mainstream development practitioners, including national leaders continue to ignore the inherent roles of ICT imposes serious vulnerability in development effectiveness. They must strategically assess their inherent knowledge resources and human capabilities, and try to establish their knowledge strategy to sustain competitive advantages. Therefore, the strategic significance of ICT for enabling national development and poverty reduction strategies must be perceptibly understood and operationalized by countries striving to gain global competency in a knowledge-driven society.

ICT's pervasive impact on competency and all aspects of life in advanced economies and its potential influence on social and economic development cannot be denied. ICTs have the potential to improve the lives of common people, contribute to social developments, and creation of a knowledge-based society. They have proved effective in disseminating information en masse in raising awareness; facilitating health care services; assisting distance education and learning; enhancing rural productivity through access to market information; facilitating environmental activism; improving service delivery of governments by emending monitoring utilities and simplifying response systems; and empowering grass roots communities by enabling their increased participation in national and international policy making processes (Government of Namibia, 2005; Government of Kenya, 2006; United Nations, 2003).

Countries that are enjoying greater technological progress have created better ambiance of democratic rights and civil liberties conducive to innovation, adaptation, and utilization of ICTs (Sayo, Chacko, & Pradhan, 2004). They have established respect for the rule of law and security of property rights; increased investment in human capital; and noticed low levels of government deformations. Following these, almost all developing countries, even the poorest, are trying to improve their access to and use of contemporary ICTs. However, the gap between the rich OECD countries and the poor developing countries is growing (Rodriguez & Wilson, 2000), both in terms of quality ICT products as well as in

terms of technology based earnings. Although these new technologies appear to be improving overall economic performance and welfare among the user populations, the link between ICTs and society-wide economic progress has been more elusive. There is a lack of association between homogeneous economic growth and proper utilization of ICTs.

Concurrently, there is no scientific measurement to predict whether the ICT gap is not growing internally within countries between the rich and the poor; nor it can be forecasted whether ICTs are contributing to greater equality of incomes at national levels (United Nations, 2005). Knowledgeable sources indicate that information technologies can even cause substantial increase in inequality. But, no further research works have been found that can compute whether this effect will be ultimately reversed in the longer run.

Evidence indicates that ICTs can be enormously beneficial to individual communities and countries, and under right circumstances ICTs can improve education, health, job creation, governance, and skill development. But, to achieve these, informed policy decisions are indispensable that may escalate economic and social equity impacts across the communities. Countries with similar levels of per capita incomes and economic structures exhibit wide variation in their ICT performances (IMF, 2001). Some developing countries are surging ahead while others are falling behind. It needs to identify the pro-ICT policies that appear to be causing these differences in outcomes.

The impact of ICTs on development primarily depends on the existing economic, social, and cultural fabric into which they are composed. But, in formulating a revised, improved, extended, intelligent, and pragmatic ICT policy, among many, a few parameters require thorough review; like how contributions of ICTs relate to economic growth, how ICTs influence competitiveness, what can public policy do to affect ICTs contribution to growth and competitiveness?

Furthermore, despite the massive prospects of ICT in assisting communities to increase their overall well-being through community development, there are relatively a very few examples of sustained community networks that have built around ICT, even in the developed countries where the technology has been increasingly available for more than 20 years. Hence, the critical factors related to economic viability of communities and countries that are retrospective to ICT initiations are need to refocused, revisited, refurbished, redesigned, and re-designated to make rational and comprehensive national ICT policies.

A national development strategy that attempts to position an economy by taking advantage of the ongoing technology revolution must take a comprehensive view to the enabling character of ICT. Intrinsic parameters related to development of ICTs must be intricately furnished. Economic environment conducive to investment and a climate of civil liberties conducive to research, extension of knowledge base, and expansion of communications must be prevailed (Njuguna, 2006; UNESCO, 2005). Measurable indicators must be introduced to apprehend wastage of newly evolved technology dynamics that should properly routed to the grass roots.

These demand a public knowledge source, where situation analysis and cases are being reviewed including success cases, upholding successful ICT strategies. This book has tried to feature these aspects that may act as a handbook, learning kit, and guide for the policy initiators, researchers, and development partners in developing substantial national ICT strategies for their economies and make use of their competitive advantages in a global knowledge driven society. Those who recognize the inherent processes can direct their efforts towards learning the new practices and may find a route to leaping forward and catching up. This will involve a great degree of learning and understanding the impacts of ICT on markets, organizations, competitive strategies, innovation as well as the implications for services, employment, education and learning, regional and spatial development, and poverty reduction.

WHERE THE BOOK STANDS

ICTs are both critical for economic development and highly disruptive to existing employment opportunities. Maximizing the potential of ICTs requires both promoting their use and addressing the inequality and dislocation they may cause. New technologies and the human and institutional capacity building in the public and private sectors, coupled with trends towards a greater emphasis on development initiatives at the state level, have resulted in a paradigm shift in the roles of the private sector and governments in ICT.

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ORGANIZATION OF CHAPTERS

Looking at the practicality of the subject area, the book has been divided into four sections; policy initiation, education and research, e-concepts, and strategic ICT applications. Policy initiation deals with strategic ICT implementation issues, its management perspectives, and related regulatory aspects. This section has five chapters. The second section, education and research, comprise of five chapters and it talks about research aspects and networking theory to promote establishment of knowledge societies by utilizing successful ICT strategies in education and research. E-concepts is the third section and it has four chapters. This section illustrates new concept of ICT based applications in the context of economic development, governance, and learning. Finally, strategic ICT based applications has put forward four case studies contemplating strategy management processes and policy implications to uphold grass roots ICT developments.

Altogether the book has 17 chapters and a brief description of each of the chapter is given below:

Chapter I provides a synopsis on various national implementations in promoting ICT based development activities, and tries to establish an analytical approach that would assist in formulating ICT policies and strategies by identifying different ICT indicators. This chapter also focuses on critical aspects of different strategic national level policies with short-medium-long term visions targeting the immediate needs of the populace and long-term needs of nations by integrating ICTs. It has made a few recommendations on developing ICT strategies for private sector and civil society organizations.

Chapter II offers an insight on policy development process from strategic management perspective to highlight critical issues that are sometimes overlooked by policy makers. The purpose of the chapter is to provide an insight on ICT policy-development-process for the policy makers, so as to assist them in developing successful ICT policy for their country. The chapter approaches ICT strategy development as an integrated process.

In Chapter III the authors claimed that developing a good competitive strategy largely depends on mapping the overall environment and constant monitoring. The main focus of this chapter is on mapping the environment. It shows the main aspects of the model for industry analysis and explains the process of forming strategic groups and pressure maps.

Chapter IV focuses on Internet challenges for public service broadcasters. As the expansion of social influence on the Internet have led both general interest and national public broadcasters to a structural challenge, the authors deduce that the new online paradigm demands a full version of the public enterprise that include all the available tools to achieve its mission. In this context, it is stated that the Internet would be the ideal complement to the public service. But, to achieve this, public broadcasters should define its core business to attend the public demand and to collaborate in the creation of the public sphere. Along this, the clear definition of the public activities and the separation of public and commercial finance are also to be taken care of. To confirm the benefits of the initiatives carried out by the public broadcasters, this chapter has studied different cases of Spain and United Kingdom.

Chapter V examines the Internet and its relationship with law. Using rules and verdicts on ISP liability for civil defamation to illustrate, the chapter attempts to identify and suggest proper solutions to the challenges posed by the Internet to law. It suggests legal recognition of the distinctive nature of the Internet by policy makers, as well as administrators as the key to address the legal issues continually rose by the Internet with the result that appropriate legal strategies would be applied to the Internet. The chapter also tries to advocate international legislative action on the Internet issues. As law, including its substantive and procedural contents, interpretation and administration, is an important factor for encouraging or hindering continued Internet development; this chapter addresses the question on the liability of Internet service providers (ISPs) for defamatory materials created by third parties. However, the discussion is restricted to civil defamation only and does not extend to criminal defamation. The objective of this chapter is to reveal the difficulties with the current regime on Internet defamation and the concern is with the appropriate relationship between legal rules and the Internet.

In Chapter VI the authors argued that one of the benefits of IT is its role in enabling the disintermediation of education to provide an environment in which all can participate. In this context they focus on the role of the Internet as a disinter mediating technology. There are many ramifications to this but this chapter focuses upon the implications as far as education is concerned. It has been found that the controlling mechanisms of education have been cost and geographical access. The Internet has changed both of these through its disinter mediating function, potentially allowing access to all. The purpose of this chapter is to theorize this in considering the prognosis for development around the globe.

Chapter VII introduces actor-network theory (ANT) as an approach to the analysis and improvement of the use of ICT for development (ICT4D). The chapter argues that ANT helps to conceptualize ICT beyond the technological systems of the conventional “digital divide.” ANT supports thinking about the socio-technical networks that incorporate humans, hardware, institutions, texts, and policies, and so forth, into ICT networks. Moreover, it supports the inclusion of marginal actors, helps to address development problems from the perspective of those populations, and traces the networks of power that supports their participation or exclusion. The author hopes that the ideas in this chapter will promote further debate on the topic and the refinement of an analytical framework for ICT4D. In this chapter, the author wishes to call for an ongoing and focused dialogue around the problem of ICT4D analysis, and made an additional contribution to the effort, which she believes has the potential to provide coherence and association to the efforts in this aspect.

Chapter VIII highlights various issues that designers of a wide range of e-learning experiences face when designing e-learning for culturally-diverse learner groups. The authors provide some models to support learning practitioners, focusing in particular on the importance of a conscious, culturally informed selection of instructional strategies as the most critical part of the design and development process for effective e-learning.

Chapter IX presents the strategies of higher education institutions and how they can be described using the balanced scorecard approach. The pedagogical ICT strategy describes the virtual learning and e-entrepreneurship in higher education. Strategic themes are presented to describe what management believes must be done to succeed and achieve the desired outcomes in virtual learning and e-entrepreneurship. Authors use strategy maps to describe the strategy in a graphical representation. Furthermore, the study presents an example of the cooperation between a higher education institution and a spin-off company. The chapter will assist the educational administrators to better understand and implement strategies for virtual learning and e-entrepreneurship.

In Chapter X rationale for developing computer-based assessment (CBA) has been discussed and in this context, pertinent issues around the types of computer-aided assessment (CAA), advantages of CAA, proprietary and non-proprietary software have been analyzed. The chapter concludes by highlighting strategic planning issues that would complement in preparing ICT strategies for academic evaluation at national level.

Chapter XI examines two current topics: the emergence of a new Internet driven business group and its construction through a series of intentionally developed *collaborative networks*. This chapter aims to show how an intentional networking can benefit a focal actor in developing a new business group based on emerging technologies, and thus, create competitive advantage among different stakeholders. This study is based on a longitudinal case study in the ICT sector and it takes the viewpoint of a focal actor. The author looks at how new technologies (i.e., xDSL, multimedia, mobile technology, Internet) and the combination of traditional technologies and businesses are transformed into a viable business during the time period of 1990-2003. This study also examines how the focal actor tries intentionally to construct this new business group by developing a series of interlinked strategic alliances and networks of organizations.

Chapter XII introduces the term e-governance and puts on view that e-governance is not simply the computerization of government processes but a government process re-engineering (GPR). E-governance is not only about implementing technologies and supplying services but also provides solutions. Therefore, initiatives taken in this regard should not only remain limited to informational and transactional level but also reach complete transformational level. Some success stories of e-governance initiatives have been reported in this chapter with their impact and value addition in citizen's services. At the same time, it is argued that technical issues are equally imperative to be addressed along with socio-economic and political issues for implementing interoperable e-governance solutions. An attempt has been taken to identify such technical issues and provide solution so as to go for successful ICT strategy. In this context, this chapter deals with some technical issues and challenges in implementing e-governance at national level. It also discusses different stages of implementations of e-governance system and recommends developing successful ICT strategies incorporating comprehensive e-governance action plans.

Chapter XIII describes past developments and current challenges in governing IT portfolio of IT applications, IT development, IT operations, and IT platforms. Based upon the lessons, the author has set key objectives to move beyond 'descriptives' and discuss how organizations can diagnose and design IT governance architecture for future performance improvement and sustained business growth. Finally, this chapter provided a thorough understanding and holistic picture of effective IT governance practices and presents a new organizing logic for IT governance.

Chapter XIV analyses the relevance and limits of the use of e-commerce as a paradigm in government. For this purpose it starts out by distinguishing between e-government and e-democracy. In the next step the chapter discusses which factors have led to the success of e-commerce and might, therefore, be applicable as parts of the paradigm. It then discusses the strengths and the weaknesses of e-commerce as applied to government. In conclusion, the author justified the reasons to use the commercial paradigm in e-government and e-democracy.

Chapter XV looks at the role of language and the community consultation process in overcoming the digital divide by facilitating the advantages of ICTs in small regional communities in Australia. It focuses on one of the ‘telecentre’ programs funded by State and Federal governments in Australia—the Community Technology Centre at New South Wales (CTC@NSW) program. The authors look at some of the key issues that emerged in communities that applied for CTC@NSW when a more culturally relevant consultation process was developed and implemented. The chapter looks at the consultation process and methodology used in achieving successful ICT strategies and outcomes for the regional communities. It also highlights the importance of using simple English in the consultation process and in dealing with the underlying resentment that may exist in various stakeholder groups when their needs are misunderstood or inadequately addressed.

Chapter XVI explores the diffusion of ICT in the country of Jamaica, and within the context of the national strategic plans for development of information technology. Further, it utilizes the concept of institutional contribution on policies and initiatives undertaken in support of the plans. Within this framework, the impacts of managed initiations via collaborative projects between government and international agencies on the adoption of Internet technologies by small and medium-sized enterprises are also examined. The aim of the authors is to point out that as far as developing countries are concerned, governments can affect the diffusion and adoption of ICT through policymaking but more positive outcomes can be realized through managed initiatives.

Finally, Chapter XVII provides policy makers with a comprehensive framework for developing national digital government strategies. This framework raises the importance of technical and economic situations, cross-country comparison of laws and institutions, and the necessity of considering political contexts. To illuminate the utility and application of the framework through examination of two cases from Poland and Taiwan, this chapter yields insights into specific considerations for designing and improving digital government.

CONCLUSION

By bringing down impediments to trade and communications and lowering entry barriers, ICTs seem to be introducing a powerful force towards convergence of global wages. At the same time, ICT strategies should focus on human development by establishing information driven policies in a knowledge-driven society. Although the potential benefits from advances in ICTs appear to be clear, how they will be distributed is not. Well-founded fears exist that the poor are being left behind by the information revolution. Access to ICTs requires education, infrastructure, and institutions, three basic resources that many developing countries lack. Without them, it is increasingly likely that the poor may be on the losing side of this revolution. This book will find its standpoint for its readers among multi-sectoral research bases. Apart from academics, researchers, and think tanks, the book will be extremely handy to the international financial institutions, national governments in LDCs, non-governmental organizations, donor agencies, development partners, and private sector entrepreneurs operating in ICT4D arena.

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