Information and communication technology (ICT) innovations are increasingly having important implications on business and socioeconomic development due to their role in introducing and diffusing the concepts of knowledge sharing, community development and equality. Moreover, the impact of the advances in information, knowledge, production, exchange and processing may exceed the one brought about by the industrial revolution. Such implications can be felt at the individual, organizational and societal levels. While the basic needs of humankind have long been food, clothing and shelter, the time has come to add information and knowledge to a growing list of requirements that are becoming invaluable on a daily-basis. The implications on developing nations could be remarkably effective if these technology innovations are properly introduced, implemented and institutionalized. However, if the design and delivery process is not well supported and controlled, the result could be an increasing digital divide between the developed and developing worlds, such divide also exists within nations, especially among developing nations, in other words both inter and intra digital divides. It is important to avoid the fact that ICT could be marginalized in the development process. Therefore, there is an urgent need to show that ICT generates the wealth of the enterprise, which in turn pays for socioeconomic development at large. It also helps expose communities to repositories of knowledge across different cultures supporting the exchange of information in terms of acquisition and dissemination. In a globally digitally-driven marketplace, it is important to note that it is emerging ICT that is delivering the productivity gains enabling lives of material comfort for many around the world that would have been unthinkable some two centuries ago.

ICT should be looked at as a platform for development within a macro perspective that addresses different individual, organizational and developmental needs. Therefore, over the past three decades, numerous research studies have underlined the importance of collaboration for the formulation of national ICT strategies with the emergence of eStrategies that cater for the changing market needs in a growing setting dominated by information networks, virtual settings and the emergence of outsourcing. These elements availed a platform for the development of a successful partnership model bringing government, the private sector and the civil society to work together for the development of society and benefiting from emerging ICT tools and applications. The need for resources mobilization, proper environment, legislations and regulations, amongst other elements is important for building and sustaining an outcome-driven ICT infrastructure that could support the development process. For different societies to develop, grow, and benefit from the ICT evolution, nationwide introduction, adoption, diffusion and adaptation of technology should take place, something that is hardly seen in developing nations where most of the technology implementations and infrastructure are focused in the capital and the major cities. However, it is important to note that this has been gradually changing in the early years of the 21st century due to the remote outreach created and availed by wireless technologies. In that respect, for ICT
to be rationally deployed, there needs to be comprehensive national ICT strategies that address different societal requirements.

There are a number of challenges that face the development plans of the developing world when it comes to ICT, including electronic readiness, policies and regulations, infrastructure development and deployment, legal framework, universal access, illiteracy, language, culture readiness, appropriate business models for public-private partnership, transparency and governance, intellectual property rights, privacy, and security amongst others. It is important to address the issues faced by developing nations in striving to develop and grow while capitalizing on the opportunities enabled by emerging ICT. This book addresses the issue of the development of national ICT strategies as one of the recommendations of the “Plan of Action” of the World Summit on the Information Society. The book addresses the importance of such strategies in setting the national agendas to complement the efforts and resources allocated, enabling the optimization of benefits and the returns on the local communities in specific and on the society at large. The book includes a number of model strategies, implications and case studies from the developing world to work as models for future implementations in similar environments as well as to share the accumulated knowledge in terms of lessons learnt.

It is important to note that developing national ICT strategies in recent years has been the culmination of efforts undertaken by many countries since the 1980s. Strategies during that time were focusing on computerization of the government administrative and operational procedures, coordination of computer education and training as well as the development and promotion of a computer services industry. Highly articulated ICT policies were developed in the 1990s, inspired by the Unites States announcement of the development of a national information infrastructure (NII) plan that focuses on private investment, competition, access and universal services (Economic Commission for Africa (2003a). Developing nations followed two different approaches in defining their national ICT strategies. Some focused on developing ICT as an economic sector either to boost exports as in the case of Costa Rica and Taiwan or to build domestic capacity as in the case of Brazil, India and Korea (World Bank, 2006). These nations strengthened the market orientation of their economic policies and institutions, have gradually dismantled barriers to trade and investment, and facilitated rapid changes in production and telecommunications technologies. These nations made combined efforts to educate their people to keep them on track of global developments, promoted ICT as an enabler of a wider socioeconomic development, and worked on repositioning their economy to secure competitive advantage in the global economy.

In the context of Egypt, as an African nation and part of the framework of the African Information Society Initiative that emerged from recommendations of the conference of African ministers of economic development and planning in 1996, strived to develop its national information and communication infrastructure plans strategies and policies that articulate long-term policy, infrastructure, content and application as an integral part of overall national development (Economic Commission for Africa, 2003b). Egypt is considered among the nations that have advanced their national strategies from conceptualization to implementation. This was translated in the deployment of a two-tier approach, developing national strategies and harnessing ICT applications in key sectors such as education and commerce with an emphasis on promoting electronic commerce, attracting foreign direct investment to stimulate the knowledge-based economy and to create jobs for the youth and to harness the potential of ICT.

Egypt ICT strategy goes beyond telecom reaching a cross-sectoral approach to creating an enabling environment and mainstreaming ICT into national development policies by addressing all sectors such as trade, finance, investment, education, government, health and media amongst others. The target is to transform Egypt into becoming a vibrant and dynamic ICT hub in the Middle East with a thriving digital economy and IT-empowered citizens (MCIT, 2007a). The national ICT strategy is a product of
the collaboration of many stakeholders including the community, the government, private and public sector organizations as well as the civil society.

Egypt national ICT strategy objectives were mainly formulated to promote the information society and to build an export oriented ICT industry. The national ICT strategy was formulated to encourage social inclusion in the information age. Locally, the commitment to maximum social inclusion of its population required considerable pro-active support including financial investment to ensure that the nation at large is given universal access. Moreover, the strategy addressed issues such as human resources capacity development and upgrading the physical infrastructure to be able to compete in global deregulated markets. Globally, access became invaluable in shaping the role Egypt plays in global trade and markets. Respectively, convergence became vital. The emerging role of ICT and its integration in major sectors such as education, entertainment, health, and financial services also became a prerequisite for developing nations to be able to integrate in the global information economy and Egypt factored that element in its national ICT strategy. The government of Egypt has made a strong commitment to advance the cause of human development in the context of an open economy. The structural adjustment program that began in the early 1990s has caused positive and profound changes in the competitiveness of the country. Three main elements could characterize the economy being more open and that includes strengthening of market mechanisms, privatization of government enterprises and an increasing role for the private sector and the civil society (Kamel, 2006).

The role of MCIT required the provision of a policy framework for the ICT sector to grow and become competitive both locally and globally. The majority of the projects were implemented by the private sector with financial and technical support and guidance from MCIT (MCIT, 2007b). Since 2002 there has been continuous development in the ICT sector in Egypt requiring multiple revisits to the strategy with the most recent covering the period 2007-2010. The new strategy has been formulated to cater for three main components, ICT sector restructuring, ICT for reform and development and ICT industry development.

In terms of using ICT for reform and development, the strategy intends to follow three main paths including deploying ICT tools through increasing the penetration rates to mobiles, PCs, Internet usage, broadband services and ICT clubs; developing the postal services with its over 4000 branches representing the largest network in the nation; and completing the technology infrastructure in different institutions. Moreover, the strategy will focus on using ICT as a catalyst in reforming a number of sectors including education, health, and government institutions (ministries) amongst others.

In terms of industry development, the strategy intends to focus on innovation, research, and development in ICT through the formulation of partnership agreements with multinational companies in the ICT sector. This will also include the development of technology incubators for SMEs in the ICT sector, investing in human capital, media convergence, development of electronic content, promoting ICT exports to increase from 250 million US dollars to 1.1 billion US dollars by 2010 through outsourcing. The strategy intends to look at ICT as a platform for empowering the community as a key element for socioeconomic development (Kamel, 2009).

To conclude, successful ICT strategies need a number of elements in order to be effective and to realize its targeted objectives. This includes leadership from top executives and policy makers, involving all stakeholders in implementation, deploying a holistic approach covering all sectors, enabling a liberalized economy, monitoring ICT developments, tailoring towards the nation’s requirements and mainstreaming ICT into national socioeconomic development plans. There is a need to emphasize the role of the government in creating the right atmosphere that encourages private sector investment in ICT related businesses. The liberalization of the telecom sector is important to encourage competi-
tion and promote FDI. The creation of a universal access policy through broadband is invaluable to induce mass-market deployment of ICT leading to improving the service quality and speed. Moreover, instituting the necessary foreign investment laws and enforcing software piracy and copyright infringement laws, which encourage ICT multinationals to establish regional operations, thus providing work opportunities for skilled individuals and limiting the brain drain effect. Many developing nations have already shown over the last decade some headway on the ICT development path. However, they need to strengthen their commitment and speed the process for a long-term sector development and growth. Such a strategy would invariably drive faster growth across all economic sectors, which will lead to a sustainable socioeconomic development that can be reflected at the individual and societal level. The strategy should also factor the role of the different constituencies including the private sector and the civil society with an eye on realizing the Millennium Development goals (MDGs).

The E-Strategies for Technological Diffusion and Adoption: National ICT Approaches for Socioeconomic Development is part of the Advances in Global Information Management Book Series. The book is beneficial as it provides comprehensive coverage and definitions of the most important issues, concepts, trends and technologies and cases related with the introduction, adoption, diffusion and adaptation of national electronic strategies for ICT for the purpose of socioeconomic development. The roster of chapters include cases and lessons learnt from Egypt, European Union, India, Japan, Kenya, Korea, Macedonia, Malaysia, Slovenia, Sub Saharan Africa and Thailand. This vital new publication will be distributed worldwide among academic and professional institutions and will be instrumental in providing researchers, scholars, students and professionals access to the latest knowledge related to the adoption and usage of ICTs and other related issues to ICT strategy formulation, development and implementation.

**ORGANIZATION OF THE BOOK**

The book covers through its 17 different chapters a variety of issues and concepts that relate to the changing nature of doing ICT strategy formulation, development and deployment. The focus is on ICT eStrategy design and delivery and the related implications, challenges and opportunities. Following is a brief description of each of the chapters included in the book.

**Chapter 1** titled “A National ICT in Education Initiative: Macedonia Connects” by Laura Hosman presents a unique national initiative in Macedonia reflecting a multi-partner, scaled ICT for education project where every school across Macedonia was equipped with computing and wireless Internet connections leading the Internet to reach all citizens across the nation. The chapter demonstrates some best practices including pre-deployment training of teachers in IT adoption, equality of provision to promote positive inter-ethnic relations, and the long-term focus on all stakeholders in terms of outcomes. The ultimate goals of the project relate to educational and socioeconomic development issues.

**Chapter 2** titled “Developing Human Capital for National Development: Lessons from the Malaysian Smart School Initiative” by Gerald Goh Guan Gan and Khor Yoke Lim presents the case of Malaysians aspiring to leapfrog from the developing nations rank to one that hopes to be fully developed by 2020 based on their vision that was formulated in the 1990s. One of the building blocks of such vision is the provision of worldclass information and communication technology infrastructure and the creation of competitive human capacities that are skilled and electronically ready. Therefore, the Malaysian government embarked on the Smart School Initiative, a flagship application that aims to transform the way students are being taught. With an implementation plan in 88 different schools across Malaysia, a
growing and completed ICT infrastructure is shaping up coupled with educational courseware and a clear transformation in various learning practices. The chapter includes lessons learned from the initiative that could be replicated representing an invaluable resource to education policy makers, administrators and the school community in other countries with similar ecosystem and environmental settings.

Chapter 3 titled “eSME Slovenia: Initiative and Action Plan for the Accelerated Introduction of eBusiness in SMEs” by Andreja Pucihar and Gregor Lenart presents the e-Strategies, initiatives and action planes in the European Union intended for the successful implementation of the Lisbon Strategy which should see Europe become the most competitive and dynamic society based on knowledge by 2010. The chapter focuses on the policies, legislative setting and initiatives adopted in Slovenia with an emphasis on e-Business development. The chapter demonstrates the lagging experience and stature of SMEs with respect to the adoption and utilization of e-Commerce leading to the formulation of the eSMEs Slovenia initiative and action plan aiming at accelerating eBusiness introduction and adoption in SMEs.

Chapter 4 titled “Regional-National ICT Strategies” by Melih Kirlidog and Stephen E. Little addresses the growing fact that an overwhelming majority of developing and developed nations are formulating national information and communication technology strategies with an objective to realize socioeconomic growth and competitiveness status. The chapter demonstrates the differences between developed and developing nations in formulating and realizing these strategies with nations such as Japan that is increasingly outward oriented to sub-Saharan African nations that are developing their strategies with the support of international agencies and non-government organizations. The chapter provides an exploratory analysis of the internationalization of national ICT strategies.

Chapter 5 titled “Information System Strategy Development and Implementation in the Egyptian Small and Medium Construction Enterprises” by Khaled Samaha and Khaled Dahawy addresses Egypt’s diversified economy which has historically performed below its potential; however with growing interest by the government of Egypt recognizing the importance of SMEs. The chapter provides an investigation into the information system strategy of SMEs in Egypt and its importance in organizational success. The chapter enforces the importance of IS and business strategy alignment coupled with top management support and engagement in the different stages of the decision making process amongst other lessons learned.

Chapter 6 titled “Broadband Development Challenges and Measures: The Analysis of EU Countries” by Peter Trkman and Tomaz Turk analyses the use of broadband in EU countries to identify the differences across the continent with an emphasis on enablers and means, the utilization of different services and the overall ICT sector development. The chapter focuses on the development of a two-dimensional framework that enables the classification of policy actions depending on the influencing factor and type of influence.

Chapter 7 titled “Assessing Electronic Government Readiness in Egypt: Comparison between Two Public Organizations” by Nahed Amin addresses the evolution of Electronic Government in Egypt. The chapter addresses the role of e-Government in reshaping the public sector and remake the relationship between citizens and government. The objective of the chapter is to present a framework that assesses e-Government readiness in Egypt, focusing on public administration while addressing internal factors affecting e-Government readiness including strategy, processes, people, and technology through studying two public sector organizations in Egypt.

Chapter 8 titled “An Information Communication Technology Adoption Model for Small and Medium Sized Enterprises” by Dan J. Kim addresses the much-needed focus in the literature on the factors affecting SME ICT adoption decision with emphasis on eBusiness adoption models. Therefore, the objective of the chapter is to review the literature on the factors affecting SMEs adoption decision,
propose a theoretical framework of eBusiness adoption for SMEs and to provide insightful discussions on the driving factors and barriers of the SMEs eBusiness adoption decision.

Chapter 9 titled “ICT for Development (ICT4D) Projects in Developing Countries: A Proposed Conceptual Framework” by Mahfuz Ashraf and Bushra Malik addresses the notion that information and communication technology leads to socioeconomic development in developing nations pushing many nations to implement ICT for development projects in rural areas in collaboration with international organizations and donor agencies. This chapter focuses on identifying the actual impact at the micro, community, level while identifying the key challenges, which influence the success of ICT4D projects through proposing a conceptual framework aimed to improve the situation at the micro level.

Chapter 10 titled “The Challenges of the National ICT Policy Implementation Process: A Comparative Study of Malaysia and Thailand” by Nicholas Maynard addresses the path that both Thailand and Malaysia have gone through with respect to the transformation of their ICT sector including their telecommunications networks, national policies, institutions, and regulatory regimes. The chapter demonstrates the importance of competitive markets and government regulators. The objective of the chapter is to provide a set of tools for local and international policy makers and technology providers to help assess the benefits of technology initiatives while tying them to the larger issue of economic development.

Chapter 11 titled “Business Models for Development: The Global Capability Sourcing Model” by Peter Keen, Sajda Qureshi and Mehruz Kamal discusses the efforts of organizations through interconnectivity to source talent, goods and services from other organizations in different locations around the world and supporting socioeconomic development. The chapter considers the fundamental tenets of business models and ways in which value can be created for development effort with an emphasis on the application of global capability sourcing model to enable businesses to compete globally with insights into the sustainability of business models for development.

Chapter 12 titled “Citizens’ Readiness for E-Government in Developing Countries (CREG)” by Hany Abdel Ghaffar discusses the fact that many developing nations face difficulties in applying successful electronic government projects based on the lack of use by citizens due to the lack of appropriate ICT infrastructure that support e-Government services. The chapter introduces an empirical research that investigates various e-Government weaknesses in developing nations while focusing on e-Readiness and trust. The chapter proposes a model based on e-Readiness assessments and relevant literature that investigates the impact of citizens’ readiness for e-Government on e-Government success within developing nations.

Chapter 13 titled “Do Insecure Systems Increase Global Digital Divide?” by Jawed Siddiqi, Ja’far Alqatawana and Mohammad H jouj Btoush addresses the issues related to the digital divide facing developing nations. The chapter focuses on asserting that insecurity and the digital divide are highly dependent on each other. The chapter proposes to extend the concept of the digital divide to include information security features by putting forward a new model of security that is multi-faceted and that is able to assist in bridging the digital divide.

Chapter 14 titled “Communicating Farm Technologies through Traditional and New Media Channels: Lessons from India” by D. Puthira Prathap highlights the importance of knowledge and information in agricultural development. The chapter focuses on how traditional mass media channels have been instrumental in India’s agricultural technology transfer. The chapter also addresses the role of emerging media and the associated challenges as well as provides a comparative study on the effectiveness of traditional versus emerging media in communicating farm technologies.

Chapter 15 titled “Strategy of Accounting Automation: The Case of the Egyptian International Motors Company (EIM)” by Khaled Dahawy addresses the role of information in today’s marketplace
and its interrelation to management information systems in rationalizing the decision making process to managers and decision makers. The focus of the chapter is a case study addressing the issues related to the deployment of accounting information system. The case indicates the importance of the integration of accounting and technology coupled with strong management support and commitment to insure successful implementation.

Chapter 16 titled “Financial Aspects of National ICT Strategies” by Melih Kirlidog addresses the fact that all developing and industrialized nations strive to get benefits of information society and to this end almost all of them have developed strategies for effective utilization and development of information and communication technology. These strategies usually require substantial funds from domestic and international sources. This chapter analyzes the types of these sources.

Chapter 17 titled “ICT Strategy for Development Lessons Learnt from the Egyptian Experience in Developing Public-Private Partnerships” by Sherif Kamel and Dina Rateb demonstrates how emerging information and communication technology is setting the pace for a changing, competitive and dynamic global marketplace and representing an enabling platform for business and socioeconomic development in the 21st century. The chapter shows that building the ICT infrastructure and infostructure will not realize quantum leaps in the development process unless it is coupled with concrete projects and initiatives that engage the society at large with its multiple stakeholders from public, private, government and civil society organizations irrespective of their locations whether urban or remote, gender or background. The chapter describes the evolution of the ICT sector in Egypt over the last decade with an emphasis on national ICT strategy development and deployment as an integral element of Egypt’s overall development process within the context of an emerging economy and the various growing potentials ICT offers for its socioeconomic development.

REFERENCES


