

Executive Summary

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Since the first quarter of 2000, a profound shift has occurred in the field of information and communication technologies (ICT). Share prices of technology companies have fallen to a small fraction of their peaks and the sector has undergone massive consolidation, with many companies falling into insolvency. As the dust settles and the technology bubble dissipates, it is clear that many important lessons can be learned from what has transpired in the sector. Amid the prospect of prolonged deceleration of economic growth, it is more important than ever to understand the contributions of ICT to economic growth and productivity.

It is within this context that we publish the *Global Information Technology Report 2002–2003*, the second such report. With the rapid changes in the technology sector, dramatic shifts in the global economic and political landscape, and policy innovations in respective national contexts, there is an ever-increasing need to continue to benchmark performance and monitor progress across nations.

As in the first edition, this year's *Report* is the most comprehensive assessment of networked readiness, covering eighty-two of the leading economies of the world. Building upon and refining the previous methodology, distilling the strengths of other measures of readiness, and benefiting from a greater array of data sources, this *Report* introduces an enhanced analytical framework that is used to examine networked readiness for three important stakeholders—the individual, business, and government—within a nation's economic and policy context.

The findings of the *Report* are presented in three sections: essays, country profiles and data tables. The essay section draws upon the expertise of scholars, practitioners, policymakers and business leaders, and is divided into two parts. The first part is an exposition of the components of and the analytical framework underlying the Networked Readiness Index, while the second part consists of regional and country case studies that apply the analytical framework, highlight the policy challenges, and emphasize best practices and lessons learned. The Country Profiles Section provides a detailed snapshot of each country's networked readiness relative to other countries. The *Report* concludes with data tables, which contain rankings of countries for every variable covered in the *Report*.

The ranking of countries in the Networked Readiness Index 2002–2003 is presented in the first chapter by Soumitra Dutta and Amit Jain. This chapter describes how the Index was designed and constructed after a thorough and extensive investigation of the relationship between networked readiness and key variables such as gross domestic product per capita, ICT expenditure, and Internet usage. The Index is a composite of three components: the environment for ICT offered by a given

country or community; the readiness of a community's key stakeholders (individuals, businesses, and government) to use ICT; and finally, the use of ICT by these stakeholders.

The succeeding chapter is an exposition of the first component of the Networked Readiness Index, the networked environment. The second chapter, "Crafting the Environment for Networked Readiness," by José María Figueres-Olsen and Fiona Paua, emphasizes the importance of ensuring that an appropriate and effective policy framework is in place. The chapter addresses the question: what needs to be in place in terms of the environment—market conditions, regulatory framework, and the network infrastructure—to enable individuals, businesses, and governments to participate in and benefit more fully from the networked economy? Recognizing the complexity of the task and that there is no simple blueprint to be followed, the chapter draws on lessons gleaned from the policy experiences of various countries and, where available, highlights best practices.

The third, fourth, and fifth chapters discuss the three dimensions of analysis, individuals, businesses and governments, respectively. The third chapter, "Ready for the Networked Future? The Role of the Individual in the Networked Society," by Dirk Reiter, Helmut Meitner, and Carsten Rossbach, focuses on the capability of individual citizens to capture the benefits of ICT. In examining usage and barriers to uptake and making clear analytical distinction between enablers, incentives, and value-chain components, the chapter concludes by proposing six items for the "agenda for the networked future."

"ICT: A Critical Enabler of Managerial Innovation," is the fourth chapter, in which Scott Beardsley, Ingo Beyer von Morgenstern, Luis Enriquez, Stefan Mytilineos, and Jürgen Wunram analyze the relationship between ICT investment and productivity improvements and conclude that ICT is a critical enabler of productivity. The authors identify the key source of productivity improvement to be managerial innovation, and the key stimuli of managerial innovation to be broader economic forces such as competition, structural change for industries, and regulation. Recognizing the complexity of ICT implementation, the authors also caution that in many cases, ICT has failed to deliver performance improvements.

Bruno Lanvin, in his chapter, "Leaders and Facilitators: The New Roles of Governments in Digital Economies," brings the roles of governments into perspective. The emergence of a global digital economy challenges many of the traditional roles of governments; the examples of the most "network ready" economies show that governments have to accept new responsibilities and roles, both as leaders and as facilitators of their respective countries' integration

in the global information economy. Surveying a vast array of governmental practices and strategies, varying from the highly successful to the disastrous, the chapter identifies the ways in which ICT have changed the potential and actual roles and functioning of governments, as well as the ways in which governments have most successfully contributed to the enhancement of national network competitiveness.

The succeeding chapters present case studies that highlight the application of the Framework in assessing the networked readiness of various regions and selected countries. The sixth chapter, "ICT in Africa: A Status Report" by Mike Jensen, assesses the networked readiness of Africa. Recognizing the diversity of the region, the chapter contains a comprehensive analysis of ICT diffusion and use in the different countries of the region. Most important, the chapter highlights the key ICT initiatives in the region, and identifies areas for policy action.

The seventh chapter, "Networked Readiness: Latin America's Last Train," by Lionel C. Carrasco, Rossana Fuentes-Berain, and Roberto Martínez Illescas, emphasizes how imperative it is for the region to promote networked readiness. Citing the political, regulatory, and infrastructure challenges, as well as the need for more content, both traditional and transactional, the chapter identifies possible actions, strategies, and models that could be embraced by the three main stakeholders.

In the chapter, "ICT Challenges for the Arab World," Soumitra Dutta and Mazen Coury discuss ongoing developments in ICT in the Arab world. After reviewing the ICT-awareness of Arab governments by looking into their strategic plans and operational five-year plans, Dutta and Coury observe the uneven levels of awareness of and importance given to ICT both in stated national strategies and demonstrated success in implementation. To cap their analysis, the two authors outline specific policy recommendations that range from the need to create a common Arab ICT strategy to the importance of stimulating Arabic content.

The ninth chapter, "ICT: Pockets of Leadership in East Asia" by Arnoud De Meyer, analyzes the networked readiness of East and Southeast Asian nations, with the exception of Japan and China. Capturing the diversity of the state of the ICT sectors of these countries, the analysis divides the nine countries covered into three main groups, with the first group consisting of the leaders in networked readiness: Singapore, Taiwan, Korea, and Hong Kong. The second group is comprised of Malaysia and Thailand, while the third group is composed of the Philippines, Indonesia, and Vietnam. The chapter identifies areas of outstanding performance as well as the potential for growth in these countries in several areas, including outsourcing, broadband

usage, SMS, e-government, and IT applications in health care and port management.

“Driving the e-Economy: Contrasting Approaches in the United States, Europe, and Japan,” by Mark Melford, Constantijn van Oranje-Nassau, and Soumitra Dutta, contains detailed international comparisons of the selected governments’ progress in driving their respective e-agendas. The authors examine the common challenges and widely contrasting approaches of governments in the United States, Europe, and Japan. It also traces regional developments and identifies best practices as part of its assessment of the networked readiness of these three countries at the level of the individual, business, and government.

The eleventh chapter is a country case study on China, “Born Global: The Impact of the WTO Process on China’s ICT Competitiveness,” by Bruno Lanvin, Pamela Mar, Christine Zhen-Wei Qiang, and Frank-Jürgen Richter. The authors discuss China’s networked readiness in the context of its accession to the World Trade Organization (WTO). According to the authors, China’s preparation and implementation of its WTO commitments could provide the catalyst for China to become a center of innovation, content creation, and research and development. On the other hand, the government is facing difficult trade-offs, and enterprises need to redefine their core competencies while constantly assessing and responding to changing market circumstances, including the evolving regulatory framework. During this process, China will likely be regarded as an intellectual and political leader of a progressive trend to strengthen the development aspects of the trade liberalization process.

The final chapter is a country case study on India, by N.R. Narayana Murthy and Sukumar S., “Influence of ICT on the Development of India’s Competitiveness.” The case study is an in-depth and comprehensive examination of the technological progress achieved in specific sectors of India’s economy as well as the challenges India faces on the path of ICT expansion. The authors note that while the Indian ICT industry and the country’s ICT professionals have been on the cutting edge of technological evolution, a vast majority of the people have neither the access nor the awareness and education to derive benefits from advancing technology. The authors also observe, however, that some of the sociotechnical innovations created in the country hold promise, not only to influence conditions in India, but also to help reduce the digital gap in many other developing countries.

Part 3 contains detailed country profiles for each of the eighty-two countries included in the assessment. This section is followed by a presentation of the data tables and the statistical methodology used to compute the Networked

Readiness Index. Taken together, these last two sections of the *Report* allow the reader to gain a deeper understanding of the networked readiness of a particular nation.

The essays, along with the last two data-oriented sections of the *Report*, are all intended to serve as a guide to national leaders as they craft the appropriate policy framework that will enable individuals, businesses, and governments to fully capture the benefits of ICT. Beyond the scope of the *Report*, however, lies perhaps an even greater challenge, and that is the translation of policy into action and from action, to visible outcomes. We hope that with this second edition of the *Global Information Technology Report*, we have contributed to the establishment of a process for benchmarking progress in networked readiness throughout the world.