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Indonesian Youth Online

An Exploratory Study of the Indonesian Digital Landscape

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ABSTRACT

This exploratory paper is part of a series examining the role of the Internet in the lives of adolescents and youth living in developing nations. This report focuses on Indonesia and bases itself on secondary evidence gathered through a desk review of relevant literature. The report first presents the general context of Indonesia and the specific context of its digital landscape. Information and Communication Technologies (ICT) development of Indonesia has flourished in mobile access and use (Internet, texting), while lagging in computer and stationary Internet ownership and use. The ICT landscape in Indonesia provides a range of technological platforms to a population that exchanges overwhelmingly on western-based websites. The next section investigates the use of ICTs by Indonesian adolescents and youth. Research identified a number of characteristics unique to the Indonesian digital landscape, including persistent digital divides based on socio-economics, geography, and gender, as well as in ICT ownership, access, and use. Urban dwellers and males lead in Internet access, use, and social networking. However, as a whole, the nation leads in the world with the second highest amount of users on Facebook and third highest on Twitter. These staggering statistics point to the high engagement of adolescents and youth in content creation and consumption. There is also a need for awareness of the risks with high access and use. The report next discusses the types of safety risks faced online. Research shows that adolescents and youth face risks such as child pornography, talking to and meeting strangers, trafficking, software piracy, exposure to extremist content, and cyber-bullying. The final section discusses public and private initiatives to increase opportunities for Indonesian citizens to optimally and safely access and use ICTs.

SUMMARY OF FINDINGS

- Indonesia lags in stationary internet and computer ownership but leads as one of the highest users of mobile technology and social networking
- There is a pronounced digital divide in Indonesia with regard to ICT access and use, with urban dwellers, males, adolescents, and youth leading
- Indonesian Internet is dominated by western platforms such as Facebook, Twitter, and Google
- Indonesian adolescents and youth favour mobile over stationary Internet and access the Internet at Internet cafes
- The primary risks faced by Indonesian adolescents and youth online are child pornography, talking to and meeting strangers, trafficking, software piracy, and exposure to extremist content
- The Indonesian government and private sector are actively involved in promoting ICT development and monitoring online safety. However, there is concern that existing legislation may be too broad, potentially giving rise to either insufficient protection or insufficient respect of individual rights

THE DIGITAL CITIZENSHIP AND SAFETY PROJECT & THE SOCIAL AND CIVIC MEDIA SECTION AT UNICEF

This exploratory study is part of a series produced by the Social and Civic Media Section at UNICEF New York through its Digital Citizenship and Safety project. The Digital Citizenship and Safety project aims to get a better understanding of the digital landscape in a range of different countries, mainly those with a developing or emerging economy. The project starts with a data collection phase, during which exploratory, quantitative and qualitative studies are conducted to then produce evidence-based communication materials to raise awareness on the optimal and safe use of the ICTs. The concept of Digital Citizenship is then advocated at the local government level through advocacy workshops, seminars and conferences on how to maximize ICTs' opportunities while minimizing risks.

The Digital Citizenship and Safety project aligns itself within the scope of work conducted by the Social and Civic Media Section at UNICEF, whose mission is to work with new technologies including social networking tools, SMS and digital mapping to empower children and young people to play an active role in society.

The Convention on the Rights of the Child (CRC, 1989) guarantees the right to express views and to be heard (Art.12), freedom of expression, including the freedom to seek, receive and impart information (Art.13), the freedom of association and peaceful assembly, and the right to information, (Art.17) amongst others. Although drafted before the Internet became ubiquitous, the CRC is highly pertinent when it comes to adolescents and youth accessing, posting and sharing content online. With the rapid development of ICTs in the last decade, these rights are analysed and clearly applied to the digital age under this project.

The key Results of the project are twofold: a) Adolescents and young people are educated about their rights, ICTs' opportunities, and protected from ICTs' risks through the concept of Digital Citizenship using diverse communication channels and/or inclusion in school curricula. b) Through advocacy work, policy makers are provided with evidence-based policy recommendations to maximize ICTs' opportunities and minimize ICTs' risks.

INTRODUCTION

a. Background

With the second-largest population on Facebook and third-largest on Twitter, Indonesians have clearly made a place for themselves in the digital world. The extent of Facebook's popularity in Indonesia is made more significant considering its penetration rate of 136 per cent out of its online population.¹ Despite Indonesia's impressive web presence, rates of Internet connectivity, computer usage and ownership in the country are lower than regional averages. Instead, Indonesians find other ways to connect with each other online using cheaper alternatives such as internet cafés (*warung internet* or *warnet*) and mobile internet.

The impact of ICTs is not solely limited to day-to-day activities. The Internet and mobile technologies have also been used as lifesaving tools in remote areas. Indeed, as part of a response to the devastating 2004 earthquake and tsunami, the Midwives Mobile-Phone project was launched in the Aceh region of Indonesia in 2005.² With the highest infant mortality rate in Southeast Asia, Indonesia and the Aceh region in particular, sustained untold damage to human life and infrastructure as the epicentre of the disaster. While midwives alone provided 90 per cent of maternal and new-born care,³ the death of 1,650 midwives⁴ in Aceh was catastrophic to the 15,000 pregnant women who were displaced by the devastation.⁵

The project provided 123 midwives with mobile phones which were pre-loaded with call credits and a short message service (SMS)-based application which allowed them to upload patient health information to a central database maintained by the United Nations Children's Fund (UNICEF) and the United Nations Population Fund (UNFPA), and project administrators at World Vision over the Internet.⁶ A subsequent study of the project found that the midwives were able to serve more clients, had increased income, had better relationships with members of the community, and had an increased knowledge base.⁷

Not only does the Midwives Mobile-Phone project highlight the life-saving potential of ICTs but it also demonstrates the applicability and importance of the United Nations Convention on the Rights of the

¹ Social Bakers, 'Indonesia Facebook Statistics', <<http://www.socialbakers.com/facebook-statistics/indonesia/last-3-months>>, (Accessed 19 November 2011).

² Chib, Arul. "Midwives and mobiles: using ICTs to improve healthcare in Aceh Besar, Indonesia." *Asian Journal of Communication* 18, no. 4 (2008). <<http://www.tandfonline.com/doi/pdf/10.1080/01292980802344182>> (Accessed 22 December 2011)

³ Ibid.

⁴ Ibid.

⁵ United Nations Treaty Collection, 'Tsunami Survivors Give Birth Without Basic Necessities', <<http://www.un.org/News/Press/docs/2005/iha999.doc>>.htm (Accessed 22 December 2011)

⁶ Chib, Arul, Op.Cit.

⁷ Ibid.

Child (UNCRC 1989), which, ratified by Indonesia in 1990,⁸ ensures that all children have “access to information and material from a diversity of national and international sources, especially those aimed at the promotion of [...] physical and mental health” (Art.17).⁹

ICTs also have far reaching implications for national civic participation. In 2005, the Special Staff Office of President Susilo Bambang Yudhoyono, opened a direct mail and SMS line that the community at large used to make their views directly known to the President’s staff. By May 2011, over three million text messages had reportedly been received.¹⁰ The President has stated that he uses this facility as “a thermometer to take the temperature and pulse of life in the community”, noting the open and frank tone of the messages.¹¹ The community, in turn, has used the opportunity to raise concerns about the late delivery of civil service pension payments,¹² selection of official holiday dates,¹³ a collapsed bridge,¹⁴ or to express general well-wishes on the President’s birthday, for example.¹⁵

While the minimum voting age in Indonesia is 17,¹⁶ this SMS project provides children the unique opportunity to openly participate in national dialogue and civic society. Projects like these are examples of successful implementations of Articles 13¹⁷ and 15¹⁸ of the UNCRC which ensure children’s rights to

⁸ United Nations Treaty Collection, Chapter IV Human Rights, 11. Convention of the Rights of the Child, ‘Status as at: 03-01-2012 02:26:07 EDT’, <http://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtmsg_no=IV-11&chapter=4&lang=en>, (Accessed 22 December 2011).

⁹ United Nations Convention on the Rights of the Child, 1989 <<http://www2.ohchr.org/english/law/crc.htm>> (Accessed 22 December 2011)

¹⁰ Situs Web Resmi Presiden Republik Indonesia - Dr. H. Susilo Bambang Yudhoyono, ‘SBY: Aduan Masyarakat Jadi Termometer untuk Mengukur Suhu Kehidupan’, Berita Utama, 23 May 2011, <<http://www.presidentri.go.id/index.php/fokus/2011/05/23/6833.html>>, (accessed 22 December 2011)

¹¹ Ibid.

¹² Pasandaran, Camelia, ‘Speedy Pension Payments a Priority, SBY Says’, The Jakarta Globe, 24 May 2011, <<http://www.thejakartaglobe.com/home/speedy-pension-payments-a-priority-sby-says/442757>>, (accessed 22 December 2011).

¹³ Aco, Hasanudin, ‘SBY Ngaku Dimarahi Rakyat Lewat SMS Soal Penetapan 1 Syawal’, Tribun News, 6 September 2011, <<http://www.tribunnews.com/2011/09/06/sby-ngaku-dimarahi-rakyat-lewat-sms-soal-penetapan-1-syawal>>, (accessed 22 December 2011).

¹⁴ Aco, Hasanudin, ‘SBY Kecewa, Laporan Awal Justru dari SMS Bukan Menteri’, Tribun News, 2 December 2011, <<http://id.berita.yahoo.com/sby-kecewa-laporan-awal-justru-dari-sms-bukan-040500956.html>>, (accessed 22 December 2011).

¹⁵ Hertanto, Luhur, ‘SBY Banyak Terima Ucapan Selamat Ulah Via SMS dan Twitter’, detik News, 9 September 2011, <<http://us.detiknews.com/read/2011/09/09/083329/1718700/10/sby-banyak-terima-ucapan-selamat-ulah-via-sms-dan-twitter>>, (accessed 22 December 2011).

¹⁶ Komisi Pemilihan Umum, Peraturan Komisi Pemilihan Umum Nomor 12 Tahun 2010. <http://www.kpu.go.id/dmdocuments/12_2010_REVISI67.pdf>, (accessed 22 December 2011);

Exceptions are made for married individuals under the age of 17

¹⁷ 1. The child shall have the right to freedom of expression; this right shall include freedom to seek, receive and impart information and ideas of all kinds, regardless of frontiers, either orally, in writing or in print, in the form of art, or through any other media of the child's choice. 2. The exercise of this right may be subject to certain restrictions, but these shall only be such as are provided by law and are necessary: (a) For respect of the rights or reputations of others; or (b) For the protection of national security or of public order (ordre public), or of public health or morals.

¹⁸ 1. States Parties recognize the rights of the child to freedom of association and to freedom of peaceful assembly. 2. No restrictions may be placed on the exercise of these rights other than those imposed in conformity with the law and which are necessary in a democratic society in the interests of national security or public safety, public order (ordre public), the protection of public health or morals or the protection of the rights and freedoms of others.

“freedom of expression” including the “freedom to seek, receive and impart information and ideas of all kinds” and children’s “freedom of association and to freedom of peaceful assembly” respectively.

b. Objective

This exploratory study is the first output of an on-going research effort to better understand the digital landscape, including access, use, rights and the types of safety risks faced by Indonesian youth.

c. Methodology

Research process

As part of a larger research effort led by the Ministry of Information and Communication of Indonesia, UNICEF conducted a thorough desk review of the use of and access to ICTs, digital behaviour and types of risks faced by Indonesian youth online as well as the relevance of the UNCRC in the context of ICTs.

As an on-going process during the research, the methodologies of studies were checked for their reliability, as were the background and experience of the sources’ institutions. The reliability of the studies was measured using the sampling frame, the questionnaire and the experience of the institutions in conducting research in the focused area.

The literature search was undertaken on the Internet in both Bahasa Indonesia and English. Mainly western search engines including Google.com, Google.co.id, and id.Yahoo.com were utilized. The use of local language and search tools were important in the research process, to ensure that local sources were identified.

Sources utilized

Only sources identified as stemming from reputable organizations and reliable methodologies were utilized. Household surveys conducted by the Badan Pusat Statistik (BPS-Statistics Indonesia), were used in gathering national population and demographic data. Other primary research sources used in this report include studies from the United Nations, the Asian Development Bank (ADB), International Telecommunication Union (ITU), End Child Prostitution, Child Pornography and Trafficking of Children for Sexual Purposes (ECPAT), Freedom House, and Boston Consulting Group (BCG).

Valuing local sources and expertise

A detailed process was carried out in weighing all international and national sources to gather objective data, in the order of United Nations, international institutions, government, universities, non-governmental organizations (NGOs), and private actors.

In order to validate the study's findings and gather local perspective, local experts were consulted at the Ministry of Communication and Information, AC Nielsen, and the National Coalition for ECPAT.

A researcher translated Bahasa Indonesia literature into English and in partnership with three other researchers consulted with Indonesian experts about the validity of results and reliability of sources, where necessary. Bahasa Indonesia language literature came from sources such as government and educational institutions, local NGOs, and private companies.

In 2012, the findings of this exploratory study will feed into the Ministry of Information and Communication's research efforts, which include a desk review and focus group studies.

Assessing the reliability of sources

To assess the reliability of secondary sources, a source valuation matrix was created, which weighted the sources by type, date, and the expert who wrote a given study. In this process, data were carefully checked against all available sources. This mitigated the risk of valuing any invalid facts or formulating false hypotheses.

Twelve studies that contained information relevant to the objective were found. These studies were grouped and analysed based on the content of their results.

CONTEXT

a. Overview of Indonesia

With a population of over 230 million, Indonesia is the world's fourth-most populous nation.¹⁹ The population is largely concentrated on the islands of Java (58 per cent of the population) and Sumatra (21 per cent).²⁰ Youth, ages 10 to 24, make up 26.7 per cent of the population.²¹ While Bahasa Indonesia is

¹⁹ United Nations Department of Economic and Social Affairs, Population Division, World Population Prospects, the 2010 Revision <http://esa.un.org/unpd/wpp/Sorting-Tables/tab-sorting_population.htm>

²⁰ Statistics Indonesia. 2010. Trends of Selected Socio-Economic Indicators of Indonesia: November 2010. <http://www.bps.go.id/booklet/booklet_nov2010.pdf>

the national language used in education, government, business and the media, the archipelago is marked with great diversity, encompassing some 500 ethnic groups speaking over 700 different languages,²² across 34 provinces and over 17,000 islands.²³

Since suffering the brunt of the 1997 Asian financial crisis, Indonesia's economy is weathering the current downturn and is one of the best performing in the region with a growth rate of around 6 per cent.²⁴ Per capita income in Indonesia rose from US\$ 1,922 in 2007 to US\$ 3,005.9 in 2010.²⁵ Official rates show a decline in poverty²⁶ and unemployment,²⁷ as well as a burgeoning middle class with strengthening domestic consumption.²⁸ Approximately 13 per cent of Indonesians still lived below the official poverty line in 2010.²⁹ However, some independent economists estimate that close to half the population live on less than US\$ 2 a day,³⁰ and the size of this vulnerable population actually doubled between 1999 and 2010.³¹

The financial crisis of the late 1990s also ended Suharto's³² long-standing regime. Since then, Indonesia's transition has been heralded as a success, having undergone three largely peaceful democratic elections and a significant curtailing of the military's political role. The executive branch of the government is the president, who since 2009, is elected by direct popular vote.

Education in Indonesia is compulsory for children up to the age of 15.³³ Primary education is close to universal with around 95 per cent enrolment. However, enrolment at secondary (65 per cent) and

²¹ Badan Pusat Statistik, Sensus Penduduk 2010, 'Penduduk Menurut Kelompok Umur, Daerah Perkotaan/Perdesaan, dan Jenis Kelamin', <<http://sp2010.bps.go.id/index.php/site/tabel?tid=263&wid=0>>, (Accessed 28 December 2011).

²² Hassan, Ridman, Indonesia: a Story of Recovery, 5 September 2007, <<http://www.embassyofindonesia.org/press/docpdf/speech/StoryofRecovery.pdf>>, (Accessed 22 December 2011).

²³ Statistics Indonesia. 2010. Trends of Selected Socio-Economic Indicators of Indonesia: November 2010. <http://www.bps.go.id/booklet/booklet_nov2010.pdf>, (Accessed 22 December 2011).

²⁴ International Monetary Fund. 2011. IMF Country Report No. 11/309. <<http://www.imf.org/external/pubs/ft/scr/2011/cr11309.pdf>> (Accessed 22 December 2011)

²⁵ Badan Pusat Statistik, 'Data Strategis BPS', 2011, ISSN 2087-2011, Katalog BPS 1103003, <http://www.bps.go.id/65tahun/data_strategis_2011.pdf>, (Accessed 28 December 2011).

²⁶ Statistics Indonesia. 2010. Trends of Selected Socio-Economic Indicators of Indonesia: November 2010. Op.cit. From 19.14 percent in 2000, to 15.42 in 2008 and 13.3 percent in 2010.

²⁷ Ibid. From 8.39 percent in 2008 to 7.41 in 2010.

²⁸ Ibid.

²⁹ Ibid.

³⁰ Forward, Karina, 2010. 'Indonesia Update 2010 Employment, living standards and poverty in contemporary Indonesia', Bulletin of Indonesian Economic Studies, Vol. 46, Issue 3, 2010

³¹ Suryahadi, A. et.al. "Accelerating Poverty and Vulnerability Reduction: Trends, Opportunities, and Constraints", Indonesia Update. <http://www.crawford.anu.edu.au/acde/ip/update/2010/ppoint_podcast.php>, Canberra: Australian National University, 2010

³² Suharto was the second President of Indonesia, in office from 1968-1998. 'Biografi Soeharto', Kepustakaan Presiden-Presiden Republik Indonesia. <http://kepuustakaan-presiden.pnri.go.id/biography/?box=detail&presiden=suharto&presiden_id=2>

³³ Equivalent to Grade 9 in Indonesia, <http://www.kemdiknas.go.id/kemdiknas/Sekolah_Dasar>, (Accessed 15 December 2011).

tertiary (22 per cent gross enrolment rate) levels is considerably lower.³⁴ Enrolment by gender is largely equitable.³⁵ However, there is a strong disparity of access to higher levels of education by income and between urban and rural areas.³⁶

ICTs offer Indonesia's young and diverse, politically and economically dynamic, and increasingly transparent population the opportunity to connect and engage.

b. Technological Context

Low access and ownership in the ICT sector

Indonesia is similar to other Southeast Asian countries where most technological development is taking place in mobile ownership and usage. However, the country continues to experience a significant lag in both ICT infrastructure and ownership in computers and stationary Internet. According to a 2010 BCG study of two thousand 14- to 50-year-olds conducted in ten cities, only 5 per cent of Indonesians owned a PC in 2009, with forecasted ownership of 38 per cent by 2015.³⁷

In 2010, an ITU study using nationally representative data found that Indonesia ranked 107 out of 159 countries, using the ICT Development Index (IDI), a composite index made up of 11 indicators covering ICT access, use and skills. One of the indicators, computer-density, describes the ratio between the number of computers and the number of people. For Southeast Asia, the average is about 5.97 computers per 100 people, while in Indonesia it is only two computers per 100 people. Another indicator is that of computer usage penetration, which measures access rather than ownership, with Indonesia ranking seventh among ten ASEAN (Association of Southeast Asian Nations) countries.³⁸ Statistics from ITU showed that less than 1 per cent of Indonesians had fixed Internet access in 2008.³⁹

³⁴ UNESCO Institute for Statistics, 'Education (all levels) profile – Indonesia', UIS STATISTICS IN BRIEF, <http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=121&IF_Language=eng&BR_Country=3600&BR_Region=40515>

³⁵ Ibid.

³⁶ Granado, et.al. 2007.

<http://www.wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2007/08/27/000158349_20070827133204/Rend ered/PDF/wps4329.pdf>, (accessed 22 December 2011). A child from a family in the poorest quintile is 20 per cent less likely to enroll in secondary school than children from non-poor families. Senior secondary enrolment for the richest quintile is six and a half times that of children in the poorest quintile.

³⁷ Boston Consulting Group, 'The Internet's New Billion', September 2010, <<http://www.bcg.com/documents/file58645.pdf>>, (Accessed 10 August 2011).

³⁸ Arif Wismadi, David N. Townsend, International Telecommunication Union and Asian Development Bank, 'Rural ICT Policy Advocacy, Knowledge Sharing, and Capacity Building: Country Case Study- Indonesia', 2010, <http://www.itu.int/ITU-D/asp/CMS/Events/2011/ITU-ADB/Indonesia/ITU-ADB_Interim_Indonesia_Country_Report.pdf>, (Accessed 1 September 2011).

³⁹ International Telecommunication Union (ITU), 'Internet Users', 2010, <<http://www.itu.int/ITU-D/ict/statistics/material/excel/2010/InternetUsersPercentage00-10.xls>> (accessed 10 November 2011).

Another study sheds light on the level of ICT access among Indonesian adolescents in particular. A 2009 school survey by the Organization for Economic Cooperation and Development (OECD)⁴⁰ found that less than one-fifth of 15-year old Indonesian students reported they had a computer at home that they could use for school work and only eight per cent had Internet access at home. This nationally representative survey was conducted in schools.⁴¹ Considering 35 per cent of youth in this age group are out-of-school,⁴² ICT access is likely to be lower overall among Indonesian adolescents.

Mobile telephones replacing fixed telephone lines

Indonesian ICT development has been slow in terms of fixed line telephony due to the high infrastructure costs needed to penetrate rural islands. However, Indonesia's rapidly growing mobile telephony sector contributes to Southeast Asia's standing as one of the largest mobile consumers in the world.⁴³ The 2010 national census, conducted by BPS found that household ownership of fixed line telephone is 0.75 per cent, while household ownership of mobile telephones is 65.41 per cent.⁴⁴ Only 7.22 per cent of households own both fixed line and mobile telephones, while 26.62 per cent own neither.⁴⁵ ITU confirms this trend of high use of mobiles and low of fixed telephone lines, finding that in 2010, fixed telephone line penetration was only 15.83 per cent,⁴⁶ while mobile cellular subscription penetration was 91.72 per cent.⁴⁷ While the compound annual growth rate for fixed telephone lines was 11 per cent, it was 34 per cent for the mobile sector, demonstrating its increasing popularity.⁴⁸

⁴⁰ From an accompanying survey to an 2009 achievement study conducted by the Organization for Economic Cooperation and Development (OECD) Programme for International Student Assessment. Data extracted by authors from OECD PISA 2009 dataset, <<http://pisa2009.acer.edu.au/interactive.php>>, (Accessed 22 December 2011).

⁴¹ Ibid.

⁴² UNESCO Institute for Statistics, "Education (all levels) profile - Indonesia", UIS STATISTICS IN BRIEF, http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=121&IF_Language=eng&BR_Country=3600&BR_Region=40515, (Accessed 22 December 2011).

⁴³ International Telecommunication Union (ITU).

According to ITU 2010 Fixed telephone penetration: Indonesia 15.83 per cent, Malaysia 16.10 per cent, Viet Nam 18.67 per cent, Philippines 7.67 per cent.

According to ITU 2010 Mobile subscriber penetration: Indonesia 91.72 per cent, Malaysia 121.32 per cent, Viet Nam 175.30 per cent, Thailand 100.81 per cent.

⁴⁴ BPS, Sensus Penduduk 2010, 'Jumlah Rumah Tangga C1 dan C2 Apartement Menurut Wilayah dan Jenis Telepon yang Dikuasai', <<http://sp2010.bps.go.id/index.php/site/tabel?tid=307&wid=0>>, (Accessed 28 December 2011).

⁴⁵ Ibid.

⁴⁶ International Telecommunication Union (ITU), 'Fixed telephone lines', 2010, <<http://www.itu.int/ITU-D/ict/statistics/material/excel/2010/FixedTelephoneLines00-10.xls>> (Accessed 15 November 2011).

⁴⁷ International Telecommunication Union (ITU), 'Mobile cellular subscriptions', 2010, <<http://www.itu.int/ITU-D/ict/statistics/material/excel/2010/MobileCellularSubscriptions00-10.xls>>, (Accessed 15 November 2011).

⁴⁸ Badan Regulasi Telekomunikasi Indonesia (Indonesian Telecommunications Regulatory Body), 'Telecom Regulatory and Policy Environment in Indonesia', 2008, <http://www.lirneasia.net/wpcontent/uploads/2009/07/TRE_Indonesia_2009Mar18.pdf>, (Accessed 15 November 2011).

In 2009, 98 per cent of mobile users used a pre-paid system.⁴⁹ Pre-paid services have been one of the main factors leading to the expansion of the mobile sector in Indonesia.⁵⁰ These services have been immensely popular since they allow users more control over their mobile expenditure and are more affordable with less infrastructure required.⁵¹

Fixed telephone lines are monopolized by the state owned enterprise PT. Telkom, and the recently privatized PT. Bakrie Telecom.⁵² However, there are over seventeen mobile providers available to users.⁵³ The three dominant mobile phone companies are Telkomsel, the mobile extension of PT Telkom, with approximately 50 per cent market share.⁵⁴ Indosat and Excelcomindo are the second and third biggest with 23 per cent and 17 per cent market share respectively.⁵⁵

The most popular smart phone brand in 2011 was Nokia, followed by Blackberry and Samsung.⁵⁶ While no data was found for Nokia and Samsung, there were an estimated 3 million Blackberry owners in Indonesia in 2011.⁵⁷

Adoption of more recent mobile technological developments is occurring at a lower rate than in other countries in the region. 3G technology, introduced in Indonesia in 2006, has grown to 8.2 per cent among mobile phone users. This is low when compared to Japan, Taiwan, and South Korea where it is 80 per cent, 28.5 per cent, and 14 per cent respectively.⁵⁸

Digital Divide

Digital divide, a gap in opportunities to access and use ICTs between individuals and households, exists in various forms in Indonesia.

Gender participation gap

⁴⁹ Ibid.

⁵⁰ International Telecommunication Union (ITU), 'ICT and Telecommunications in Least Developed Countries', 2006, <http://www.itu.int/ITU-D/ldc/pdf/ictand_telinldc-e.pdf> (Accessed 26 December 2011).

⁵¹ International Telecommunication Union (ITU), 'ICT and Telecommunications in Least Developed Countries', 2006, <http://www.itu.int/ITU-D/ldc/pdf/ictand_telinldc-e.pdf> (Accessed 26 December 2011).

⁵² Rasyid, Asmiati, 'Indonesia: Liberalization at the Crossroad Impact on Sector Performance, Teledensity and Productivity', Munich University Library: The Munich Personal RePEc Archive (MPRA), <http://mpra.ub.uni-muenchen.de/2452/1/MPRA_paper_2452.pdf>, (Accessed 19 August 2011).

⁵³ (with the highest market share by state owned companies).

⁵⁴ Ibid.

⁵⁵ Ibid.

⁵⁶ <<http://www.thejakartapost.com/news/2011/11/16/indonesian-netizens-spend-less-time-online-nielsen.html>>

⁵⁷ Safitri, Dewi, "Why is Indonesia so in love with the Blackberry?", <<http://news.bbc.co.uk/2/hi/programmes/direct/indonesia/9508138.stm>>

⁵⁸ International Journal of Science and Management, 'A New Conceptual Model of Mobile Multimedia Services (MMS) and 3G Network Adoption in Indonesia', <http://www.srlst.com/ijst/special%20issue/ijism-special-issue2010_files/Special-Issue201049.pdf> (accessed 8 October 2011).

According to a Nielsen study, 23 per cent of males surveyed had used the Internet in the last month compared to 16 per cent of females.⁵⁹ A gap can also be found in the use of social networking sites with males making up 60 per cent of Indonesian Facebook users.⁶⁰ Although limited evidence has been found, there is an indication that males enjoy higher access and use of ICTs than females.

Telephone and computer access dominant in cities

A 2010 study by the Asian Development Bank and the ITU found that telecommunication penetration in urban areas was 125 times higher than in rural areas.⁶¹ Tele-density, a measurement of fixed line telephone ownership per 100 inhabitants, had reached 35 per cent in most urban areas such as Jakarta, Bogor, and others, while it was around 0.25% in rural areas.⁶² According to the 2010 census, fixed line telephone ownership among urban households is 4.63 times higher than among rural households.⁶³ Just under 70 per cent of household fixed line telephone ownership was among households in Java.⁶⁵

A similar divide exists within computer ownership. According to data from BPS, as of 2007, household distribution of computer ownership was disproportionately concentrated in urban areas. Nationally, household computer ownership was 5 per cent, of which 84.5 per cent was in urban areas. Approximately 68 per cent of total ownership came from Java alone.⁶⁶

Like in most developing countries, in Indonesia, mobile telephony has been a fundamental factor in reducing the gap between urban and rural areas, as it provides access to areas underserved by main telephone lines and ICT infrastructure. Accordingly, ICT studies have pointed to the fact that in the majority of the least developed countries (Indonesia included in this study), mobiles with prepaid

⁵⁹ The Nielsen Company, *The Digital Media Habits and Attitudes of Southeast Asian Consumers*, October 2011, <<http://www.nielsen.com/content/dam/corporate/us/en/reports-downloads/2011-Reports/South-East-Asia-Digital-Consumer.pdf>>, (accessed 22 December 2011).

⁶⁰ Ibid.

⁶¹ Wismadi, Arif, and Townsend, David N. 'Rural ICT Policy Advocacy, Knowledge Sharing, and Capacity Building: Country Case Study- Indonesia', International Telecommunication Union and Asian Development Bank, 2010, <http://www.itu.int/ITU-D/asp/CMS/Events/2011/ITU-ADB/Indonesia/ITU-ADB_Interrim_Indonesia_Country_Report.pdf> (Accessed 1 September 2011).

⁶² Ibid.

⁶³ Fixed-line telephone ownership is 1.25 per cent among urban households, and 0.27 per cent among rural households.

⁶⁴ BPS, *Sensus Penduduk 2010, 'Jumlah Rumah Tangga C1 dan C2 Apartement Menurut Wilayah dan Jenis Telepon yang Dikuasai'*, <<http://sp2010.bps.go.id/index.php/site/tabel?tid=307&wid=0>>, (Accessed 28 December 2011).

⁶⁵ Ibid, authors' calculation based on household fixed line telephone ownership in the provinces of DKI Jakarta, West Java, Central Java, DI Yogyakarta, East Java, and Banten.

⁶⁶ Badan Telekomunikasi dan Informatika Pedesaan (BTIP) / Rural Telecommunication and Informatics Body, 'BTIP Annual Report for 2008', 2009

services are the “only means of communication” for rural and socio-economically disadvantaged households.⁶⁷

OPPORTUNITIES

a. Digital Access - Mobile and Warnet Access Leading the Way

Given Indonesia’s archipelagic geography, cable infrastructure has been costly to implement and access infrastructures are mostly confined to urban areas. Nonetheless, in line with Article 17 of the UNCRC, Indonesia has been ensuring that children have “access to information and material from a diversity of national and international sources”⁶⁸ with increasing Internet penetration in recent years. Statistics from ITU indeed show that rate of total Internet users increased from 3.6 per cent in 2005 to 9.9 per cent in 2010, including those who access the Internet from mobile devices and other locations (such as at work and *warnets*).⁶⁹ However, the 2010 rate remained lower than the regional average of 26.9 for Southeast Asia.⁷⁰ The 2010 census found that 14.91 per cent of households had accessed the Internet in the preceding three months.⁷¹

Using a different methodology, in 2011 Nielsen estimated that 21 per cent of Indonesians over the age of 15 used the Internet.⁷² This is higher than ITU’s and BPS’ estimates, presumably due to discrepancies in sample selection and timeframe. However, the variation between Indonesian rates and regional rates

⁶⁷ International Telecommunication Union (ITU), ‘ICT and Telecommunications in Least Developed Countries’, 2006, < http://www.itu.int/ITU-D/ldc/pdf/ictand_telindc-e.pdf > (Accessed 26 December 2011).

⁶⁸ UNCRC, Op.Cit.

⁶⁹ International Telecommunication Union (ITU), ‘Internet Users’, 2010, <<http://www.itu.int/ITU-D/ict/statistics/material/excel/2010/InternetUsersPercentage00-10.xls>> (accessed 10 November 2011).

⁷⁰ Authors’ calculation of ITU data: “ITU Individuals Using the Internet 2000-10”.

⁷¹ BPS, Sensus Penduduk 2010, ‘Jumlah Rumah Tangga C1 dan C2 Apartemen Menurut Wilayah dan Akses Internet dalam Tiga Bulan Terakhir’, <<http://sp2010.bps.go.id/index.php/site/tabel?tid=308&wid=0>>, (Accessed 28 December 2011).

⁷² The Nielsen Company, The Digital Media Habits and Attitudes of Southeast Asian Consumers, October 2011, <<http://www.nielsen.com/content/dam/corporate/us/en/reports-downloads/2011-Reports/South-East-Asia-Digital-Consumer.pdf>>, (accessed 22 December 2011).

remains fairly consistent. The rate of Internet use in Indonesia using this method is just over half of Nielsen's estimated regional average of 38 per cent for Southeast Asia.⁷³

In absolute numbers, mobile Internet use has grown significantly since 2007. BCG reports that in 2010 there were 9 million mobile Internet users in Indonesia, a dramatic increase from 2.3 million users in 2007.⁷⁴ A Nielsen survey found that desktop ownership is at 31 per cent, and is the lowest in the region.⁷⁵ However, at 78 per cent, ownership of internet-capable mobile phones is more than double the desktop ownership rate, and is second only to Singapore in the region.⁷⁶ Unsurprisingly, in 2010, 43 per cent of Internet users cited mobile phones as their main device for accessing the Internet, making it the most popular medium.⁷⁷

Warnets were the most popular location to access the Internet, with 66 per cent of Indonesian Internet users choosing them as their main access location.⁷⁸ This pattern is consistent with a 2009 study by TNS and Yahoo! of 1,021 urban Internet users,⁷⁹ ages 15- to 50-years-old, which found that within the previous three months, 83 per cent of users accessed the Internet from *warnets* and 22 per cent had accessed it from a mobile phone or a personal digital assistant (PDA).⁸⁰ The same study also found that youths ages 15 to 19 spent an average of 53 per cent of their Internet time at *warnets*.⁸¹

The low stationary Internet penetration rate and high rate of Internet access from alternative sources can also be attributed to the relative cost of services. Home broadband services cost around US\$ 35 per month,⁸² a quarter of the average worker's monthly wage in 2009,⁸³ meanwhile, mobile phone Internet

⁷³ Ibid. Other countries included in the region were Malaysia (38 per cent internet use in the past 12 months), the Philippines (33 per cent), Singapore (67 per cent), Thailand (31 per cent) and Vietnam (56 per cent).

⁷⁴ Boston Consulting Group, *The Internet's New Billion*, September 2010, <<http://www.bcg.com/documents/file58645.pdf>>, (Accessed 5 August 2011).

⁷⁵ The Nielsen Company, *Op.Cit.* Desktop ownership 31 per cent compared to 77 per cent in Malaysia, 68 per cent in the Philippines, 74 per cent in Singapore, 70 per cent in Thailand and 75 per cent in Vietnam.

⁷⁶ Ibid. Internet-capable mobile phone ownership rate in Malaysia is 78 per cent, the Philippines is 64 per cent, Singapore 85 per cent, Thailand 77 per cent and Vietnam 32 per cent.

⁷⁷ Ibid.

⁷⁸ Nielsen, *Indonesians the Most Reliant on Mobile Internet Access*, 11 July 2011, <<http://id.nielsen.com/news/Release110711.shtml>>, (accessed 19 November 2011).

⁷⁹ Defined as having accessed the Internet within the past month.

⁸⁰ Yahoo! and TNS, 'Digital Indonesia: Internet Media Habits Decoded', 20 March 2009. (Accessed December 22, 2011). <<http://www.admaxnetwork.com/download/news/NetIndexIndonesiaHighlights.pdf>>

⁸¹ Ibid.

⁸² Telkom, *Layanan Broadband Speedy Digelar Secara Nasional*, <<http://www.telkom.co.id/pojok-media/siaran-pers/layanan-broadband-speedy-digelar-secara-nasional.html>>, (accessed 22 December 2011), and Tunardy, Wibowo, *Perbandingan Tarif Internet 3G/3,5G IM2 Postpaid Regular*, <<http://www.tunardy.com/perbandingan-tarif-internet-3g35g-im2-postpaid-regular/>>, (accessed 22 December 2011).

⁸³ Badan Pusat Statistik, <http://www.bps.go.id/booklet/booklet_okt2009.pdf>, (accessed 22 December 2011). Average monthly wage in 2009 (employed workers) is \$141.

subscription cost around US\$ 5 per month,⁸⁴ and *warnets* offer Internet access at hourly rates below US\$ 1.⁸⁵

Behaviour: Men spending more time online

BCG reported that stationary Internet users spent an average of 0.9 hours online per person per day and a total of 27 million hours per day in 2010.⁸⁶ In contrast, a face-to-face survey conducted by Nielsen from April to June 2011 found that Internet users spent an average of 14 hours per week online, with women spending an average of 11.2 hours online and men spending 16 hours per week.⁸⁷

ICTs in schools

A Nielsen survey found that 55 per cent of 15- to 19-year olds had used the Internet in the preceding four weeks.⁸⁸

A nationally representative survey of 15 year-old Indonesian students found that a majority had either never participated in or had any knowledge of discussion groups or forums (74.5 per cent), searching a dictionary or encyclopaedia (71.8 per cent), reading emails (57 per cent) or searching for practical information (54.8 per cent).⁸⁹

These students scored lower in international reading, mathematics and science tests than Indonesian students who participated in these activities several times a month to several times a week. However, the scores of students who did these activities several times a day tended to be lower than those students who did them at a more moderate rate.⁹⁰

A number of small-scale studies of students' Internet use and online behaviour exist, largely focused on urban schools. For example, two studies in urban Surabaya (encompassing five secondary schools

⁸⁴ Suhefmi, Harry, 'Perbandingan Biaya/Tarif Handphone (GSM/CDMA) dan Internet Unlimited', 20 September 2009, <<http://harry.sufehmi.com/archives/2009-09-20-2194/>> (accessed 22 December 2011).

⁸⁵ Online Warnet, 'Apakah tarif Warnet yang ditentukan seimbang dengan modal?', <<http://onlinewarnet.blogspot.com/2009/11/apakah-tarif-warnet-yang-ditentukan.html>>, Komunitas Warnet Indonesia, 'Menghitung Tarif Warnet Secara Logis', <<http://www.warnetforum.com/index.php?topic=8231.0>>, (accessed 22 December 2011).

⁸⁶ Boston Consulting Group, "The Internet's New Billion", September 2010, <<http://www.bcg.com/documents/file58645.pdf>>, (Accessed 5 August, 2011).

⁸⁷ <http://www.thejakartapost.com/news/2011/11/16/indonesian-netizens-spend-less-time-online-nielsen.html>

⁸⁸ *Ibid.*

⁸⁹ Data extracted by authors from OECD PISA 2009 dataset <<http://pisa2009.acer.edu.au/interactive.php>>

⁹⁰ *Ibid.*

overall) found that students often began using the Internet at around grade 7, or ages 12 to 13.⁹¹ Many (46.9 per cent) were first introduced to the Internet by a friend or peer.⁹²

When asked to name the most important uses of the Internet, the students in a Surabaya secondary school ranked online gaming, chatting, and social networking as the highest, with educational purposes and school work being ranked the lowest.⁹³ Some students, however, utilised the Internet to support Biology and ICT classes, and these students were found to have higher learning motivation and achievement levels.⁹⁴

The links between ICT use and achievement in all these studies were correlational and do not imply causality. However, they do suggest that the frequency of educational ICT use among Indonesian students is still low. The dearth of infrastructural support and low use by the overall population also applies to the context of schools.

The nationally representative OECD survey, for example, also found that 64.5 per cent of principals in Indonesia believed that the shortage or inadequacy of computers was a hindrance to their schools' capacity to provide instruction.⁹⁵ This was almost double the proportion of school principals who faced this issue in OECD countries.⁹⁶ The trend is further illustrated by the findings of smaller studies, such as a survey of 40 teachers at a secondary school in rural Bali, which found that three-quarters (72.5 per cent) had never accessed the internet, half of whom (48.9 per cent) reported that they did not know about the Internet.⁹⁷

ii. Digital activities – Indonesians aim to connect

According to TNS and Yahoo!, Indonesian Internet users participate in a diverse array of activities. The most popular of these is social networking (77 per cent), followed by visiting Internet portal front pages (65 per cent), using a search engine (64 per cent), instant messaging (57 per cent), and emailing (53 per cent).⁹⁸ A Nielsen study found that the top four online activities conducted by Indonesians on at least a weekly basis were on social media sites, namely private messaging (71 per cent of digital consumers surveyed), posting public comments (61 per cent), browsing other people's profiles (59

⁹¹ Qomariyah, A.N., *Internet Use Among Urban Youth*, Surabaya: Universitas Airlangga, 2008, and Rhosyied, A. and Otok, B.W., *Analysis of the influence of internet use as a learning media, motivational and creativity tool on students' learning achievement using structural equation modeling (Case Study at SMAN 1 Probolinggo)*, Surabaya: Institut Teknologi Sepuluh November, 2009.

⁹² Qomariyah, A.N. *Op.cit.*

⁹³ Rhosyied & Otok., *Op.cit.*

⁹⁴ *Ibid.*

⁹⁵ Data extracted by authors from OECD PISA 2009 dataset <<http://pisa2009.acer.edu.au/interactive.php>>

⁹⁶ *Ibid.*

⁹⁷ Nilakusumawati, D.P.E. *A Study on Teachers' Knowledge of the Internet as a Reference Source for Scientific Papers*, Bali: Udayana University, Faculty of Mathematics and Science, 2011

⁹⁸ Yahoo! and TNS, 'Digital Indonesia 2010 Yahoo!-TNS Net Index Highlights', <<http://www.scribd.com/doc/32354566/null>> (Accessed 19, November 2011)

per cent) and updating their own profile (56 per cent).⁹⁹ These were followed by email (51 per cent).¹⁰⁰

Decreasing email usage

The percentage of Indonesian Internet users utilizing email decreased from 59 per cent in 2009 to 53 per cent in 2010.¹⁰¹ A 2008 Nielsen report found that 41.6 per cent of users accessed email.¹⁰² Western platforms dominated with the majority of users accessing email through Yahoo! (both .com and .co.id) and Gmail in 2009.¹⁰³ Presumably this can be due to the popularity of messaging services provided by social networking sites.

Popularity of chatting

In a 2009 study of urban 15- to 50-year-olds, TNS and Yahoo! found that 58 per cent used instant messengers.¹⁰⁴ The most popular services used were Yahoo! (83 per cent), GTalk (33 per cent), MSN/Windows Live (14 per cent), and mIRC (7 per cent). Respondents most frequently communicated online with their friends.¹⁰⁵ However, this was followed by people they met online,¹⁰⁶ which presents a risk for younger respondents in particular.

VoIP: alternative for the masses

Voice over Internet Protocol (VoIP), often known as Internet telephony, uses audio (and at times video) transfer over the Internet, effectively allowing users to make audio or video calls online. Major public and private telecommunication providers (including PT. Telekom, Indosat, etc) in Indonesia provide such services to their Internet subscribers.¹⁰⁷ They are facing increasing competition, however, from what they refer to as unlicensed operators providing VoIP services through the Internet or from software that allows computer-to-computer voice communications over the Internet.¹⁰⁸

There are currently three locally-owned free VoIP service providers in Indonesia: VoIP Merdeka ('Freedom VoIP'), VoIP Marsinah and VoIP Rakyat ('People's VoIP').¹⁰⁹ VoIP Merdeka was the first VoIP

⁹⁹ The Nielsen Company, *The Digital Media Habits and Attitudes of Southeast Asian Consumers*, October 2011, <<http://www.nielsen.com/content/dam/corporate/us/en/reports-downloads/2011-Reports/South-East-Asia-Digital-Consumer.pdf>>, (Accessed 22 December 2011).

¹⁰⁰ Ibid.

¹⁰¹ Yahoo! and TNS, 'Digital Indonesia 2010 Yahoo!-TNS Net Index Highlights', <<http://www.scribd.com/doc/32354566/null>> (Accessed 19, November 2011)

¹⁰² AC Nielsen, 'Nielsen Media Index Indonesia/Mix 2008 Wave', <<http://comm215.wetpaint.com/page/Indonesia%3A+Internet+Penetration>> (Accessed 19 November 2011)

¹⁰³ Yahoo! and TNS, 'Digital Indonesia: Internet Media Habits Decoded', <<http://www.admaxnetwork.com/download/news/NetIndexIndonesiaHighlights.pdf>> (Accessed 19, November 2011)

¹⁰⁴ Ibid.

¹⁰⁵ Ibid.

¹⁰⁶ Ibid.

¹⁰⁷ PT Telkom, *Overview of Telecom Industry in Indonesia*,

¹⁰⁸ Ibid.

¹⁰⁹ Kasdiono, Eddy. P., 'VoIP closes distance of time and place', *The Jakarta Post*, 19 August 2009, <<http://www.thejakartapost.com/news/2009/08/19/voip-closes-distance-time-and-place.html>>, (accessed 22 December 2011).

network in Indonesia, built in 2003 by a former professor at the Institute of Technology Bandung.¹¹⁰ VoIP Rakyat, started in 2005 by a graduate of the Telkom Institute of Technology, is currently the most popular.¹¹¹ Corporate customers made up 70 per cent of the over 70,000 users registered with VoIP Rakyat in 2009.¹¹²

The exact number of Indonesian users on the largest international voice carrier, Skype,¹¹³ is unknown,¹¹⁴ although it is estimated to be around five million.¹¹⁵ At the end of 2010, Skype reported having 23 million connected users, or 20 per cent of all connected users, in the Asia Pacific region.¹¹⁶ Five years earlier, a similar proportion (19.13 per cent) of all of its users was from this region, and Indonesia was not in the top 20 country users.¹¹⁷ However, Skype's recent partnership with Telkomsel to provide its software on a range of mobile handsets, announced in October 2011, illustrates Indonesia's place as an important emerging market.¹¹⁸

Jakarta as the world's Facebook capital

After becoming available to Indonesians in 2006, Facebook has gained substantial popularity.¹¹⁹ With over 17 million¹²⁰ Facebook users, Jakarta is the Facebook capital of the world, topping cities with similar populations such as New York, Mexico City, and Istanbul.¹²¹ Jakarta currently accounts for 50.33 per cent

¹¹⁰ Ibid., and Martant, Aris, 'VoIP Rakyat a lower cost alternative', Innovation at the Frontier, 21 May 2008, <<http://innovationfrontier.blogspot.com/2008/05/voip-rakyat-lower-cost-alternative.html>>, (accessed 22 December 2011).

¹¹¹ Kasdiono, Eddy. P., Op.Cit.and Anton Raharja's LinkedIn profile, <<http://id.linkedin.com/in/antonrd>>, (accessed 22 December 2011).

¹¹² Tanuhandaru, Protus. 'How to make Telkom remain competitive', Jakarta Post, 29 June 2009, <<http://www.thejakartapost.com/news/2009/06/29/how-make-telkom-remain-competitive.html>>, (accessed 22 December 2011).

¹¹³ Ricknas, Mikael, IDG News Service, 'Skype is largest international voice carrier, says study', Network World, 23 March 2009, <<http://www.networkworld.com/news/2009/032509-skype-is-largest-international-voice.html>>, (accessed 22 December 2011).

¹¹⁴ During a press conference in Jakarta in May 2011, Skype's General Manager International stated that he was unable to release data on the number of Indonesian users on Skype. Source: Purwanti, Tenni and Wahyudi, Reza, 'Skype Bungkam Soal Microsoft', Kompas, 26 October 2011, <<http://tekno.kompas.com/read/2011/10/26/19432826/Skype.Bungkam.Soal.Microsoft>>, (accessed 22 December 2011).

¹¹⁵ Haswidi, Andi, 'Telkomsel, Skype forge unlikely partnership', The Jakarta Post, 27 October 2011, <<http://www.thejakartapost.com/news/2011/10/27/telkomsel-skype-forge-unlikely-partnership.html>>, (accessed 22 December 2011). How this figure was obtained is unclear.

¹¹⁶ United States Securities and Exchange Commission, Amendment No.2 To Form S-1 Registration Statement Sjype S.á r.l. (to be converted to Skype S.A.), <<http://www.sec.gov/Archives/edgar/data/1498209/000119312511056174/ds1a.htm>>, (accessed 22 December 2011).

¹¹⁷ Enck, James. 'Whose net is it anyway?', Eurotelcoblog, <<http://eurotelcoblog.blogspot.com/2005/04/whose-net-is-it-anyway-stumbled-across.html>>, (accessed 22 December 2011).

¹¹⁸ Skype press release, Telkomsel partners with Skype to bring a new communications experience in Indonesia. 26 October 2011, <http://about.skype.com/press/2011/10/telekomsel_partners_with_skype.html>, (accessed 22 December 2011).

¹¹⁹ SalingSilang.com, 'Indonesia Social Media Landscape', <<http://www.slideshare.net/salingsilang/indonesia-social-media-landscape-saling-silang-report>>, (Accessed 19 November 2011).

¹²⁰ 17,484,300

¹²¹ Russell, Jon, 'Jakarta Named World's Facebook Capital', <<http://asiancorrespondent.com/50592/jakarta-recognised-as-the-worlds-facebook-capital/>>, (Accessed 19 November 2011).

of Indonesian Facebook users.¹²² The popularity of Facebook is not only reserved to Jakarta. As a whole, Indonesia has the second largest population of Facebook users worldwide with over 40 million¹²³ total users.¹²⁴ Facebook penetration was 136.07 per cent of the online population in 2011.¹²⁵ More than four million¹²⁶ Indonesian users joined Facebook in the second half of 2011 alone.¹²⁷

Gender and age divides exist within Indonesia's Facebook community. In 2011, youth dominated the Facebook population with 41 per cent or more than 16 million¹²⁸ users being between the ages of 18 and 24.¹²⁹ 69 per cent were between the ages of 13 and 24.¹³⁰ Males outnumbered females, making up 60 per cent of Indonesian Facebook users.¹³¹ The difference in the use of social networking platforms could be due to lower rates of Internet access for females than males or due to lack of interest.

The main language used by Indonesians on Facebook was Bahasa Indonesia at 82.82 per cent with an additional 16.9 per cent using English, making it a localized tool for many users.¹³²

Micro-blogging gaining popularity

Indonesia was the third largest Twitter nation in 2011, making up 15 per cent of the world's tweets.¹³³ In January 2010, Indonesians tweeted nearly 23 million times¹³⁴ and there were nearly 5 million accounts¹³⁵ in total. A plurality of tweets was from Jakarta at 16.33 per cent.¹³⁶ Twitter users tweeted about a number of different topics including soccer (20.17 per cent), events (10.81 per cent), memes¹³⁷ (8.11 per cent), and news (5.20 per cent).¹³⁸ In 2011, Indonesians produced roughly 20 million tweets each month, the majority of which were in Bahasa Indonesia.¹³⁹

¹²² SalingSilang.com, 'Indonesia Social Media Landscape', <<http://www.slideshare.net/salingsilang/indonesia-social-media-landscape-saling-silang-report>>, (Accessed 19 November 2011).

¹²³ 41,777,240 (as of December 17, 2011).

¹²⁴ Social Bakers, 'Indonesia Facebook Statistics', <<http://www.socialbakers.com/facebook-statistics/indonesia/last-3-months>>, (Accessed 19 November 2011).

¹²⁵ Ibid.

¹²⁶ 4,350,320.

¹²⁷ Ibid.

¹²⁸ 16,740,185.

¹²⁹ Ibid.

¹³⁰ Ibid.

¹³¹ Ibid.

¹³² Ibid.

¹³³ SalingSilang.com, 'Indonesia Social Media Landscape', <<http://www.slideshare.net/salingsilang/indonesia-social-media-landscape-saling-silang-report>> (Accessed 19 November 2011).

¹³⁴ 22,707,725

¹³⁵ 4,883,228

¹³⁶ Ibid.

¹³⁷ Memes are photos, videos, phrases, websites, links, or other online content that are popular in the online community.

¹³⁸ Ibid.

¹³⁹ TNS, "Gems Insights from Emerging Markets", <http://www.tnsglobal.com/_assets/files/TNS_GEMS_March2011.pdf>, (Accessed 10 November 2011).

User generated content: the rise of blogging

As of November 28, 2011, Direktori Blog, the largest blog directory in Indonesia, had a total of over five million¹⁴⁰ blogs in their network.¹⁴¹ A study by BCG found that in 2009, 33 per cent of Indonesian Internet users had a blog.¹⁴² In 2010, there were approximately 3.2 million bloggers in Indonesia.¹⁴³ According to Saling Silang,¹⁴⁴ the most popular blogging platforms were Blogspot (80.65 per cent) and Wordpress (14.5 per cent).¹⁴⁵ The same report also found that 27 per cent of blogs were written about Korean pop.¹⁴⁶ Globally, Bahasa Indonesia was the fourth most popular language on Wordpress at 3.5 per cent, behind English, Spanish, and Portuguese.¹⁴⁷

Illustrating the importance of bloggers in Indonesia, 27 October was declared National Blogger Day by the then-Minister of Communications and Information at the opening of the first *Pesta Blogger* (“Blogger Party”) conference in 2007.¹⁴⁸ Since then, the conferences have attracted the support of telecommunication companies, the British Council and the US Embassy in Jakarta.¹⁴⁹ The size of its participants has also tripled, from 500 in 2007¹⁵⁰ to 1,600 in 2010.¹⁵¹

iii. Stagnant e-Commerce sector

Despite their high levels of participation in social media sites, Indonesians have been less enthusiastic about partaking in online commercial activities. A 2011 study by Nielsen found that Indonesian Internet users were less likely to connect or interact with brands, products or companies online (20 per cent have done so on social networking sites in the preceding 12 months), compared to Internet users in the Philippines (65 per cent), Malaysia (60 per cent), Singapore (56 per cent) and Thailand (42 per cent).¹⁵²

This slow growth is likely due to Indonesians’ reliance on mobile access and a lack of more advanced payment systems, as many Indonesian e-commerce sites rely on bank transfers.¹⁵³ According to Nielsen’s 2008 Media Index, only 3 per cent of Indonesian Internet users bought something online

¹⁴⁰ 5,331,451.

¹⁴¹ SalingSilang.com, ‘Direktori Blog’, <<http://blogdir.salingsilang.com/>> (Accessed 28 November 2011).

¹⁴² Boston Consulting Group, “The Internet’s New Billion”, September 2010, <<http://www.bcg.com/documents/file58645.pdf>>, (Accessed 5 August 2011).

¹⁴³ Siregar, Lisa, ‘Rise of Indonesia’s Bloggers’, <<http://blogdir.salingsilang.com/>> (Accessed 15 November.)

¹⁴⁴ Saling Silang is an Indonesian site which provides information about the Internet and social media sites in Indonesia.

¹⁴⁵ SalingSilang.com, ‘Indonesia Social Media Landscape’, <<http://www.slideshare.net/salingsilang/indonesia-social-media-landscape-saling-silang-report>> (Accessed 19 November 2011).

¹⁴⁶ Ibid.

¹⁴⁷ Wordpress, ‘Statistics’, <<http://en.wordpress.com/stats/>>, (Accessed 13 November 2011)

¹⁴⁸ Siregar, L. 2011. “Can Indonesia’s Bloggers Keep Their Audience?”, The Jakarta Globe

¹⁴⁹ Maverick. <<http://www.onoffid.org/history/>> (Accessed December 22, 2011).

¹⁵⁰ Ibid

¹⁵¹ Siregar, L. 2011. op.cit.

¹⁵² The Nielsen Company, 2011,

¹⁵³ Rosendar, Yessar, ‘E-Commerce Still Doesn’t Quite Click with Cautious Indonesian Shoppers’, <<http://www.thejakartaglobe.com/business/e-commerce-still-doesnt-quite-click-with-cautious-indonesian-shoppers/377992>>, (Accessed 17 November 2011).

compared to 80 per cent in Singapore and 43 per cent in Thailand.¹⁵⁴ E-commerce in Indonesia is worth Rp. 200 thousand million (US\$ 21.8 million) per year.¹⁵⁵ In a study of five hundred, 20- to 30- year-old smart-phone users by DS Research, 38 per cent reported buying something online.¹⁵⁶ Kaskus, a local platform, was the most popular e-commerce site among respondents and the majority of customers who bought something online reported using bank transfers.¹⁵⁷

INITIATIVES

Both public and private actors have actively invested in ICT development through various initiatives. The following initiatives were selected based on their advanced stage of implementation, the reputation of the actors involved, and the availability of relevant information. While many of these initiatives have focused on education through ICT advancement in schools and youth communities, others have focused on developing government capabilities and improving access to ICTs across the country. A Presidential Decision passed in 2006 appointed seven flagship programs focused on ICTs, including E-Education (under the Ministry of National Education), E-Budget (under the Ministry of Finance) and the Palapa Ring (under the Ministry of Communication and Information).¹⁵⁸

a. Educational initiatives

A Presidential Instruction on economic development,¹⁵⁹ passed in 2008, outlined a more specific focus on education. It called for a National Education Network (*Jaringan Pendidikan Nasional / Jardiknas*) to connect government educational offices, schools, and universities across all of Indonesia, and to provide free Internet connections to tens of thousands of senior secondary schools.¹⁶⁰

The Ministry of National Education has also made available close to 1,000 titles of electronic textbooks and interactive learning modules online.¹⁶¹ The Ministry has stated that the unlimited rights of duplication and distribution of these textbooks mean that schools will be able to print and distribute the

¹⁵⁴ Ibid.

¹⁵⁵ Ibid.

¹⁵⁶ DS Research, How Indonesia's Youngsters Use E-Commerce, <<http://dsresearch.net/wp-content/uploads/2011/05/dsresearch-ecommerce-may11.pdf>>, (Accessed 16 November 2011).

¹⁵⁷ Ibid.

¹⁵⁸ Keppres No. 20/2006 tentang Dewan TIK Nasional

¹⁵⁹ Inpres No. 5/2008 tentang Fokus Program Ekonomi tahun 2008 – 2009

¹⁶⁰ Ibid

¹⁶¹ Kementerian Pendidikan Nasional, 'Buku Sekolah Elektronik', <<http://bse.kemdiknas.go.id/>>, (Accessed 28 December 2011).

books to their students at a much lower cost than otherwise.¹⁶² So far, the country's low Internet penetration rates have been a great challenge in distributing these materials.¹⁶³

The Government has also partnered with other institutions to implement educational initiatives. In East Java, Jardiknas partnered with Telkom East Java to rehabilitate 2,200 schools' infrastructure and provided training on the use of the government's School-Net initiative in 2007.¹⁶⁴ Also in 2007, Intel Indonesia signed a Memorandum of Understanding with Indonesia's Ministry of National Education initiating the Intel® Teach Program in Indonesia. Intel also partnered with the Directorate for Quality Improvement of Teachers and Education Personnel (PMPTK) in the Ministry of National Education, USAID, UNESCO, the Indonesia Teaching Movement, and the *Ma'arif Nahdlatul Ulama*. The program targets K-12 teachers by facilitating and increasing their knowledge and use of ICTs in schools. By 2010, over 50,000 teachers had participated in the program demonstrating the far-reaching implications of ICTs in the education sector.¹⁶⁵

b. Child protection hotlines

A number of child protection hotlines exist nationally. In 2006, the government established a toll free hotline program called *Telepon Sahabat Anak 129* (TESA 129) in the four major cities of Banda Aceh, Jakarta, Surabaya and Makassar,¹⁶⁶ later expanded to include 20 provinces.¹⁶⁷ TESA 129 is aimed to provide easily accessible support for children who require protection or are in an emergency, and children in need of counselling support.¹⁶⁸ The program is based on a Memorandum of Understanding between the Ministry of Social Services, Ministry for Women's Empowerment and the Ministry for Communication and Information, with the call centre being hosted by the Ministry for Communication and Information.¹⁶⁹ In January 2010, TESA 129 East Java reported that in 2009, they received 155 calls

¹⁶² Radar Lampung, 'Buku Sekolah Elektronik Belum Efektif', 8 July 2010, <<http://radarlampung.co.id/read/pendidikan/17919-buku-sekolah-elektronik-belum-efektif>>, (Accessed 28 December 2011).

¹⁶³ Ibid.

¹⁶⁴ Telkom Indonesia, 'Telkom dan Diknas Jatim Adakan Program School-Net', 2007, <<http://www.telkom.co.id/telkom-peduli/kegiatan-pendidikan-budaya-olahraga/telkom-dan-diknas-jatim-adakan-program-school-net.html>>, (Accessed 22 December 2011).

¹⁶⁵ Intel, "Indonesia." <<http://www.intel.com/cd/corporate/csr/apac/eng/education/countries/id/385613.htm>> (Accessed 22 December 2011).

<<http://www.intel.com/cd/corporate/csr/apac/eng/education/countries/id/385613.htm>>

¹⁶⁶ UNICEF, 'Plus 5-Review of the 2002 Special Session on Children and World Fit for Children Plan of Action', <http://www.unicef.org/worldfitforchildren/files/Indonesia_WFFC5_Report.pdf>, (Accessed 3 January 2012).

¹⁶⁷ Muhammad Ihsan, Kompasiana, 5 August 2011, 'Telepon Sahabat Anak (TESA) 129 Apa Kabarnya?', <<http://hukum.kompasiana.com/2011/08/05/telepon-sahabat-anak-tesa-129-apa-kabarnya/>>, (Accessed 3 January 2012).

¹⁶⁸ Kementerian Pemberdayaan Perempuan dan Perlindungan Anak RI, Aplikasi Data & Informasi PP dan KPA, 'TESA 129', <http://www.menegpp.go.id/aplikasidata/index.php?option=com_content&view=article&id=80:tesa-129&catid=36:glossary-kesejahteraan-dan-perlindungan-anak&Itemid=103>, (Accessed 3 January 2012).

¹⁶⁹ Ibid.

for counselling requests from the community, an increase from previous years.¹⁷⁰ This was followed by four cases in January and February of 2010, which covered one trafficking case, one child abandonment case, one runaway case and one household issue case following a divorce.¹⁷¹

From the community sector, the National Commission for Child Protection (Komnas Anak) has hosted a national child protection hotline for over a decade.¹⁷² They have also supplemented the hotline with an online reporting form.¹⁷³ In 2011, they received 2,386 case reports via their hotline, almost double the 1,234 reports they received the previous year.¹⁷⁴

c. The Palapa Ring project

Through public and private collaboration, the US\$ 1.5 thousand million Palapa Ring project aims to build a fibre optic cable network connecting 33 province capitals and 440 district capitals across Indonesia.¹⁷⁵ A consortium of seven companies, including PT Telkom, Bakrie Telecom and international companies Qatar Telecom and SingTel, is co-funding the project.¹⁷⁶ The Minister for Information and Communications also later invited support from the Japanese government.¹⁷⁷

In the second half of 2011, the President Director of PT Telkom,¹⁷⁸ the Minister for State-Owned Enterprises¹⁷⁹ and the Minister for Information and Communications¹⁸⁰ separately stated that the

¹⁷⁰ Dinas Komunikasi dan Informatika Prov. Jatim, 23 February 2010, 'Selama Januari-Februari, TESA 129 tangani empat kasus', <http://www.jatimprov.go.id/index.php?option=com_content&task=view&id=7120&Itemid=2>, (Accessed 3 January 2012).

¹⁷¹ Ibid.

¹⁷² Komnas Perlindungan Anak, Dukung Kami, 'Mengapa Anak Harus Dilindungi?', <<http://peluk.komnaspaspa.or.id/node/2>>, (Accessed 3 January 2012).

¹⁷³ Komnas Perlindungan Anak, 'Form Pengaduan', <http://www.komnaspaspa.or.id/Komnaspaspa/Form_Pengaduan.html>, (Accessed 3 January 2012).

¹⁷⁴ Wahyu Dhyatmika, Tempo, 20 December 2011, 'Komnas Anak: Pemerintah Gagal Lindungi Anak', <<http://www.tempo.co/read/news/2011/12/20/079372815/Komnas-Anak-Pemerintah-Gagal-Lindungi-Anak>>, (Accessed 3 January 2012).

¹⁷⁵ Iskandar, PhD, Basuki Yusuf. Ministry of Communication and Information Technology, "Indonesia's Initiatives to Deploy NGN." <http://www.itu.int/ITU-T/reg/Events/Seminars/GSR/GSR07/Documents_presentations/5Feb_breakout_A_indonesia.pdf> (Accessed 22 December 2011).

¹⁷⁶ BuddeComm, 'Indonesia - Telecommunications Infrastructure and Forecast', <<http://www.budde.com.au/Research/Indonesia-Telecommunications-Infrastructure-and-Forecasts.html>> (Accessed December 22 2011)

¹⁷⁷ Burhani, Ruslan, 'RI to involve Japan in Palapa ring project: Minister', 6 January 2010, <<http://antara.co.id/en/news/1262779451/ri-to-involve-japan-in-palapa-ring-project-minister>>, (Accessed 26 December 2011).

¹⁷⁸ 'Palapa Ring Project for Economic Development Program', 26 July 2011, <<http://www.embassyofindonesia.org/news/2011/07/news078.htm>>, (Accessed 26 December 2011).

¹⁷⁹ Ahniar, Nur Farida and Kurniawan, Iwan. 'Dahlan: Palapa Ring Revolusi Besar Internet', 14 November 2011, <<http://www.bumn.go.id/ptpn8/galeri/dahlan-palapa-ring-revolusi-besar-internet/>>, (Accessed 26 December 2011)

project is currently entering its final stage, connecting the main islands in Eastern Indonesia, with the entire 57,000 km cable network project – 35,280 underwater and 21,807 overland – on schedule for completion in 2014.¹⁸¹

d. Other community initiatives

ICT-based community organisations in Indonesia have attracted international support and recognition. ICTs can in turn provide opportunities for community groups to grow by expanding their advocacy reach, disseminating their work and gaining further exposure and financing.

For example, *Kampung Halaman*, a youth-focused community non-profit, was recently awarded the International Spotlight Award at the US Government’s National Arts and Humanities Youth Program Awards in 2011.¹⁸² As described by Michelle Obama during the awards ceremony, the organisation encourages “students in Indonesia [to create] their own videos to raise awareness around issues like poverty, women’s rights, and the effects of natural disasters”. *Kampung Halaman* uses its website to host a database of community productions, making selected videos available, to gain wider audiences for the locally-produced videos.¹⁸³

Satu Dunia, or OneWorld Indonesia, is another non-profit organisation that exists to support Indonesian community groups utilising the Internet in their work.¹⁸⁴ The organisation was established through a partnership between the Dutch development organisation Hivos, the Indonesian ICT organisation Yayasan Jaring, and Oneworld UK.¹⁸⁵ In 2010, it received a grant from the Ford Foundation to develop an interactive online platform for monitoring the Strategic Alliance for Poverty Alleviation program in fifteen districts and cities.¹⁸⁶ In 2011, *Satu Dunia* undertook initiatives to organise Indonesia’s ICT

¹⁸⁰ Firman, Muhammad, ‘354 Km Jalur Bawah Laut Indonesia Di-upgrade’, 20 December 2011, <<http://us.teknologi.vivanews.com/news/read/273602-354-km-jalur-bawah-laut-indonesia-diupgrade>>, (Accessed 26 December 2011).

¹⁸¹ Ahniar and Kurniawan, Op.Cit.

¹⁸² National Arts and Humanities Youth Program Awards, ‘Indonesia Youth Community Media Project’, 2011, <<http://www.nahyp.org/awardees/2011-awardees/international-spotlight-award-indonesia-youth-community-media-project/>>, (Accessed 22 December 2011).

¹⁸³ Kampung Halaman, ‘Kampung Halaman Profile’, 9 October 2008, <<http://www.kampunghalaman.org/en/about-us/>>, (Accessed 22 December 2011).

¹⁸⁴ Satu Dunia, ‘Tentang Satu Dunia’, <<http://www.satudunia.net/tentang-satu-dunia>>, (Accessed 26 December 2011).

¹⁸⁵ Ibid.

¹⁸⁶ Ford Foundation, ‘Yayasan Satu Dunia’, <<http://www.fordfoundation.org/grants/grantdetails?grantid=8359>>, (Accessed 26 December 2011).

community's input into proposed legislation on ICT convergence, by conducting a public survey¹⁸⁷ and convening 'ICT Study Circle' discussions with well-known bloggers and groups.¹⁸⁸

These initiatives, implemented through co-operation with a range of public and private sectors, highlight the increasing importance and emphasis on ICT development in improving access and increasing opportunities in education and the public sector.

IDENTIFYING SAFETY RISKS

a. The Risks:

In the spirit of various articles of the UNCRC (Articles 33, 34, etc.), State Parties shall take all appropriate measures to protect children from different types of harm.¹⁸⁹

The review of available literature revealed that child pornography, talking to and meeting strangers, trafficking, software piracy, exposure to extremist content and cyberbullying are all safety risks associated with Internet use in Indonesia. The literature did not provide evidence with regards to grooming and gambling, although this is not to say that these safety risks do not exist in Indonesia.

i. Child Pornography and Grooming

With the existence of the Internet, child pornography can be viewed and shared online, making the exploitation deriving from its existence and its use continuous.

When the UNCRC was adopted in 1989, it was believed that the provisions concerning child protection, notably Articles 19, 32 and 34–36, provided a sufficient framework to protect children from all forms of exploitation. With the 1996 World Congress against Commercial Sexual Exploitation of Children, it became increasingly clear that additional efforts were needed to address the true extent of sexual exploitation. Modern technologies have also led to new challenges and concerns with serious consequences when misused. The Optional Protocol to the Convention on the Rights of the Child on the Sale of Children, Child Prostitution, and Child Pornography (OPSC), signed by Indonesia in 2001 but not

¹⁸⁷ Satu Dunia, 'Survei Publik Tentang RUU Konvergensi Telematika', <<https://spreadsheets.google.com/viewform?formkey=dG4zaEdFbEgyYWZMZHZzVTBUSIFER3c6MQ>>, (Accessed 26 December 2011).

¹⁸⁸ Firdaus, Satu Dunia, 'Diskusi Lingkar Belajar, Blogger dan RUU Konvergensi Telematika', 18 October 2011, <<http://www.satudunia.net/content/diskusi-lingkar-belajar-blogger-dan-ruu-konvergensi-telematika>>, (Accessed 26 December 2011).

¹⁸⁹ United Nations Convention on the Rights of the Child, 1989 <<http://www2.ohchr.org/english/law/crc.htm>> (Accessed 22 December 2011)

ratified,¹⁹⁰ built upon and enhanced the general principles of the UNCRC by taking further measures in preventing the use of children in pornography. The OPSC defines child pornography as:

“Any representation, by whatever means, of a child engaged in real or simulated explicit sexual activities or any representation of the sexual parts of a child for primarily sexual purposes.”

Passed in 2008, Indonesia’s Anti-Pornography Law defines child pornography in its Elucidation Article 4, subsection (1) part (f) as:

“Any form of pornography involving children or involving adults portraying or acting as a child.”

While Article 5 of the aforementioned Act specifies that:

“Every person is forbidden from lending or downloading pornography [...]”

It does not directly and clearly address accessing, viewing, possessing and/or storing of *child* pornography online.

Other laws in Indonesia, such as the Child Protection Act (2002) and the Manpower Act (2003), may be used to prosecute cases of child pornography, even though there is no clarification whether or not this can be applied to cases of child pornography when perpetrated online.

Visibly aimed at addressing this caveat, the Electronic Information and Transaction (ITE) Law was passed in March 2008 by the Indonesian Parliament (No. 11/2008) and pertains to all matters regarding information and transactions in electronic forms. According to Chapter VII, Article 27 of the law, activities such as transmitting or allowing access to electronic information and/or electronic documentation with contents (1) “against propriety”, (2) “of gambling”, (3) “of affronts and/or defamation”, and/or (4) “of extortion and/or threats” are forbidden. Commentators¹⁹¹ have interpreted Article 27(1), the prohibition of activities “against propriety”, as covering child pornography but there is no direct mention of it throughout the Act. According to the Act, offenders can be prosecuted and sentenced to up to six years imprisonment and fined up to Rp 1 thousand million.¹⁹²

With regards to the private sector, in January 2010, Research in Motion (RIM) began filtering out pornography websites for all BlackBerry subscribers in Indonesia, in accordance with Indonesian law.¹⁹³

¹⁹⁰ 11 .c Optional Protocol to the Convention on the Rights of the Child on the Sale of Children, Child Prostitution and Child Pornography, New York, 25 May 2000 , ‘STATUS AS AT : 30-12-2011 07:03:10 EDT’, <http://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=IV-11-c&chapter=4&lang=en>, (Accessed 30 December 2011).

¹⁹¹ ECPAT, < http://www.ecpat.net/EI/PDF/A4A_II/A4A2011_EAP_Indonesia_Final.pdf>, (Accessed December 12, 2011).

¹⁹² Unofficial translation of Electronic Information and Transaction Law (No. 11/2008).

¹⁹³ PC World, ‘RIM to Block Access to Porn on BlackBerry in Indonesia in Indonesia’, 10 January 2011, <http://www.pcworld.com/businesscenter/article/216346/rim_to_block_access_to_porn_on_blackberry_in_indonesia.html>, (Accessed 30 December 2011).

This was in response to BRTI's announcement that it would consider blocking BlackBerry service in Indonesia.¹⁹⁴

While grooming is not addressed by the ITE Law, it is found, albeit in vague terms, in the Anti-Pornography Law, Article 12 that prohibits the "*invitation, coercion [...] of children into pornography or pornographic related products*", aligning itself with international standards, notably the UNCRC General Comment 13 to Article 19, which defines and prohibits grooming as the case where an adult enters in contact with a child for involvement in sexual activities.

Although little data exists regarding the number of child pornography cases, in 2010 the National Commission for Child Protection (Komnas Anak) reported 1,238,584 cases of commercial exploitation of children, of which 39 were related to child victims of pornography.¹⁹⁵ This was an increase from the 22 cases of child victims of pornography reported in 2009 and eight cases in 2008.¹⁹⁶ However, the review was unable to identify through which channel child pornography had been shared.

ii. Talking to and meeting strangers

While the General Comment 13 to Article 19 of the UNCRC recognizes being "coerced, tricked or persuaded into meeting strangers off-line" as a risk, an online survey of 112 children ages 10 to 17, commissioned by Symantec Corporation in 2010, found that 70 per cent of children in Indonesia had had strangers try to add them as a friend on a social networking site and 35 per cent chatted with an online stranger who had tried to meet them in person.¹⁹⁷ In Riau, Eastern Indonesia, the Integrated Service Centre for Women and Children (*Pusat Pelayanan Terpadu Pemberdayaan Perempuan dan Anak / P2TP2A*) has seen increased reports of teenage *runaways* who, upon further investigation, were found to have left home because of persons they met online.¹⁹⁸

iii. Trafficking

Defined in The Protocol to Prevent, Suppress and Punish Trafficking against Persons, Especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime ('Palermo Protocol', 2000), as:

¹⁹⁴ Ibid.

¹⁹⁵ Komnas Anak, Database Pelanggaran Hak Anak di Indonesia Tahun 2010, <http://www.komnaspa.or.id/Komnaspa/Halaman_Utama.html - December 12, 2011>, (Accessed December 12, 2011).

¹⁹⁶ Ibid.

¹⁹⁷ Symantec, 1 July 2010, 'Norton Online Family Report 2010 Reveals 96 Percent of Indonesian Kids Have Had a Negative Online Experience', <http://www.symantec.com/en/aa/about/news/release/article.jsp?prid=20100701_01>, (Accessed 3 January 2012).

¹⁹⁸ Antara, 18 November 2011, 'Akibat Jejaring Sosial 10 Remaja Pekanbaru Hilang', <<http://id.berita.yahoo.com/akibat-jejaring-sosial-10-remaja-pekanbaru-hilang-092420437.html>>, (Accessed 3 January 2012).

“The recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude or the removal of organs;”

The Palermo Protocol created a foundation for individual countries to begin or step up the fight against trafficking of human beings.

The Government of Indonesia has made significant progress in the last few years in combating trafficking through the introduction of new laws, and policy reform, with a growing recognition that much more attention and energy needs to be given to leveraging anti-trafficking initiatives that address the root causes of human trafficking and other child rights violations.¹⁹⁹

In 2007, the Government adopted Law no. 21 on the Eradication of Criminal Act of Trafficking in

Persons that adopts a comprehensive approach to addressing human trafficking. The Government has also passed the Decree of the Coordinating Ministry of People’s Welfare that legalizes the National Plan of Action (NPA) on the Eradication of Trafficking in Persons and Sexual Exploitation of Children 2009 – 2014. Additionally, local legislations and Plans of Action have been developed and adopted in several provinces and districts addressing sexual exploitation and trafficking of children. The NPA guides government Ministries and provincial/district departments, through task forces, to implement programmes to eradicate trafficking in persons and the sexual exploitation of children.²⁰⁰

The Government ratified International Labour Organization (ILO) Convention No. 182 on the Worst Form of Child Labour in 2000 and the Palermo Protocol in 2009. In 2001, the Government signed the Optional Protocol to the UN Convention on the Rights of the Child on the Sale of Children, Child Prostitution and Child Pornography but has yet to ratify it.²⁰¹

In February 2010, The Jakarta Globe reported that the Commission for Child Protection had received 25 reports so far that year of “alleged child kidnapping, harassment, and trafficking” from Surabaya where Facebook was used to contact the victims.²⁰² Later, in 2011, it was reported that a group of traffickers

¹⁹⁹ UNICEF Indonesia, Children in Indonesia-Child Trafficking, <http://www.unicef.org/indonesia/UNICEF_Indonesia_Child_Trafficking_Fact_Sheet_-_July_2010.pdf> (accessed 30 Dec 2011).

²⁰⁰ Ibid.

²⁰¹ See footnote 190.

²⁰² "Sexual Predators Hunt For Child Trafficking Victims On Facebook." *Jakarta Globe*, February 17, 2010. <http://www.thejakartaglobe.com/home/sexual-predators-hunt-for-child-trafficking-victims-on-facebook/359141> (accessed December 26, 2011).

were arrested after attempting to sell seven girls on Facebook.²⁰³ The UN's Integrated Regional Information Networks (IRIN) reported an increasing trend of Indonesians selling their kidneys online, although exact figures were unknown.²⁰⁴

It is important to carefully interpret the aforementioned data considering its anecdotal nature. Indeed, more thorough research providing hard evidence is necessary to clearly understand the scope of this risk and the intricacies it has. So far, only these three pieces of evidence have been gathered.

iv. Software piracy²⁰⁵

The prevalence of software piracy in Indonesia was relatively high in 2008 with a rate of 85 per cent of total software installed on computers found to be pirated compared to a regional average of 61 per cent.²⁰⁶ In 2008, Indonesia was ranked 12th in the world for piracy and 19th for global losses.²⁰⁷ The Business Software Alliance found that 87 per cent of software on PCs was pirated in 2010 for a total value of US\$ 1.32 thousand million.²⁰⁸²⁰⁹ Symantec's online survey of children and parents found that 78 per cent of children downloaded digital content from the Internet while parents only perceived that 66 per cent did.²¹⁰ This trend indicates low levels of awareness by parents of what their children were doing online.

V. Exposure to Extremist Content

In certain cases, the Internet has been used by extremist groups to raise funds, provide information to followers, and to train terrorists. In a study by the Australian Strategic Policy Institute, the number of radical websites increased from 15 in 2007 to 117 in 2008.²¹¹ The first local bomb-making and weapons handling manuals were posted online in February and April 2008 respectively.²¹² In September 2011, the Indonesian Child Protection Commission (*Komisi Perlindungan Anak Indonesia / KPAI*) expressed their

²⁰³ Priliawito, Eko and Mahaputra, Sandy Adam, VIVAnews, 19 January 2011, 'Indonesia Girls Sold through Facebook', <<http://us.en.vivanews.com/news/read/200132-indonesia-girls-sold-through-facebook>>, (Accessed 3 January 2012).

²⁰⁴ IRIN, 8 January 2010, 'INDONESIA: Internet facilitates illegal kidney trade', <<http://www.irinnews.org/report.aspx?reportid=87668>>, (Accessed 3 January 2012).

²⁰⁵ Software piracy is defined here as "the illegal use and/or distribution of software protected under intellectual property laws". Business Software Alliance, <http://www.bsacybersafety.com/threat/software_piracy.cfm> (Accessed 14 December 2011).

²⁰⁶ International Intellectual Property Alliance (IIPA), 'Indonesia 2010 Special 301 Report on Copyright Protection and Enforcement', <<http://www.iipa.com/rbc/2010/2010SPEC301INDONESIA.pdf>> (Accessed 10 November 2011).

²⁰⁷ Ibid.

²⁰⁸ billion = thousand million.

²⁰⁹ Business Software Alliance, 'Eighth Annual BSA Global Software Piracy Study', <<http://portal.bsa.org/globalpiracy2010/index.html>>, (Accessed 29 October 2011).

²¹⁰ Symantec, "Norton Online Family Report 2010 Reveals 96 Percent of Indonesian Kids Have Had A Negative Online Experience", 1 July 2010, <<http://www.nortonopscenter.com/?p=201>>, (Accessed 3 October 2011).

²¹¹ Australian Strategic Policy Institute, 'Countering Internet radicalism in Southeast Asia', (accessed 28 September 2011)

²¹² Ibid.

support for the blocking of radical websites.²¹³ The KPAI Vice-President stated that in the interest of child protection, the Government must control the content of sites that spread a deviant understanding of religion, and teaches violence and hatred among religious groups.²¹⁴ Following the 2005 attacks in Bali, newspapers reported that Jemaah Islamiah had attempted to use online credit card fraud to raise funds²¹⁵ and had used virtual worlds such as Second Life to train terrorists.²¹⁶

VI. Cyberbullying

Limited data currently exist on the incidence of cyberbullying, or even bullying in general, in Indonesia. Sejiwa Foundation, a non-profit non-governmental anti-bullying organisation based in Jakarta, defines forms of bullying as verbal bullying, physical bullying and psychological bullying, and includes “scaring via telephone” and “threatening via electronic communication tools” under verbal bullying.²¹⁷ Ratna Juwita, a psychologist at the University of Indonesia who researches bullying, found that in a study of the three largest cities in Indonesia (Jakarta, Yogyakarta and Surabaya), the incidence of bullying at secondary schools in Yogyakarta is the highest among the three cities, at 70.65 per cent.²¹⁸ In July 2010, she found from a small-scale study that 29 of 97 children included in her study had experienced cyberbullying, in the forms of ridicules, insults, or shaming.²¹⁹

VII. Assessing online safety risks

When it comes to online safety risks, such as those mentioned above, important considerations should be taken into account. First, there is no evidence of new types of safety risks being posed by the Internet. Rather, the Internet has only magnified certain risks and offences such as trafficking and piracy, providing new channels through which they can occur. Second, the Internet is not inherently dangerous. Rather, it is the off-line human behaviour that is reflected online. As evidenced by a study conducted in the UK by Sonia Livingstone and Ellen Helsper, children’s online communication activities can be

²¹³ Antara News, 2011, ‘KPAI Dukung Pemblokiran Situs Penyebar Radikalisme’, <<http://www.antaraneews.com/print/1317181610/kpai-dukung-pemblokiran-situs-penyebar-radikalisme>>, (Accessed 3 January 2012).

²¹⁴ Ibid.

²¹⁵ Sipress, Alan, Washington Post, 14 December 2004, ‘An Indonesian Prisoner Memoir Takes Holy War into Cyberspace’, <<http://www.washingtonpost.com/ac2/wp-dyn/A62095-2004Dec13?language=printer>>, (Accessed 28 September 2011)

²¹⁶ Obrien, Natalie, The Australian, ‘Virtual Terrorists’, 31 July 2007, <<http://www.theaustralian.com.au/news/features/virtual-terrorists/story-e6frg6z6-1111114072291>>, (Accessed 30 December 2011).

²¹⁷ Yayasan Sejiwa, ‘Bullying A-Z’, 23 March 2010, <<http://sejiwa.org/a-z/>>, (Accessed 3 January 2012).

²¹⁸ Portal Seminar, ‘Seminar Nasional: School Bullying; Deteksi dan Intervensinya’, 24 June 2009, <<http://seminar.uui.ac.id/news/kesehatan/seminar-nasional-school-bullying-deteksi-dan-intervensinya.html>>, (Accessed 3 January 2012).

²¹⁹ Linus, ‘“Cyber” Ancaman bagi Anak’, 31 July 2010, <<http://cetak.kompas.com/read/2010/07/31/03301621/cyber.ancaman.bagi.anak>>, (Accessed 3 January 2012).

predicted by their offline characteristics, particularly their levels of life satisfaction and risk-taking.²²⁰ Similarly, as argued by danah boyd from Harvard's Berkman Center for Internet & Society, "[p]eople may have a tendency to blame the technology that forces them to confront disturbing behaviors—not realizing that technology is only the messenger".²²¹

Laws and Regulations: Seeking Balance between Protection and Freedoms

Like in many other countries that are experiencing an increase in digital access, the Indonesian government is faced with the challenge of meeting its responsibility to protect the safety of children and youth in the digital landscape while still safeguarding their freedoms.

According to Freedom House, there were at least eight cases in which citizens have been indicted on defamation charges under the ITE law for comments made on e-mail lists, blogs or Facebook as of June 2010.²²² One of the cases, dated February 2010, involved teenager Nur Farah from Bogor, West Java who was convicted based on a report that she had insulted one of her friends by addressing her as a "dog" on Facebook.²²³

Defamation echoes the limits to the right of freedom of expression, a right protected under Article 28E of the Indonesian Constitution. In line with the UNCRC, a legally binding document, that Indonesia is a signatory to, which grants the right to access information, as well as freedom of expression (Article 13) to all children, the Indonesian Child Protection Act (2002), Article 10 specifies:

"Every child has the right to express his/her opinion and have it heard, receive, seek and impart information according to his/her level of intelligence and age for his/her self-development in accordance to moral values and appropriateness".²²⁴

Article 56 further states:

220 Livingstone, Sonia and Helsper, Ellen (2007) 'Taking risks when communicating on the internet: the role of offline social-psychological factors in young people's vulnerability to online risks. *Information, communication and society*', 10 (5). pp. 619-643. <http://eprints.lse.ac.uk/4254/1/Taking_risks_whe and Helsper, Ellen (2007) 'Taking risks when communicating on the internet: the role of offline social-psychological factors in young people's vulnerability to online risks. *Information, communication and society*', 10 (5). pp. 619-643.

<http://eprints.lse.ac.uk/4254/1/Taking_risks_when_communicating_on_the_internet_%28LSERO_version%29.pdf> n_communicating_on_the_internet_%28LSERO_version%29.pdf>, (Accessed 26 December 2011).

²²¹ boyd, dana, Berkman Center for Internet & Society, Harvard University, 'Special Report: Kids, Data, and Internet Safety', 30 March 2010, <http://cyber.law.harvard.edu/publications/2010/Kids_Data_Internet_Safety#cybermyths>, (Accessed 30 December 2011).

²²² Freedom House, 2011, 'Freedom on the Net – Indonesia', <<http://freedomhouse.org/images/File/FotN/Indonesia2011.pdf>>, (Accessed 30 December 2011).

²²³ Anwar Hidayat, "Terbukti Menghina Lewat Facebook, Farah Divonis 2 Bulan Bui" [Proven to have insulted someone through Facebook, Farah sentenced to 2 months in Jail], Detik.com, February 16, 2010, <http://www.detiknews.com/read/2010/02/16/134623/1300580/10/terbukti-menghina-lewat-facebook-farah-divonis-2-bulan-bui>.

²²⁴ Unofficial translation of Child Protection Act (2002).

“The Government in undertaking care and maintenance shall strive for and assist children, so children can:

- a. Participate
- b. Be free to express opinions and think according to their conscience and religion;
- c. Be free to receive information verbally or in writing according to their age and developmental stage; [...]"

In line with the fact that freedom of expression is not an absolute right,²²⁵ the UNCRC also states that “the freedom to [...] express written and oral opinions, etc. shall be regulated by law.” Little international direction exists as to where to draw the line between freedom of expression and defamation when expressed online. Nevertheless, guidance has been provided with the UN Report of the Special Rapporteur on the Promotion and Protection of the Right to Freedom of Opinion and Expression issued in April 2011 which emphasizes that due to the unique characteristics of the Internet, regulations or restrictions which may be deemed legitimate and proportionate for traditional media are often not so with regards to the Internet. For example, regarding the defamation of individuals’ reputations, the Rapporteur further advised that given the ability of the individual concerned to exercise his/her right of reply instantly to restore the harm caused, the types of sanctions that are applied to offline defamation may be unnecessary or disproportionate for online actions.²²⁶ In light of the UN Report, decisions taken to prosecute the instigator of the online defamatory statements in Indonesia require revisiting.

Article 28 (1) of the ITE law adds that no person should “knowingly and without authority disseminate false and misleading information resulting in consumer loss in electronic transactions” and/or “knowingly and without authority disseminate information aimed at inflicting hatred or dissension on individuals and/or certain groups of community based on ethnic groups, religions, races and intergroups”. Finally, while Article 29 articulates that “any person who knowingly and without authority sends electronic information and/or electronic records that contain violent threats or scares aimed personally” is committing an offense.

More overarching is Article 40 which states that the “government shall protect the public interest from any type of threat as a result of misusing electronic information and electronic transactions that offends public order, in accordance with provisions of Laws and Regulations”.

Another important modification brought by the ITE law is the heavier penalty for criminal defamation than is set out in the penal code: anyone convicted of committing defamation online may face up to six years in prison and a fine of up to 1 thousand million rupiah (US\$ 111,000).²²⁷

²²⁵ Universal Declaration of Human Rights and International Covenant on Civil and Political Rights, 1948

²²⁶ Report of the Special Rapporteur on the Promotion and Protection of the Right to Freedom of Opinion and Expression, Frank La Rue, <http://www2.ohchr.org/english/bodies/hrcouncil/docs/17session/A.HRC.17.27_en.pdf> (Accessed 30 December 2011)

²²⁷ Unofficial translation of the Law of the Republic of Indonesia Number 11 of 2008 concerning Electronic Information and Transactions.

Discussions among government agencies to amend the ITE law took place but no concrete action had been taken as of December 2010.

While still in their draft forms, two bills have been the subject of much controversy in Indonesia. The ICT Convergence Bill announced as a replacement to the Telecommunications Law, Broadcasting Law and possibly the ITE Law, suggests that ICT providers (potentially including website administrators), both commercial and non-commercial, are required to obtain a license from the Ministry of Communication and Information, and according to its Article 37 are not permitted to “provide and/or distribute services that are contrary to the public interest, morality, safety and/or public order”.²²⁸ According to some critics, the vagueness of these provisions place restrictions on freedom of expression as well as for the open source community and expansion of WiFi hotspots.²²⁹²³⁰ Seemingly praised by the private actors in Indonesia, the bill is said to be “absolutely necessary considering that telecommunication services have begun to coincide with broadcasting industry”.²³¹

The proposed Multimedia Content Bill, if implemented, would require ISPs to filter or otherwise remove certain materials. The types of content listed include, according to its Article 3, “pornographic content”, and “other content that according to the law is categorized as content that violates morality”. Articles 4 and 5 add to the list of forbidden content “gambling”, “content that includes actions that degrade the physical, intellectual, service condition and ability and physical and non-physical aspect of another party”. The regulation continues with the creation of a Multimedia Content Screening Team consisting of 30 people, half of which would be from the government with the other being from the *community*-described as experts and professionals. Feared by critics²³²²³³ as holding essentially the function of an “Internet censorship body”, the announcement of the regulation prompted strong opposition and several interventions by the Minister of Communication and Information, who reassured in February 2010 that he is “one who believes in fighting for freedom of the press”.²³⁴ According to the Minister, the dissemination of the Bill was meant to be a “public test”, adding that “if this Bill does indeed restrict

²²⁸ Unofficial translation of Rancangan Undang Undang Republik Indonesia Tentang Konvergensi Telematika.

²²⁹ Cahyani, Firdaus, Yayasan Satudunia, ‘Kenapa Pembahasan RUU Konvergensi Telematika Harus Dihentikan?’, Brief Paper, <<http://www.satudunia.net/system/files/Brief%20Paper-RUU%20Konvergensi.pdf>>, (Accessed 28 December 2011).

²³⁰ Freedom House, 2011, ‘Freedom on the Net – Indonesia’, <<http://freedomhouse.org/images/File/FotN/Indonesia2011.pdf>>, (Accessed 30 December 2011).

²³¹ Bisnis Indonesia, ‘RI Butuh Segera RUU Konvergensi Telematika’, 21 Juni 2011, <<http://www.bisnis.com/articles/ri-butuh-segera-ruu-konvergensi-telematika>>, (Accessed 28 December 2011).

²³² A Facebook page for ‘SOS Internet Indonesia’, whose tagline is ‘Reject RPM Content, Let’s Protect Freedom’, has been ‘liked’ by 21,771 people. <<http://www.facebook.com/tolakrpmkonten>>, (Accessed 30 December 2011).

²³³ Nasution, Enda, ‘Selamat datang lembaga sensor internet Indonesia’, 12 February 2012, <<http://politikana.com/baca/2010/02/12/selamat-datang-lembaga-sensor-internet-indonesia.html>>, (Accessed 30 December 2011).

²³⁴ Khumaini, Anwar, ‘Tifatul: RPM Konten Multimedia Cooling Down Dulu’, detikNews, 24 February 2010, <<http://us.detiknews.com/read/2010/02/24/122226/1305812/10/tifatul-rpm-konten-multimedia-cooling-down-dulu>>, (Accessed 28 December 2011).

freedom of the press, automatically he [I] will cross it out".²³⁵ As of today, the proposal has still not been formally terminated and the future of the bill remains unclear.

²³⁵ Kompas, 'Tifatul Batakan RPM Konten Multimedia', 19 February 2010, <<http://nasional.kompas.com/read/2010/02/19/08532990/Tifatul.Batakan.RPM.Konten.Multimedia>>, (Accessed 28 December 2011).

GLOSSARY

Access: The right, opportunity, and/or means of finding, using or retrieving information. (Source: International Standard ISO/TR15489-1, Clause 3.1).

Adolescent: Males and females aged 10-19 years. (Source: United Nations Children’s Fund (UNICEF), ‘The State of the World’s Children 2011’, <http://www.unicef.org/sowc2011/pdfs/SOWC-2011-Main-Report_EN_02092011.pdf>).

Blog: A Web site that contains dated text entries in reverse chronological order about a topic. Blogs serve many purposes from personal journals to online newsletters. Written by one person or a group of contributors, entries may contain commentary, observations and opinions as well as images, audio, video, and links to other sites. (Source: PC Magazine, <http://www.pcmag.com/encyclopedia_term/0,2542,t=blog&i=38771,00.asp>).

Broadband: A transmission capacity with sufficient bandwidth to permit combined provision of voice, data and video, with no lower limit. Broadband is implemented mainly through ADSL, cable modem or wireless LAN (WLAN) services. (Source: ITU, <http://www.itu.int/wsis/tunis/newsroom/stats/The_Portable_Internet_2004.pdf>).

Child pornography: Child pornography means any representation, by whatever means, of a child engaged in real or simulated explicit sexual activities or any representation of the sexual parts of a child for primarily sexual purposes. However, since the World Congress III against Sexual Exploitation of Children and Adolescents in 2008, there is a growing consensus that the terminology child pornography does not adequately capture the exploitation that children suffer in these situations. Rather the term child abuse images makes more explicit the abuse and exploitation that is taking place. The terminology used in this document to refer to child pornography is therefore child abuse images. However, there is no internationally agreed definition of child abuse images (Source: Article 2 of the Optional Protocol to the CRC on the sale of children, child prostitution and child pornography (OPSC)).

Cyberbullying: Willful and repeated harm inflicted through the use of computers, cell phones, and other electronic devices (Source: Center for International Development at Harvard University, Information Technologies Group, <http://cyber.law.harvard.edu/sites/cyber.law.harvard.edu/files/RAB_Lit_Review_121808_0.pdf>).

Cyber cafe / Internet cafe: Public establishments offering access to Internet-enabled terminals in addition to other services, such as food and drink. Also known as an ‘Internet Café’. (Source: Center for International Development at Harvard University, Information Technologies Group, <<http://cyber.law.harvard.edu/readinessguide/glossary.htm>>).

Digital Behaviour: The way in which an individual behaves and interacts with other users online and in groups.

Digital Divide: The gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard to their opportunities to access information and communications technologies (ICTs) as well as to use the Internet. (Source: Patricia, J.P, (2003) 'E-government, E-Asean Task force, UNDP-APDIP', <<http://www.apdip.net/publications/iesprimers/eprimer-egov.pdf>>).

E-commerce: The conduct of transactions by electronic means. (Source: Center for International Development at Harvard University, Information Technologies Group, <<http://cyber.law.harvard.edu/olds/ecommerce/introduction.html>>).

Email (electronic mail): A computer-based form of sending and receiving messages via the Internet. Users may have their own e-mail account or use a shared account. (Source: Center for International Development at Harvard University, Information Technologies Group, <<http://cyber.law.harvard.edu/readinessguide/glossary.html>>).

Grooming: —As children in contact with others through ICT, children may be bullied, harassed or stalked (child —luring) and/or coerced, tricked or persuaded into meeting strangers off-line, being —groomed for involvement in sexual activities and/or providing personal information. <Committee on the Rights of the Child CRC/C/GC/13, Fifty-sixth session, Geneva, 17 January - 4 February 2011>

Information and communication technologies (ICTs): The building blocks of the Networked World. ICTs include telecommunications technologies, such as telephony, cable, satellite and radio, as well as digital technologies, such as computers, information networks and software. (Source: Center for International Development at Harvard University, Information Technologies Group, <<http://cyber.law.harvard.edu/readinessguide/glossary.html>>).

Internet: A linked global network of computers in which users at one computer can get information from other computers in the network. (Source: International Telecommunication Union, <http://www.itu.int/wsis/tunis/newsroom/stats/The_Portable_Internet_2004.pdf>).

Internet-service providers (ISPs): ISPs provide end-users, and other ISPs, access to the Internet. ISPs may also offer their own proprietary content and access to online services such as e-mail. (Source: ITU (2009), Glossary, Acronyms and Abbreviations, <http://www.itu.int/ITU-D/ict/publications/wtdr_99/material/glossary.html>).

Internet users: Subscribers who pay for Internet access (dial-up, leased line, and fixed broadband) and people who access to the worldwide computer network without paying directly, either as the member of a household, or from work or school. The number of Internet users will always be much larger than the number of subscribers, typically by a factor of 2–3 in developed countries, and more in developing countries. (Source: International Telecommunication Union, <<http://www.itu.int/ITU-D/ict> >).

ITU: International Telecommunication Union. The United Nations specialized agency for Telecommunications, <<http://www.itu.int/>>.

Malicious Software: (Also known as malware) Any software programme developed for the purpose of doing harm to a computer system or create mischief. The most common are Viruses, Worms, and Spyware. (Source: Business Software Alliance, Cyber Safety Glossary, <<http://www.bsacybersafety.com/threat/malware.cfm>>).

Mobile Phone: Portable telephone device that does not require the use of landlines. Mobile phones utilize frequencies transmitted by cellular towers to connect the calls between two devices. A mobile telephone service provided by a network of base stations, each of which covers one geographic cell within the total cellular system service area. (Source: ITU, <http://www.itu.int/wsis/tunis/newsroom/stats/The_Portable_Internet_2004.pdf>).

Mobile Internet: Internet accessed via mobile devices such as mobile phones through advanced wireless technologies like Wi-Fi, WiMax, IMT-2000, ultra wideband and radio frequency identification (RFID) tags. These operate at long, medium and short ranges. Handheld devices that are Internet enabled could open up the information gateway in a new and exciting market, that could help further the goals of universal access while challenging manufacturers and service providers to meet different users' needs across the globe. (Source: ITU, <<http://www.itu.int/osg/spu/publications/portableInternet/ExecSummFinal2.pdf>>).

News Sites: Websites providing news material. Popular Turkish news sites include, Hurriyet, Vatan and Milliyet.

Online: A resource that is available over the Internet or a network. (Source: Center for International Development at Harvard University, Information Technologies Group, <<http://cyber.law.harvard.edu/readinessguide/glossary.html>>).

Online Content: Information that is available online. The "message" rather than the "medium". (Source: Center for International Development at Harvard University, Information Technologies Group, <<http://cyber.law.harvard.edu/readinessguide/glossary.html>>).

Penetration: A measurement of access to telecommunications, normally calculated by dividing the number of subscribers to a particular service by the population and multiplying by 100. (Source: ITU (2009), Glossary, Acronyms and Abbreviations, <http://www.itu.int/ITUUD/ict/publications/wtdr_99/material/glossary.html>).

Platform: A hardware and/or software architecture that serves as a foundation or base. (Source: PC Magazine, <http://www.pcmag.com/encyclopedia_term/0percent2C2542percent2Ctpercent3Dplatform&ipercent3D49362percent2C00.asp>).

Population: The number of all residents in a country, regardless of legal status or citizenship, excluding refugees not permanently settled in the country of asylum. Data are midyear estimates. (Source: World Bank, 'Country at a Glance technical Notes', <<http://go.worldbank.org/WG51XXDWB0>>).

Portal: refers to the starting point, or a gateway through which users navigate the World Wide Web, gaining access to a wide range of resources and services, such as e-mail, forums, search engines and shopping malls. (Source: ITU Glossary 1-ITU (2009), Glossary, Acronyms and Abbreviations, <http://www.itu.int/ITUUD/ict/publications/wtdr_99/material/glossary.html>).

Rural: The urban/rural classification in Indonesia is based on a score derived from measures of population density, percentage of households in agriculture, and the availability of urban facilities such as schools, markets, hospitals, tarred road, and electricity. (See also Urban). (Source: Badan Pusat Statistik, 'Klasifikasi Perkotaan/Perdesaan', Kamus Sensus <<http://sp2010.bps.go.id/index.php/kamus/index>>, Accessed 28 December 2011).

Search Engine: A web site that maintains an index and short summaries of billions of pages on the web. Example includes Google. (Source PC Magazine, <http://www.pcmag.com/encyclopedia_term/0,2542,t=Web+search+engines&i=54339,00.asp>).

SMS: Short Message Service. A service available on digital networks, typically enabling messages with up to 160 characters to be sent or received via the message centre of a network operator to a subscriber's mobile phone. (Source: ITU, <<http://www.itu.int/osg/spu/publications/portableInternet/ExecSummFinal2.pdf>>).

Social Networking Site: A web-based service that allows individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. The nature and nomenclature of these connections may vary from site to site. Examples Include Facebook and Myspace . (Source: Boyd, d. m., & Ellison, N. B. (2007), *Social Network Sites: Definition, history, and scholarship*, <<http://jcmc.indiana.edu/vol13/issue1/boyd.ellison.html>>).

Software: The programmes or other 'instructions' that a computer needs to perform specific tasks. Examples of software include word processors, e-mail clients, web browsers, video games, spreadsheets, accounting tools and operating systems. (Source: Center for International Development at Harvard University, Information Technologies Group, <<http://cyber.law.harvard.edu/readinessguide/glossary.html>>).

Spam: The abuse of electronic messaging systems to send unsolicited bulk messages, which are generally undesired. (Source: International Telecommunication Union, <<http://www.itu.int/ITU-D/cyb/cybersecurity/spam.html>>).

The Convention for the Protection of Human Rights and Fundamental Freedoms (ECHR): Drafted in 1950 by the then newly formed Council of Europe, the Convention for the Protection of Human Rights and Fundamental Freedoms (commonly known as the European Convention on Human Rights (ECHR) is an international treaty to protect human rights and fundamental freedoms in Europe. (Source: The Convention for the Protection of Human Rights and Fundamental Freedoms, <<http://conventions.coe.int/Treaty/EN/Treaties/html/005.htm>>).

The Convention on the Rights of the Child (CRC): The Convention on the Rights of the Child is the first legally binding international instrument to incorporate the full range of human rights— civil, cultural, economic, political and social rights. In 1989, world leaders decided that children needed a special convention just for them because people under 18 years old often need special care and protection that adults do not. The leaders also wanted to make sure that the world recognized that children have human rights too. The Convention on the Rights of the Child (CRC, 1989) guarantees the right to express views and to be heard (Art.12), freedom of expression, including the freedom to seek, receive and impart information (Art.13), the freedom of association and peacefully assembly, and the right to information (Art.17) amongst others. (Source: The Convention on the Rights of the Child, <<http://www.unicef.org/crc/>>).

Urban: The urban/rural classification in Indonesia is based on a score derived from measures of population density, percentage of households in agriculture, and the availability of urban facilities such as schools, markets, hospitals, tarred road, and electricity. (See also Rural). (Source: Badan Pusat Statistik, 'Klasifikasi Perkotaan/Perdesaan', Kamus Sensus, <<http://sp2010.bps.go.id/index.php/kamus/index>>, Accessed 28 December 2011).

World Wide Web: The complete set of electronic documents stored on computers that are connected over the Internet and are made available by the protocol known as HTTP. The World Wide Web makes up a large part of the Internet. (Source: International Telecommunication Union, <<http://www.itu.int/ITU-D/ict> >).

Youth/Young People: Males and females, aged 14-24 years old. (Source: United Nations Children's Fund (UNICEF), The State of the World's Children 2011, <http://www.unicef.org/sowc2011/pdfs/SOWC-2011-Main-Report_EN_02092011.pdf>).

