DIGITAL REVIEW *of*

AsiaPacific

2009–2010

<dirAP>

To obtain a comprehensive picture of the state of play of ICT development and application in any given economy, the chapters on individual economies should ideally be read alongside the chapters on these economies in previous editions of the *Digital Review of Asia Pacific*, all of which are available for download at:

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Foreword

The current edition of the *Digital Review of Asia Pacific* vividly paints the picture of a major dimension of change in the Asia Pacific region, and indeed in the world. Asia Pacific is my main concern at the Economic and Social Commission for Asia and the Pacific (ESCAP), but changes here and globally are quite similar. Communication and networking enabled by information and communication technologies (ICTs) are proving to be economically, socially, and politically transformative over time. For example, in both poor and wealthy countries, mobile phone use has been skyrocketing and facilitating the expansion of markets, social business, and public services. In fact, an entire range of economic services, enabled by mobile phones, has begun to emerge: micro finance and insurance, marketing and distribution (for example, farmers and fishermen connecting with markets, reduced distribution margins, and buyer control), employment services (for example, drivers and casual workers), personal services, and public services (such as telehealth and distance education). And beyond the economic impacts, improvements are being made in other freedoms or dimensions of well-being — personal security, political participation and accountability, social peace, dignity, and opportunity.

These developments are important, where they are thriving. But we should not forget the negative aspects and possibilities of communications-based transformation, such as mobile phones being used to fan violence, cybercrime and terrorism, and our vulnerability to disruption of communication. Nationally and internationally, control of communications is contended, and openness generally considered best. Internationally, the spread and appropriation of ICTs is a key globalization driver and knowledge carrier. In these circumstances, societies need to build communications systems and manage them well, develop infrastructure and the capacity to use it, and implement good policy and regulation. In the right environments, both business and non-profit enterprise are effective in rapidly expanding connectivity, using low-margin, high-volume business models. Affordable mobile Internet — smart phones and data services — exists today in wealthier societies and could be near universal in the next generation. These are stories that the *Digital Review of Asia Pacific 2009–2010* tells, in vivid and thoroughly researched detail, in snapshots as well as dynamic pictures of the development and use of digital storage, processing, and communications systems in 30 economies, with sub-regional and regional overviews.

Browse and be drawn into these pictures and narratives. Read previous editions of the *Digital Review of Asia Pacific* online to highlight changes and trends. In 2009 and 2010, partners of ESCAP, the International Development Research Centre (IDRC), and many other organizations will be monitoring the impacts of the global financial and economic crisis on economies, businesses and employment, public services and households, and identifying and carrying out key mitigation measures. Negative impacts spread through international 'transactions', falls in exports, remittances, foreign direct and portfolio investment, possibly official development assistance and, increasingly, transactions in knowledge. Impacts on digital systems and their users in particular could be substantially negative, arresting progress in economic and other spheres, with particular impact on the poorest. At stake in all sectors are advances in incomes, jobs, work, education, health, security, equity, and social functionality. Good management and responses, reported in the current and future editions of the *Digital Review of Asia Pacific*, will be central to reducing negative impacts. So enjoy, respond to, and do not miss the next editions of the *Digital Review of Asia Pacific*.

Noeleen Heyzer
Under-Secretary-General of the United Nations
and
Executive Secretary, ESCAP

Preface

ICT FOR DEVELOPMENT IN THE ASIA PACIFIC REGION: RIDING THE WAVES OF CHANGE IN A 'FLAT WORLD'

The Grameen Bank in Bangladesh, one of the poorest countries of the world,
long ago made the choice to invest the present and the future of the poor in ICT.
ICT is a new opportunity for grassroots innovation.
I saw an opportunity for the poor people to change their lives
but only if this technology could be brought to them to meet their needs.
(Muhammad Yunus 2007)

The sudden onslaught of the current economic turmoil comes just when this edition of the *Digital Review of Asia Pacific* (DirAP) went to press and long after the authors had submitted their manuscripts. But the publishers, editors, and authors of DirAP will be closely monitoring the impact of this turbulence on the appropriation of information and communication technology (ICT) in the region throughout 2009 and 2010. Dr Yunus has showed the way to all who are working toward empowering poor communities, to address their development challenges through effective access to ICTs. At the same time, we are learning that even as communities adopt and use ICTs, it is imperative to track and understand the positive and negative effects of ICTs on specific communities. Each wave of global change impacts not only the international and regional levels, but also, more and more, poor rural households.

In the maiden 2003–2004 edition, we referred to DirAP as an analysis of 'a new type of public sphere [that is] more participatory and intentional'. That statement was made at a time when we had yet to see the real power of ICT. Since then, we have seen ICTs completely transform our lives, including the way politics and governance are played out. This started in Asia with the now famous 'coup de text' in the Philippines, followed by similar innovations in China, Korea, Malaysia, and Pakistan. More recently, in the United States (US), the Obama campaign demonstrated the importance of ICTs in creating awareness and motivating action. The 2005–2006 edition of DirAP sought to prepare the DirAP audience for this kind of phenomena. The edition included reference to disruptive ICTs, with a close-up examination of the social, political, and cultural aspects of e-governance and the need to develop appropriate ICTs using Open Source programs and local language tools. In the 2007–2008 edition, we featured developments in mobile and wireless technologies, as the remarkable growth of cell-phone technology and Web 2.0 tools are impacting on public socialization and conscientization. This prognostic element is central to our motivation in producing DirAP as a regular Asia-watch serial.

In addition to tracking the way ICTs are used for political change in Asia, DirAP keeps a close eye on the impact of ICTs on the education, health, and livelihood of communities in the region. For the 2009–2010 edition, we have selected education as a principal theme. We are focusing on the state of ICT deployment and innovation in basic education, non-formal education, distance education, capacity-building for education policymakers and practitioners, and public-private partnerships in ICT for education.

DirAP has evolved since its inception in small and big ways. It has increased in volume, with a growing network of writers from the Asia Pacific region. It has adopted a co-authoring style to reflect multiple voices — a methodological posture that has been constant since the creation of DirAP and that can be summarized as follows:

> The voices of DirAP are independent and if they are ideological at all, they are the voices of these writers who are the key movers and shakers in the ICT for development arena in the region. We believe that this multiplicity of voices, which includes those of policymakers, professionals from the private sector and senior scholars, offers a unique opportunity to access the richness and the complexity of the debates, of the choices being made and to be made, and of the major issues in the interface between communication and development. And we strongly believe in the importance of this complementarity and diversity

of voices, ensuring that, as in Kurozawa's Rashomon, the perspectives of the different actors are represented but also debated through research and statistical evidence. (Ng and Charron 2007)

The last three editions of DirAP were launched at the United Nations World Summit on the Information Society in Geneva (2003) and Tunis (2005), and at the Global Knowledge Partnership GKIII Conference in Kuala Lumpur (2007). They reached both Asia Pacific and international stakeholders in ICT for development (ICTD). Chin Saik Yoon and Felix Librero expertly served as chief editors of these previous editions. This year, we are most grateful to Shahid Akhtar and Patricia Arinto for convening this diversity of voices. We thank DirAP's editors and the editorial board for helping to transform the ferment in the field into a rather unique series of studies over time.

DirAP has ventured outside the ICT arena to bring in other disciplines to explain the effects of ICT in their fields. DirAP will continue to evolve, perhaps toward more interactive, participatory electronic formats. Whatever changes we make for the future editions of DirAP, we hope that the publication remains a useful source of research in ICTD that allows for an unfolding view and narrative. We hope too that ICTD stakeholders in Asia Pacific see DirAP as an opportunity to publish about ICTD efforts in the region and to reflect on platforms that they consider important for influencing change. And we hope that other ICTD stakeholders around the world will learn from these testimonies and experiences of ICTD in Asia Pacific unfiltered by what Edward Said (1978) referred to as an Orientalist bias.

Kenichi Ohmae's (1990) metaphor of a 'Borderless World' and Thomas Friedman's (2005) concept of a 'Flat World' might sound a bit stale to some. But in the current global crisis, one could argue to the contrary — that they are absolutely right. Moreover, Servaes's (2000) view that strengthening the educational sector through the use of technology is a necessary precondition to meeting the challenges of a global world seems to ring more true today than it did at the beginning of the millennium. As publishers, we are proud to share with readers these narratives from different voices in the field, each of them attempting from their own perspective to respond to the current and future imperatives of ICTD in a networked society that seems to have shifted to a new age from that foretold by Castells (1996).

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Introduction

The information age has been driven and dominated by technopreneurs — a small army of 'geeks' who have reshaped our world faster than any political leader has ever done…. We now have to apply these technologies for saving lives, improving livelihoods and lifting millions of people out of squalor, misery and suffering. In short, the time has come to move our focus from the geeks to the meek.

(Sir Arthur C. Clarke)

When Marshall McLuhan coined the term 'global village' in 1962, he was referring to the removal of space and time barriers in human communication as a result of the communication revolution taking place at the time. Today, we are living in a global village in every sense of the term. This has never been more evident than in the financial and economic crisis gripping the world today.

Banks are failing and stock markets are tumbling. The automotive, construction, insurance, manufacturing, tourism, and other industries are suffering their greatest losses in years. The prices of commodities like oil, copper, lead, nickel, platinum, and wheat have fallen 65–88 percent from their peaks. Households have lost billions in real estate and pension fund reserves are dwindling. Countless small and medium-sized companies are going bankrupt and millions of jobs are being lost. The Asian Development Bank estimates that more than USD 50 trillion in invested wealth vanished into thin air in 2008. The world is in a deflationary spiral.

Much of the crisis concerns the United States (US) and countries in the European Community. But given the interconnectedness of the world's financial and economic systems, economies around the world are experiencing a downturn. Even the biggest economies, like China, are hurting. Li Yizhong, head of China's Ministry of Information and Technology, has noted that 'the international financial crisis is having a severe domestic impact' and 'just about every industry has overcapacity'. Zhang Ping, head of China's planning body, predicts that '[e]xcessive bankruptcies and production cuts will bring massive unemployment, stirring social unrest. Owing to dramatic changes in the international economic and financial environment, the Chinese economy faces growing downside pressure'. And the head of the Australian central bank, Glenn Stevens, whose country is one of the key suppliers of natural resources to China, has said that '[t]he most striking real economic fact of the past several months is not continued U.S. economic weakness, but that China's economy has slowed much more quickly than anyone had forecast' (Sagami 2008).

It will take several years, maybe even a decade, before the recession (some call it 'depression') that the world is facing today can be fully turned around and all the losses made up. The next several years are not going to be easy for most developing countries and many that were already struggling to meet the Millennium Development Goals (MDGs) goals and targets are going to be facing even greater difficulties in realizing these goals. The new information and communication technologies (ICTs) have been a driving force of the globalized world in which we find ourselves today. Do ICTs have a role in helping to turn the global situation around?

Now more than ever, countries need more efficient, accountable and transparent government. And it is a well documented fact that use of ICTs assists in sharing information more effectively and delivering better services to the public. 'ICTs, wisely deployed, can potentially impact almost every sector, making development budgets, private sector investments and commitments from development partners go that much further in terms of cost effectiveness, impact and reach' (UNDP 2005, p. 1). ICTs help to increase transparency and accountability and decrease corruption. They promote economic growth by improving the interface with business and empowering citizens to participate in advancing good governance. ICTs also help to accelerate the pace of sustainable human development and to '… increase the effectiveness of new and more responsive solutions in the fields of health, education and related MDG focus areas' (UNDP 2005, p. 1).

The *Digital Review of Asia Pacific* (DirAP) aims to serve as a guide for ICT-related policy development, planning, research, and project implementation in the region. Like the previous editions, the 2009–2010 edition of DirAP reports on key ICT for development (ICTD) initiatives across the Asia Pacific region. The present edition of DirAP consists of four parts:

- Part A includes regional overviews on ICTD, regulatory approaches to ICT, and managing innovation.
- Part B, consisting of five chapters, focuses on various aspects of ICT in education.

- Part C assesses the ICT initiatives of four sub-regional groupings.
- Part D reviews the digital status of 30 economies.

The chapters in Part D report on the status of the technology infrastructure, ICT industries, digital content, online services, key ICT initiatives, enabling policies, regulatory environment, education and capacity-building programs, open source initiatives, ICT-related research and development, and ICTD trends and challenges up to mid-2008[1] in each of the 30 economies covered. The common framework that underpins these reports allows readers to undertake a comparative analysis and assess progress across the region.

The chapters in Parts A and C provide two types of comparative analyses of the ICT initiatives presented. In Part C, the comparative perspective is sub-regional, with four chapters reviewing the ICT initiatives of four political and economic groups. Budden, Jorari, and Taufao describe the digital status of the Pacific Island Countries. Garcia and Lallana provide an overview of the ICT initiatives of the Asia-Pacific Economic Cooperation (APEC). Lim outlines ICT-related aspects of the work of the Association of Southeast Asian Nations (ASEAN) toward building the ASEAN Community. Pradhan and Liyanage review recent initiatives by the South Asian Association for Regional Cooperation (SAARC) to foster regional collaboration in ICTD.

Part A provides regional perspectives. In 'ICT for development in Asia Pacific: Emerging themes in a diverse region', Butt and Sarker outline some key concepts that are useful for analyzing and evaluating ICTD initiatives in the region. In 'An overview of regulatory approaches to ICTs in Asia and thoughts on best practices for the future', Sreenivasan and Singh compare regulatory approaches in Asian jurisdictions, and describe what they consider to be the four pillars of ICT policy, namely, citizen-focused e-government services, improving access to education, open source software development, and localized and indigenous digital content development and regulation. In 'Managing innovation in the network economy: Lessons for countries in the Asia Pacific region', Nair and Shariffadeen consider the role of national innovation ecosystems in enhancing the innovative capacity and competitiveness of nations in the network economy. They propose a quantitative method of assessing national innovation capacity and outline strategies to close the digital and innovation divides between countries in Asia Pacific and other regions.

The chapters in Part B of this edition of DirAP revolve around the theme of ICTs and education. Strengthening the innovative capacity of countries and ensuring broad-based and equitable development require, among others, giving priority to education for all citizens. Indeed, the second MDG is the achievement of universal primary education. Education is a basic human right, and it is a precondition of economic and social development. ICTs are increasingly recognized as an important means of providing education for all and building the capacity of individuals and communities to survive and thrive in the knowledge-based economy. The 2005 UNDP Regional Human Development Report notes that 'ICTs are already creating new possibilities for "reaching the unreached" and also for making lifelong education feasible for all' and that 'these trends would only gather momentum and could imply a revolution, provided determined efforts are made to promote appropriate use of ICTs as innovative new delivery mechanisms for system-wide provision of education' (UNDP 2005, p. 12).

In the chapter titled 'Education for all in the digital age', Dhanarajan describes the important role that the new digital technologies can play in the global movement toward Education for All (EFA) that was launched in 1990 at Jomtien, Thailand, and affirmed in 2000 through the Dakar Framework for Action. The chapter also outlines factors that policymakers must consider in harnessing ICTs to provide education for all. These include the need for policy recognizing different modes of education, including open and distance learning, and alternative learning.

Baggaley, Belawati, and Malik, in their chapter titled 'Distance education in Asia Pacific', provide an overview of trends in distance education in the region, including the use of mobile phones in learning. The chapter discusses issues affecting Asian distance education institutions, such as lack of access to e-learning technologies, and the need to develop a distinctively Asian approach to distance education.

ICT use in non-formal education programs for out-of-school youth and adults is the focus of 'ICTs in non-formal education in Asia Pacific' by Dighe, Hakeem, and Shaeffer. Arguing that non-formal education has an important role to play in achieving quality education for all sectors of society, especially marginalized groups that comprise a significant percentage of the population in developing countries, the chapter critically examines the progress made and the lessons learned in the use of ICTs in non-formal education in the Asia Pacific region.

In 'Capacity-building for ICT integration in education', Ng, Miao, and Lee focus on building the capacity of policymakers and educators in Asia Pacific countries to integrate ICT in education. The basic elements of a holistic ICT in education policy and an ICT in education toolkit for policymakers and planners are detailed, as well as the dimensions of integrated teacher professional development that would enable teachers to use ICT effectively and appropriately to support national education goals. A case is made for moving away from technocentric planning and implementation approaches to ICT integration, to models

that focus on establishing sound policy and support strategies leading to capacity development and empowerment.

The final chapter in the thematic section on ICT and education is on 'Public-private partnerships in ICT for education' by Pillay and Hearn. ICT-supported education requires large investments not only in equipment and infrastructure but also in human resource development. Public-private partnerships are described as a means for governments to meet increasing demands for ICT-supported education reform and expansion.

In describing and analyzing trends and issues in the use of ICT in key areas such as education and governance in the Asia Pacific region, this edition of DirAP hopes to give its readers greater insight into the application of ICTs for sustainable human development. ICTs have been instrumental in the realization of a globalized world. Globalization has brought greater interdependence, with both positive and negative effects on economies and societies. When used wisely, ICTs can help mitigate some of the negative impacts and maximize the positive outcomes of interdependence, through better coordination and monitoring of development efforts, building partnerships between the public and private sectors and between governments and citizens, and fostering the innovative capacity and entrepreneurial spirit of individuals and communities.

Shahid Akhtar and **Patricia Arinto**
Editors, *Digital Review of Asia Pacific 2009–2010*

NOTE

1. As is normally the case with analytical reviews, there is a time lag between when such reviews are actually written and their formal publication. The chapters on the individual economies reflect conditions at the time of writing, which was essentially around early to mid-2008, prior to the global economic and financial crisis beginning in late 2008.

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Acronyms

2G	second generation mobile phone standards and technology	ALU	Alcatel-Lucent
3G	third generation mobile phone standards and technology	ALS	Alternative Learning System
		AMCAM	American Cambodian Business Council
A&E	Accreditation and Equivalency	AMN	Afghan Media International
AAOU	Asian Association of Open Universities	ANDC	Afghanistan National Data Centre
ABAC	APEC Business Advisory Council	ANDS	Afghanistan National Development Strategy
ABS	Australian Bureau of Statistics	ANZ	Australia New Zealand Bank
ABS-CBN	Alto Broadcasting System-Chronicle Broadcasting Network	AOTS	Association for Overseas Technical Scholarships
ACBT	Australian College of Business and Technology	APEC	Asia-Pacific Economic Cooperation
ACC	ASEAN Coordinating Council	APEC TEL	Asia-Pacific Economic Cooperation Telecommunications and Information Working Group
ACEN	APEC Cyber Education Network		
ACMA	Australian Communications and Media Authority	APIAN	APEC International Assessment Network
ACS	Australian Computer Society	APIIT	Asia Pacific Institute for Information Technology
ACSA	Afghan Computer Science Association	APJII	Asosiasi Penyelenggara Jasa Internet Indonesia (Indonesian Internet Service Providers Association)
ACTOS	Association of Computer Training Organizations		
ADB	Asian Development Bank	APKOMINDO	Asosiasi Perusahaan Komputer Indonesia (Indonesian Computer Business Association)
ADSL	Asymmetric Digital Subscriber Line		
AEC	ASEAN Economic Community		
AEEMA	Australian Electrical and Electronic Manufacturers' Association	APNIC	Asia-Pacific Network Information Centre
		APPEAL	Asia Pacific Programme of Education for All
AGC	Attorney-General's Chambers		
AGIMO	Australian Government Information Management Office	APT	Asia Pacific Telecommunity
		ARC	Administrative Reforms Committee
AHAN	Aik Hunar Aik Nagar (One Village One Product)	ARCOM	Autoridade Reguladora das Communicações or Communications Regulatory Authority
AIATSIS	Australian Institute of Aboriginal and Torres Strait Islander Studies	ARPU	Average revenue per user
		ARTC	APPEAL Resource and Training Consortium
AIG	Australian Industry Group		
AIIA	Australian Information Industry Association	ASC	ASEAN Security Community
AIL	Afghan Institute of Learning	ASCC	ASEAN Socio-Cultural Community
AIMS	Afghanistan Information Management Services	ASEAN	Association of Southeast Asian Nations
		ASEC	ASEAN Secretariat
AIOU	Allama Iqbal Open University	ASED	ASEAN Education Ministers Meeting
AiTi	Authority for Info-communications Technology Industry	ASFI	Advanced Software Foundation Inc
		ASP	Application Service Provider
AKAKOM	Akademi Komputer or East Timor Computer Academy	ASSI	Asosiasi Satelit Indonesia (Indonesian Satellite Association)
ALP	Australian Labor Party	AST	ASEAN Science and Technology

ASTI	Advanced Science and Technology Institute		BTCL	Bangladesh Telecommunications Company Limited
ATM	Automatic teller machine		BTN	Bhutanese ngultrum (currency)
ATRA	Afghanistan Telecom Regulatory Authority		BTRC	Bangladesh Telecommunications Regulatory Commission
ATRC	ASEAN Telecommunications Regulators Council		BTS	Base Transceiver Station
AUAF	American University of Afghanistan		BTTB	Bangladesh Telegraph and Telephone Board
AWARI	Asosiasi Warnet Indonesia (Indonesian Internet Kiosk Association)		CA	Certification Authority
			CAGR	Compound Annual Growth Rate
AWCC	Afghan Wireless Communication Company		CAL	Computer-aided Learning
			CAN	Computer Association of Nepal
BA	Bachelor of Arts		CASIA	Chinese Academy of Sciences, Institute of Automation
BASIS	Bangladesh Association of Software and Information Services		CAT	Communications Authority of Thailand
BayanDSL	BayanTel Digital Subscribe Line		CATV	Community Antenna Televsion, now known as Cable Television
BayanTel	Bayan Telecommunication			
BBS	Bangladesh Bureau of Statistics		CBN	Capacity Building Network
BCCP	Bangladesh Centre for Communication Programs		CBO	Community-based organization
			CC	Creative Commons
BcN	Broadband Convergence Network		CCC	Ceylon Chamber of Commerce
BdOSN	Bangladesh Open Source Network		CCRTVU	China Central Radio and TV University
BDT	Bangladeshi taka (currency)		CCT	Science and Technology Committee
BEDB	Brunei Economic Development Board		CD	Compact disc
BFAD	Bureau of Food and Drugs		CDAC	Centre for Development of Advanced Computing
BHMPS	Bhutan HRD Master Plan and Strategies			
BHUs	Basic health units		CDMA	Code Division Multiple Access
BICMA	Bhutan InfoComm and Media Authority		CD-ROM	Compact Disc-Read Only Memory
BIPS	Bhutan ICT Policy and Strategy		CeC	Community e-Centre
BIR	Bureau of Internal Revenue		CEDFIT	Cebu Educational Foundation for Information Technology
BIT	Bachelor of Information Technology			
BMC	Budget and Management Committee		CEO	Chief Executive Officer
BND	Brunei dollar		CEPAS	Specification for Contactless e-Purse Application
BNU	Banco Nacional Ultramarino			
BoC	Bureau of Customs		CERTs	Computer Emergency Response Teams
BOI	Board of Investment		CET	Connect East Timor
BOT	Bank of Thailand		CETC	SPC Community Education Training Centre, Fiji
BPAP	Business Processing Association of the Philippines			
			CGIAR	Consulative Group on International Agricultural Research
BPO	Business Process Outsourcing			
BPPT	Badan Pengkajian dan Penerapan Teknologi (Agency for the Assessment and Application of Technology)		CHA	Consortium of Humanitarian Agencies
			CHED	Commission on Higher Education
			CIA	Central Intelligence Agency (US)
BRAC	Bangladesh Rural Advancement Committee		CIC	Community Information Centre
BRTI	Badan Regulasi Telekomunikasi Indonesia (Indonesia Telecommunication Regulatory Body)		CICC	Center of the International Cooperation on Computerization
			CICT	Commission on Information and Communications Technology
BSA	Business Software Alliance			
BSNL	Bharat Sanchar Nigam Ltd		CID	Harvard Centre for International Development Model
BT	Bhutan Telecom Ltd			

CIDA	Canadian International Development Agency	DCITA	Department of Communication, Information Technology and the Arts
CII	Confederation of Indian Industry	DCSF	Diliman Computer Science Foundation
CIMA	Chartered Institute of Management Accountants	DDC	Dzongkha Development Commission
		DDD	Digital Divide Data
CIO	Chief Information Officer	DE	Distance education
CIT	Communications and Information Technology	DEEWR	Department for Education, Employment and Workplace Relations
CITREP	Critical Infocomm Technology Resource Programme	DEF	Digital Empowerment Foundation
		DEMP	Distance Education Modernization Project
CLC	Community Learning Centre	Depbudpar	Departemen Kebudayaan dan Pariwisata (Department of Culture and Tourism)
CMA	Computer Misuse Act		
CMC	Community Multimedia Centres	Depdiknas	Departemen Pendidikan Nasional (National Education Department)
CMMI	Capability Maturity Model Integration		
CMOS	Complementary Metal Oxide Semiconductor	DepEd	Department of Education
CMS	Clinic Management System	DEST	Department for Education, Science and Training
CMTS	Cellular Mobile Telephone Service		
CNMI	Commonwealth of the Northern Marianas	DETIKNAS	Dewan TIK Nasional (National ICT Council)
CNNIC	China Internet Network Information Center		
COO	Chief Operating Officer	DFAT	Department of Foreign Affairs and Trade
CoP	Communities of Practice	DICT	Department of Information and Communication Technology
CP	Certificate Policy		
CPE	Customer Premises Equipment	Digitel	Digital Telecommunications Phils. Inc.
CPP	Calling Party Pays	DIMS	Diploma in Information Management System
CPS	Certificate Practice Statement	Dirjen Postel	Direktorat Jenderal Pos dan Telekomunikasi (Directorate General of Post and Telecommunication)
CPTTM	Macau Productivity and Technology Transfer Center		
CRAT	Cyber Regulatory Appellate Tribunal	DIT	Department of Information Technology
CRC	Communications Regulatory Commission	DLTV	Distance Learning Television
CRO	Communications Regulatory Organization	DMB	Digital Multimedia Broadcasting
CROP	Council of Regional Organizations of the Pacific	DNA	Deoxyribonucleic acid
		DNOP	Data Network Operators Pakistan
CRULP	Centre for Research in Urdu Language Processing	DOEACC	Department of Electronics and Accreditation of Computer Courses
CSAT	College Scholastic Ability Test	DOI	Digital Opportunities Initiative
CSL	Computer Services Ltd, Samoa	DOH	Department of Health
CSMS	Computer Science and Management School	DoS	Denial-of-Service
CSSL	Computer Society of Sri Lanka	DOST	Department of Science and Technology
CTI	Committee on Trade and Investment	DOTC	Department of Transportation and Communications
CTM	Companhia de Telecomunicações de Macau (Macau Telecommunications Company)		
		DPI	Data Processing Iran Company (ex-IBM branch in Iran)
CTT	Direcção dos Serviços de Correios, Telefonicos e Tegraphicos de Macau (Telephony and Telegraphy Bureau)	DPR	Dewan Perwakilan Rakyat (House of Representatives)
DAISY	Digital Accessible Information System	DRM	Digital Rights Management
DANIDA	Danish International Development Agency	DRMASS	Digital Multiple Access Subscriber System
DBCDE	Department of Broadband, Communications and the Digital Economy	DSEJ	Direcção dos Serviços de Educação e Juventude (Education and Youth Affairs Bureau)
DCI	Data Communications Company		

DSGs	Deputy Secretary-Generals	ETPI	Eastern Telecommunications Philippines Inc.
DSL	Digital Subscriber Line	EU	European Union
DSRT	Direcção dos Serviços de Regulação de Telecomunicações (Bureau of Telecommunications Regulation)	EUP	Eco-Design of Energy-using Products
		EVN	Electricity of Vietnam
		FDCT	Science and Technology Development Fund
DSWD	Department of Social Welfare and Development		
		FDI	Foreign Direct Investment
DTAS	Diagnostics Tutorial Assessment System	FE	Fundamentals of IT Engineer
DTI	Department of Trade and Industry	FECS	Fundamentals of IT Engineer Certification Standards
DTIS	Diagnostic Trade Integration Studies		
DTT	Digital Terrestrial Television	FedGIS	Federated Geospatial Information System
DTV	Digital television	FERI	Foundation of Education Research and Education
DVB	Digital Video Broadcast		
DVD	Digital versatile disc	FFA	Pacific Islands Forum Fisheries Agency
DWDM	Dense Wavelength Division Multiplexing	F-FDTL	Falintil-Forcas Defesa de Timor-Leste or Timor-Leste Defense Force
E3	Philippines' Electronic Governance for Efficiency and Effectiveness		
		FITIS	Federation of IT Industry in Sri Lanka
EBS	Educational Broadcasting System	FLEMMS	Functional Literacy, Education, and Mass Media Survey
EC	Economic Committee		
ECA	Electronic Commerce Act	FLOSSWorld	Free/Libre/Open Sources Software (FLOSS) World
ECER	East Coast Economic Region		
ECSG	Electronic Commerce Steering Group	FMAC	Macau Foundation
ECTI	Electronic Computer Telecommunication and Information	FMC	Fixed Mobile Convergence
		FMIC	French Medical Institute for Children
ECVN	e-Commerce Vietnam	FNRI	Food and Nutrition Research Institute
EDB	Economic Development Board	FOSS	Free and Open Source Software
EDGE	Enhanced Data Rate for GSM Evolution	FPCCI	Federation of Pakistan Chambers of Commerce and Industry
eDLTV	eLearning Based on Distance Learning Television		
		FRST	Foundation for Research, Science, and Technology
EDMS	Electronic Document Management System		
		FSM	Federated States of Micronesia
EDNET	APEC Education Network	FTA	Free-to-Air
EDS	Electronic Documents and Signatures	FTI	Fast Track Initiative
EDXL	Emergency Data Exchange Language	FTII	Federasi Teknologi Informasi Indonesia (Indonesia Information Technology Federation)
EECV	Emergency and Education Vehicle		
EFA	Education for All		
EFT	Electronic Funds Transfer	FTTH	Fibre-to-the-Home
EGD	e-Government Directorate	FTTN	Fibre-to-the-Node
EGTAB	e-Government Technical Advisory Body	FUP	Fundação das Universidades Portuguesas
EGTL	e-Government Leadership Forum	FWA	Fixed Wireless Access
EHR	Electronic Health Records	G2B	Government-to-Business
ELK	Enabling Language Kit	G2C	Government-to-Citizen
EMIS	Education Management Information Systems	G2G	Government-to-Government
		G4C	Government-for-Citizens
e-NTF	e-National Task Force	GATS	General Agreement on Trade in Services
ESCAP	Economic and Social Commission for Asia and the Pacific	Gb	Gigabyte
		Gbps	Gigabits per second
ESFRD	Electronics Support Fund for Research and Development	GCA	Government Certification Authority
		GCC	Government Computer College

GCIO	Government Chief Information Officer	HEIs	Higher Education Institutions
GCS	Global Care Solutions Company Limited	HFC	Hybrid Fibre-Coaxial
GDDS	General Data Dissemination System	HIES	Household Income and Expenditure
GDLN	World Bank's Global Distance Learning		Survey
	Network	HIV	Human Immunodeficiency Virus, the cause
GDOI	Global Digital Opportunity Initiative		of AIDS (Acquired Immunodeficiency
GDP	Gross Domestic Product		Syndrome)
GDTTI	Gabinete para o Desenvolvimento das	HLCIT	High Level Commission on IT
	Telecomunicações e Tecnologias da	HRD	Human Resource Development
	Informação (Office for the Development	HRDWG	Human Resource Development Working
	of Telecommunications and Information		Group
	Technology)	HRM	Human Resource Management
GeSCI	Global e-Schools and Communities	HSBC	Hong Kong and Shanghai Banking
	Initiatives		Corporation
GIC	Government Information Centre	HSDPA	High Speed Downlink Packet Access
GILAS	Gearing Up Internet Literacy and Access for	HSPA	High Speed Packet Access
	Students	IA	Infocomm Accessibility
GIS	Geographical Information System	IAC-ICTS	Interagency Committee on Information and
GLOCOM	Japan's Center for Global Communications		Communication Technology Statistics
GNH	Gross National Happiness	IAEA	International Atomic Energy Agency
GNP	Gross National Product	IAMAI	Internet and Mobile Association of India
GNU Linux	GNU's Not Unix Linux	IAS	International Accounting Standards
GoM	Government of Mongolia	IC	Integrated Circuits
GoP	Government of Pakistan	ICAM	Intelligent Content Assessment Marking
GOSL	Government of Sri Lanka	ICANN	Internet Corporation for Assigned Names
GPDP	Office for Personal Data Protection		and Numbers
GPMS	Government Personnel Management System	ICDL	International Computer Driving Licence
GPRS	General Packet Radio Service	ICI	Interconnection Institute
GPS	Global Positioning Systems	ICIMOD	Nepal's International Centre for Integrated
GRP	Government of the Republic of the		Mountain Development
	Philippines	ICM	Information, Communication, and Media
GS	Grama Sevaka (village headman)	ICMA	Information, Communication, and
GSIS	Government Service Insurance System		Media Act
GSM	Global System for Mobile Communication	ICP	Internet Connection Provider
GTZ	Deutche Gesellschaft fur Technische	ICT	Information and Communication
	Zussammenardeit — German Technical		Technology
	Cooperation	ICTA	Information and Communication
GXA	Games Exchange Alliance		Technology Authority
HCA	Ho Chi Minh City Computer Association	ICT4D/ICTD	Information and Communication
HCCR	High Council of Cultural Revolution		Technology for Development
HCDG	Human Capital Development Group	ICT-TL	Timor-Leste ICT Association
HCI	High Council of Informatics	ICTWG	ICT Working Group
HCID	High Council of Information Dissemination	ICX	Interconnection Exchange
HDD	Hard Disc Drive	ID	Identity/Identification
HDDI	Hard Disc Drive Institution	IDA	Info-Communications Development
HDIA	Human Impact Development Assessment		Authority of Singapore
	of Trade	IDC	International Data Corporation
HDSL	High bit-rate Digital Subscriber Line	ID-INC	Indonesia-Network Information
HDTV	High Definition Television	IDM	Interactive Digital Media

IDN	International Domain Name		ISDN	Integrated Service Data Network
IDR	Iskandar Development Region		iSLRCs	i-Schools Learning Resource Centers
IDRC	International Development Research Centre		ISOC	Internet Society
IDRCC	International Development Research Centre of Canada		ISP	Internet service provider
			ISPAK	Internet Service Providers of Pakistan
ID-SIRTII	Indonesia Security Incident Response Team on Internet Infrastructure		ISPAN	Internet Service Providers Association of Nepal
IDTUG	Indonesia Telecommunication Users Group		ISPANZ	Internet Service Providers Association of New Zealand
IEAA	Interactive Entertainment Association of Australia		IT	Information Technology
			ITC	Information Technology Company
IFRS	International Financial Reporting Standard		ITEC	Indian Technical and Economic Co-operation
IG	International Gateway			
IGNOU	Indira Gandhi National Open University		ITES	IT enabled Services
IGOS	Indonesia Goes Open Source		ITFP	Information Technology Foundation of the Philippines
IIREM	Innovating ICT for Rural Education of Mongolia		ITH	Income Tax Holidays
			ITMX	Interbank Transaction Management and Exchange
IIT	Informatics Institute of Technology			
IITA	Institute for Information Technology Advancement		ITRC	Iran Telecommunications Research Center
			ITS	Intelligent Transport System
IITC	International IT Conference		ITU	International Telecommunication Union
IIUM	Macau Inter-University Institute		IX	Internet Exchanges
IKC	IlmuKomputer.com		J2ME	Java 2 Micro Edition
ILDTSP	International Long Distance Telecommunication Services Policy		JARDIKNAS	Jaringan Pendidikan Nasional (National Education Network)
ILO	International Labour Organisation			
IMF	International Monetary Fund		JEDI	Java Education and Development Initiative
IMS	Interactive Multimedia Subsystem		JETRO	Japan External Trade Organization
INESC	Institute of Engineering Systems and Computers		JETS	Japanese-European Technology Studies Institute
Info Timor	Info Exchange East Timor		JICA	Japan International Cooperation Agency
iNSPIRE	iNfocomm Spark an Inspiring and Rewarding Experience		JITEC	Japan Information Technology Engineers Examination Center
IOB	East Timor Institute of Business		KADO	Korea Agency for Digital Opportunity and Promotion
IP	Internet Protocol			
IPA	Ingrated Programme of Action		Kbps	Kilobits per second
IPC	Informatization Promotion Committee		KC	Knowledge Channel
IPM	Institute for Studies in Theoretical Physics and Mathematics		KCC	Korea Communications Commission
			KCF	Knowledge Channel Foundation
IPR	Intellectual Property Rights		KCS	Korea Customs Service
IPRA	Intellectual Property Rights Act		KEPCO	Korea Electric Power Corporation
IPTV	Internet Protocol Television		KIPA	Korean International Promotion Agency
IPv4	Internet Protocol version 4		KISDI	Korea Information Society Development Institute
IPv6	Internet Protocol version 6			
IRCTC	Indian Railway Catering and Tourism Corporation Limited		KMPCD	Kathmandu Metropolitan Police Crime Division
IRQUE	Improving the Relevance and Quality of Undergraduate Education		KOICA	Korea International Cooperation Agency
			KPO	Knowledge Process Outsourcing
IRTI Act	Right to Information Act (India)		KREN	Korean Education Network

KRW	Korean won (currency)
KSFC	Korea Software Financial Cooperative
KT	Korea Telecom
LAMP/WAMP	Linux, Apache, Mysql, and Php/Link Access Procedure for Modems/Windows, Apache, Mysql, and Php
LANIC	Lao National Internet Committee
LCD	Liquid Crystal Display
LDCs	Least Developed Countries
LDI	Long Distance and International Services
LEARN	Lanka Education and Research Network
LED	Light Emitting Diode Lamp
LETAS	Local Enterprise Technical Assistance Scheme
LGN	Lanka Government Network
LGU	Local government unit
LIFE	Literacy Initiative for Empowerment
LINX	London Internet Exchange
LIPI	Lembaga Ilmu Pengetahuan Indonesia (Indonesian Institute of Science)
LKLUG	Lanka Linux User Group
LL	Local Loop
LMS	Learning Management System
LRC	Labour Recruitment Committee
LRT	Likelihood Ratio Test
LSF	Lanka Software Foundation
LSPN	Labour and Social Protection Network
LTO	Land Transportation Office
LUGS	Linux User Group of Singapore
M&As	Mergers and Acquisitions
MA	Master of Arts
MAMPU	Malaysian Administrative Modernization and Management Planning Unit
MAP	Management Association of the Philippines
MASTEL	Masyarakat Telematika
MB	Megabit
MBA	Master of Business Administration
Mbps	Megabits per second
MCEA	Myanmar Computer Enthusiasts Association
MCF	Myanmar Computer Federation
MCH	Ministry for Culture and Heritage
MCHE	Maldives College of Higher Education
MCIA	Myanmar Computer Industry Association
MCIT	Ministry of Communications and IT
MCMC	Malaysian Communications and Multimedia Commission
MCPA	Myanmar Computer Professionals Association
MCSDC	Myanmar Computer Science Development Council

MCTV	Macau Cable TV
MDA	Media Development Authority of Singapore
MDec	Multimedia Development Corporation
MDGs	Millennium Development Goals
MDIRD	Macau Document Information Resource Database
MECS	Ministry of Education, Culture and Science
MED	Ministry of Economic Development
METI	Ministry of Economy, Trade and Industry
MGP	Macau Grand Prix
MGTO	Macau Government Tourist Office
MIB	Maldives Internet Banking
MIC	Ministry of Internal Affairs and Communication
MICA	Ministry of Information, Communications and the Arts
MICT	Ministry of Information and Communication Technology
MIMOS	Malaysian Institute of Microelectronic Systems
MISPA	Mongolian Internet Service Providers Association
MIT	Massachusetts Institute of Technology
MKE	Ministry of Knowledge Economy
MMP	Macau Memory Project
MMS	Multimedia Messaging System
MNP	Mobile Number Portability
MoC	Ministry of Commerce
MOCIE	Ministry of Commerce, Industry, and Energy
MoE	Ministry of Education
MOECS	Ministry of Education, Culture, and Science
MOET	Ministry of Education and Training
MoEYS	Ministry of Education, Youth, and Sport
MoF	Ministry of Finance
MOGAHA	Ministry of Government Administration and Home Affairs
MOH	Ministry of Health
MoIC	Ministry of Information and Communication
MOIT	Ministry of Industry and Trade
MoITT	Ministry of IT and Telecommunications
MOPAS	Ministry of Public Administration and Security
MOSA	Mongolian Software Industry Association
MOST	Ministry of Science and Technology
MOU	Memorandum of Understanding
MOWD	Ministry of Women's Development
MPDF	Mekong Private Sector Development Facility

MPEG	Moving Picture Expert Group		NECTEC	National Electronics and Computer
MPLS	Multi-Protocol Label Switching			Technology Center
MPO	Management and Budget Organization		NEDP	National Education Database Project
	(formerly PBO)		Nepse	Nepal Stock Exchange
MPT	Myanmar Posts and Telecommunications		NFE	Non-Formal Education
MPTC	Ministry of Posts Telegraph and		NGAs	National Government Agencies
	Communications		NGN	Next Generation Network
MPTT	Ministry of Post, Telegraph, and Telephone		NGNII	Next Generation National Information
MRA	Mutual Recognition Agreement			Infrastructure
	for Conformity Assessment of		NGO	Non-government organization
	Telecommunications Equipment		NGPP	National Grid Pilot Platform
MS	Microsoft		NHRD	New Century Human Resource
MSAR	Macau Special Administrative Region			Development
MSC	Multimedia Super Corridor		NIA	National Information Society Agency
MSN	Microsoft Network		NIBM	National Institute of Business Management
MSUE	Mongolian State University of Education		NICF	National Infocomm Competency
MTNL	Mahanagar Telephone Nigam Ltd			Framework
MTVS	Mobile Television Services		NICI	National Information and Communications
MUST	Mongolian University of Science and			Initiative Committee
	Technology		NICT	National Institute of Information and
MVNO	Mobile virtual network operator			Communications Technology
MyICMS 886	Malaysian Information, Communications		NICTAA	National ICT Alliance of Afghanistan
	and Multimedia Services 886		NICTCA	National ICT Council of Afghanistan
NADRA	National Database and Registration		NiDA	National ITC Development Authority
	Authority		NIE	National innovation ecosystem
NARC	National Administrative Reforms Council		NII	National Information Infrastructure
NASSCOM	National Association of Software and		NIN	National Identity Number
	Services Companies		NIOS	National Institute of Open Schooling
NAST	National Authority for Science and		NIPO	National Intellectual Property Office
	Technology		NIR	Network Information Resources
NBIS	National Basic Information System		NIS	National Innovation Summit
NBN	National Broadband Network		NISC	National Information Security Center
NBTC	National Broadcasting and		NISER	National ICT Security and Emergency
	Telecommunications Commission			Response Centre
NCC	National Computer Center (Philippines)		NISPAA	National ISP Association of Afghanistan
NCER	Northern Corridor Economic Region		NITA	National Information Technology Agenda
NCIT	National Centre for Information		NITC	National Information Technology Council
	Technology		NITP	National Information Technology Park
NCLHCR	National Centre for Linguistic and Cultural		NISTPASS	National Institute for Science and
	Research			Technology Policy and Strategy Studies
NCSKSC	National Committee for the Standardization		NIXI	National Internet Exchange of India
	of Khmer Script in Computers		NLP	Natural Language Processing
NCSTP	National Council for Science and		NMRIA	National Mapping and Resource Information
	Technology Policy			Authority
NDA	Non-Disclosure Agreements		NPTA	National Post and Telecom Authority
NDAP	National Digital Archives Program		NPTEL	National Project on Technology Enhanced
NDCC	National Disaster Coordinating Council			Learning
NDP	National Development Plan		NREN	National Research and Education Network
NeGP	National e-Governance Plan		NSA	Non-State Actors

NSB	National Statistical Bureau
NSCB	National Statistical Coordination Board
NSO	National Statistics Office
NSTDA	National Science and Technology Development Agency
NSW	National Single Window
NT	Nepal Telecom
NTA	Nepal Telecom Authority
NTC	National Telecommunications Commission
NTT	Nippon Telegraph and Telephone
NTU	Nanyang Technological University
NUM	National University of Mongolia
NUOL	National University of Laos
NUS	National University of Singapore
NZ	New Zealand
NZD	New Zealand dollar
O&O	Outsourcing and Offshoring
OAK	Open Access to Knowledge
OCEI	Open Content in Education Initiative
OCR	Optical Character Recognition
ODA	Official Development Assistance
ODF	Open Document Format
ODL	Open and distance learning
ODLAA	Open and Distance Learning Association of Australia
OECD	Organisation for Economic Co-operation and Development
OFDMA	Orthogonal Frequency Division Multiplex Access
OFLC	Office of Film and Literature Classification
OIC	Organisation of the Islamic Conference
OLE-Nepal	Open Learning Exchange-Nepal
OLPC	One Laptop per Child
OpenCARE	Open exchange for Collaborative Activities in Response to Emergency
OPGW	Optical Power Ground Wire
OS	Operating system
OSCC	Open Source Competency Center
OSS	Open Source Software
OSSF	Open Source Software Foundry
OTBIP	Open Technology Business Incubation Program
OUHK	Open University of Hong Kong
P&G	Procter & Gamble
PIII	Pentium 3
P2P	Peer-to-Peer
PAC	Public Access Centre
PACCS	Pakistan Automated Commercial Community System
PaCCS	Pakistan Customs Computerized System
PACINET	Annual Technical Conference, and Annual General Meeting of PICISOC
PacNOG	Pacific Network Operators Group
PAGASA	Philippine Atmospheric, Geophysical, and Astronomical Services Administration
PAIM	Plan of Action on Information and Media
PAN	Pan Asia Networking
PANDI	Pengelola Nama Domain Indonesia (Indonesia Domain Name Registry)
PANdora	PAN Asia Networking Distance and Open Resource Access
PANGTEL	Papua New Guinea Authority Telecommunications
PAP	Public Access Provider
PAQTVET II	Philippine-Australia Quality Technical Vocational Education and Training Project
PASHA	Pakistan All Software Houses Association
PAT 2004	Plan of Action on Telecommunications 2004
PBO	Plan and Budget Organization
PC	Personal computer
PCASTRD	Philippine Council for Advanced Science and Technology R&D
PCC	Proteur-created content
PCT	Portuguese/Chinese Bi-directional Translation System
PCCW	Pacific Century Cyber Works
PDAs	Personal/Portable digital assistants
PDF	Portable Document Format
PDH	Plesiochronous Digital Hierarchy
PECC	Pacific Economic Cooperation Council
PEDC	Philippine Export Development Council
PEZA	Philippine Economic Zone Authority
PFIF	People Finder Interchange Format
PhilNITS	Philippine National Information Technology Standards
PHP	Philippine peso
PHS	Personal Handy-phone System
PIC	Pacific Island countries
PICISOC	Pacific Islands Chapter of the Internet Society
PICWIN	PAGASA Interactive Climate and Weather Information Network
PIFS	Pacific Islands Forum Secretariat
PiL	Partners-in-Learning Initiative
Piltel	Pilipino Telephone Corporation
PISA	Programme for International Student Assessment
PITA	Pacific Islands Telecommunication Association

PKI	Public key infrastructure		RSS	Really Simple Syndication
PLDT	Philippine Long Distance Telephone Company		RTCs	Rural Telecentres
			RTGS	Real-time interbank gross settlement system
PLUG	Philippine Linux Users Group		RTI	Right to Information
PMIS	Personnel Management Information System		RTM	Department of Broadcasting (Malaysia)
PMO	Prime Minister's Office		RTOB	Real Time Online Branches
PMS	Presidential Management Staff		RTTC	Regional Teacher Training Centre
PMTDP	Philippine Medium-Term Development Plan		SAARC	South Asian Association for Regional Cooperation
PNG	Papua New Guinea			
POS	Point of sale		SaaS	Software as a Service
POSS	Philippine Open Source Summit		SAFMA	South Asia Free Media Association
POSX	Pampanga Open Source eXchange		SAFP	Direcção dos Serviços de Administração e Função Pública (Public Administration and Civil Service Bureau)
PPP	Public-private partnerships			
PRs	Permanent Representatives			
PSA	Panos South Asia		SAIC	SAARC Agricultural Information Centre
PSEB	Pakistan Software Export Board		SAP	Satellite Service Provider (Satellite Access Provider in Persian)
PSTN	Public Switched Telephone Network			
PTA	Pakistan Telecommunication Authority		SARS	Severe Acute Respiratory Syndrome
PTCL	Pakistan Telecommunications Company Ltd		SASEC	South Asian Subregional Economic Cooperation
PTI	Portuguese Telecom International			
PTTC	Provincial Teacher Training College		SAVE	SAARC Audio-Visual Exchange
PUST	Pyongyang University of Science and Technology		SBS	Special Broadcasting Services
			SCA	Spam Control Act
QGIS	Quantum Geographic Information System		SCCP	Sub-Committee on Customs Procedures
QUEST	Quality Education and Skills Training Alliance		SCIT	Supreme Council of IT
			SCORE	Sarawak Corridor of Renewable Energy
R&D	Research and development		SCORM	Shareable, Content Object Reference Model
RA	Registration Authority		SCPC	Single Channel Per Carrier
RAB	Rapid Action Battalion		SCZMC	SAARC Coastal Zone Management Centre
RAM	Random Access Memory		SDC	SAARC Documentation Centre
RDTL	República Democrâtica de Timor-Leste, the official name of Timor-Leste		SDH	Synchronous Data Hierarchy
			SDMC	SAARC Disaster Management Centre
READ	Rural Education and Development		SDSL	Symmetric Digital Subscriber Line
RFID	Radio-frequency identification		SEA	Software Exporters Association
RFP	Request for Proposal		SEAMEO	Southeast Asian Ministers of Education Organization
RGoB	Royal Government of Bhutan			
RIC	Rural Internet Centre		SEA–ME–WE	South East Asia–Middle East–Western Europe Cable System
RICE	Regional IT Centers of Excellence			
RICS	Pacific Islands Rural Internet Connectivity System		SEAMOLEC	Southeast Asian Ministers of Education Organization Regional Open Learning Centre
RIS	Regional Innovation Systems			
RISC	Reduced Instruction Set Computer		SEC	SAARC Energy Centre
Ristek	Riset dan Teknologi (Research and Technology)		SEI	Software Engineering Institute
			SEMP	Secondary Education Modernization Project
RLIC	Regional Learning and Innovation Culture			
RMC	SPC Regional Media Centre, Fiji		SEWA	Self-employed Women's Association
RMI	Republic of the Marshall Islands		SG	Secretary-General
R-NGN	Rural NGN		SGD	Singapore dollar
ROI	Return on investment		SGI	Sentral Gerbang Internasional (International Central Gate)
RPC	Revised Penal Code			

SGNIC	Singapore Network Information Centre	SOSA	Singapore Open Source Alliance
SHCI	Secretariat of HCI	SOX	Sarbanes-Oxley
SHRDC	SAARC Human Resource Development Centre	SPC	Secretariat of the Pacific Community
		SPIDER	Swedish Program for ICT in Developing Regions
SIC	SAARC Information Centre		
SIDA	Swedish International Development Cooperation Agency	SPIN	South Pacific Islands Network
		SPNL	Spice Nepal Private Limited
SIGS	Security in the Government Sector	SPREP	Secretariat of the Pacific Regional Environment Programme
SIJs	Silver Infocomm Junctions		
SIM	Subscriber Identity Module	SPT	Saigon Postel Telecommunication Company, Vietnam
SIN	Single Identity Number		
SINGAP-TL	Sistema Integrado para a Nova Gestão da Administração Pública de Timor-Leste or Integrated System for a New Management of East Timor's Public Administration	SQL	Structured Query Language
		SSME	Service Science, Management, and Engineering
		SSO	Shared Services and Outsourcing
SingPass	Singapore Personal Access	STAG	Science and Technology Advisory Group
SingStat	Statistics Singapore	STC	SAARC Tuberculosis Centre
SingTel	Singapore Telecommunications Limited	STI	Skill, Technology and Innovation
SIPA	Software Industry Promotion Agency	STL	Suara Timor Lorosae or the Voice of Timor-Leste
SIT	School of Information Technology		
SiTF	Singapore Infocomm Technology Federation	STM	synchronous transport module
SIRC	SMIE Infocomm Resource Centre	S/W	Software
SJI	Silver Infocomm Junction	SWCS	Software Design and Development Certification Standards
SKS	Sustainable Knowledge Systems		
SLASI	Sri Lanka Association for the Software Industry	TAE	Trans Asia Europe
		TAFE	Technical and Further Education
SLCERT	Sri Lanka Computer Emergency Response Team	TAKFA	Development of Information Technology Applications
SLCVA	Sri Lanka Computer Vendors Association	TAM	Telecommunications Authority of Maldives
SLI	Sambungan Langsung Internasional (International Direct-Calls)	TASMA	Production and Management of Electronic Content
SLICTA	Sri Lanka ICT Association	TAVANIR	Iran Power Generation, Transmission, and Distribution Company
SLT	Sri Lanka Telecom		
SMCS	School of Mathematics and Computer Science	TCF	Telecommunications Carriers' Forum
		TCI	Telecommunications Company of Iran
SME	Small and medium/medium-sized enterprises	TCO	Total Cost of Ownership
		TCPI	Telecommunications Consumer Protection Institute
SMEDA	Small and Medium Enterprise Development Authority	TDCA	Telecom Development Company of Afghanistan
SMP	Significant Market Power		
SMRC	SAARC Meterological Research Centre	TDF	Telecom Development Fund
SMS	Short Message Service	TDM	Teledifusão de Macau S.A. (Macao TV Broadcasting Co.)
SNPL	Spice Nepal		
SNS	Social Networking Service	TDSCDMA	Time Division-synchronous Code Division Multiple Access
SoC	System on Chip		
SOE	Standard ICT Operating Environment	TELMIN	Telecommunications and IT Ministers Meeting
SOM	Senior Officials' Meeting	TELSOM	Telecommunications and IT Senior Officials Meeting
SONA	State of the Nation Address		
SOPAC	Secretariat of the Pacific Islands Applied Geoscience Commission	TESDA	Technical Education and Skills Development Authority

TFMEC	Task Force on the Measurement of Electronic Commerce
ThaiCERT	Thai Computer Emergency Response Team
THDL	Tibetan and Himalayan Digital Library
TIAC	Technology and Industry Advisory Council
TIFA	Trade and Investment Framework Agreement
TIG	Trade Information Gateway
TIGO	The Lao Millicom Company
TIP	Technology Innovation Programme
TITS	Telecommunication and Information Technology School
TOT	Telephone Organization of Thailand, now incorporated as TOT Corporation Limited
TPD	Teacher professional development
TPK	Te Puni Kokiri (Ministry of Maori Development)
Trade SWAp	Cambodia's Trade Sector Wide Approach Policy
TRC	Telecom Regulatory Commission
TRCL	Telemedicine Reference Centre Limited
TRIDI	Telecommunications Research and Industrial Development Institute
TSTIP	Tehran Software and IT Park
TTP	Technology Transfer Program
TUANZ	Telecommunications Users Association of New Zealand
TV	Television
TVRO	Television Receive Only
TVTL	Televizaun de Timor-Leste or Television of Timor-Leste
TWB	Transactional Web Presence
TWEA	Trading with the Enemy Act
TWWW	Te Waka Wahine Wa-Hangarau — Society for Professional Maori Women in Information Technology
UBD	Universiti Brunei Darussalam
UCC	User-created content
UCSC	University of Colombo School of Computing
UGC	University Grants Commission
UK	United Kingdom
UMAC	University of Macau
UN	United Nations
UN-ASPA	United Nations-American Society for Public Administration
UNATIL	Universidade Nacional de Timor-Leste or Timor-Leste National University

UNCITRAL	United Nations Commission on International Trade Law
UNCTAD	United Nations Conference on Trade, and Development
UNDP	United Nations Development Programme
UN ESCAP	United Nations Economic and Social Commission for the Asia and the Pacific
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNMIT	United Nations Integrated Mission in Timor-Leste
UnPLUG	University of the Philippines Linux Users' Group
UNSW@ADFA	University of New South Wales Australian Defense Force Academy
UNTAC	United Nations Transitional Authority in Cambodia
UNTAET	United Nations Transitional Administration
UNU-IIST	United Nations University — International Institute for Software Development
UoM	University of Moratuwa
UoP	University of Peradeniya
UPITTC	University of the Philippines Information Technology Training Center
UPOU	University of the Philippines Open University
URL	Uniform Resource Locator
US	United Sates
USAID	United States Agency for International Development
USB	Universal Serial Bus
USD	United States dollar
USF	Universal Service Fund Guarantee Ltd
USN	Ubiquitous sensor network
USO	universal service obligation
USOF	Universal Service Obligation Fund
USP	University of the South Pacific
USPNet	USP Wide Area Network
UT	Universitas Terbuka (Indonesia Open University)
UTL	United Telecom Limited
VAIP	Vietnam Association of Information Processing
VAS	Value added services

VAT	Value added tax	WCPFC	Western and Central Pacific Fisheries
VCCI	Vietnam Chamber of Commerce and Industry		Commission
VCD	Video compact disc	WDM	Wave Division Multiplexing
VCN	Village Communication Network	WEF	World Economic Forum
VDC	Village Development Committee	WFB	World Fact Book (a CIA publication)
VECOM	Vietnam e-Commerce Association	WGIG	Working Group on Internet Governance
VHF	Very high frequency	WHO	World Health Organization
VHS	Video Home System	WiBro	Wireless Broadband
VINASA	Vietnam Software Association	WiFi	Wireless Fidelity
VNNIC	Vietnam Internet Network Information	WiMAX	Worldwide Interoperability for Microwave
	Center		Access
VNPT	Vietnam Post and Telematics	WIPO	World Intellectual Property Organization
VoIP	Voice over Internet Protocol	WISEPORT	Wireless-broadband-access for SEaPORT
VPN	Virtual Private Network	WITSA	World Information Technology and Services
VSAT	Very small aperture terminal		Alliance
VSNL	Varat Sanchar Nigam Limited	WLAN	Wireless Local Area Network
VU	Virtual University of Pakistan	WLL	Wireless Local Loop
W3C (W3)	World Wide Web Consortium	WMP	Workforce Mobilization Program
WA	Western Australia	WSIS	World Summit on the Information Society
WAB	Wireless Broadband Access	WTO	World Trade Organization
WAN	Wide Area Network	WWF	World Wildlife Fund
WAP	Wireless Application Protocol	XMG	eXtensible MetaGrammar
WAS	Web Archive Singapore	XML	Extensive Markup Language
WASN	Wireless ad hoc Sensor Network Lab	YD07	YouDecide2007.org
WB	World Bank	YUST	Yanbian University of Science and
W-CDMA	Wideband Code Division Multiple Access		Technology