8   Indonesia: A Profile

This section profiles Indonesia on a number of topics related to the use of ICTs and the following section highlights four case study projects. The research and subsequent interviewing was conducted by Donny Budhi Utoyo of ICT Watch in Indonesia. (www.ictwatch.com)

8.1   Project Overview

This research describes the utilization of information and communication technology (ICT) to empower the Small and Medium Enterprises (SMEs) in Indonesia. The focus will be put on the websites used by the SMEs to support their activities. These websites are the ones used by the SMEs to display their products, share information and even trade online. Upon conducting the research, the pre-selected SMEs and other site owners that have used ICT facilities will be interviewed to gather specific information. To complete this research, some related data will also be included to give better understanding about the ICT condition in Indonesia.

8.2   ICT in Indonesia: An Overview

By January 1st, 2002, the population of Indonesia has reached an estimated number of 207.5 million people, with its annual growth rate at 1.35 percent. Indonesia has the average income per capita of US$ 712.2, with its total of poor citizen numbering at 38.7 million people, or 18.6 percent of its population. The Gross Domestic Product (GDP) of Indonesia has reached US$ 172.9 billion, with three percent of growth every year. Indonesia's personal computer market sits at 5 PCs per 100 households, whereas in the rural areas the estimated availability is only at 1 PC/village.

8.3   Small and Medium Enterprise (SME)

Based on the research from *Biro Pusat Statistik* (Central Bureau of Statistics), it is proven that the Small and Medium Enterprise (SME) in Indonesia had an excellent resistance during the dire monetary crisis a few years back. The research concluded that 64 percent of the SMEs were not affected by the crisis, another 31 percent still operated albeit in a limited way, while only four percent of them got totally halted in their business activities. These days, the estimated total number of SMEs in Indonesia amounts to 40 million units, which in turn absorbs around 76.5 million workers. In fact, the amount of SMEs in Indonesia covers 99 percent of the total sum of national entrepreneurs, at the same time pervading 99 percent of total sum of national workforce, and continuing to contribute to 58.2 percent of the Gross Domestic Product. Considering the huge potential of SME position in Indonesia, the Government of Indonesia undoubtedly has allocated 42,300 billion rupiahs worth of credit fund in its 2003 budget for SME. This is quite an increase, considering the 23 percent rise from the previous year's 34,200 billion rupiahs. Currently the credit for SMEs forms 50.6 percent of the total banking credit expansion value in Indonesia.

8.4   SME and IT

The research done in 2001 by Partnership for Economic Growth (PEG) – USAID covering 417 SMEs in eight cities in Indonesia had concluded the following facts:

84.7 percent of SMEs that perform export activities use computers to support their activities.

61 percent of those SMEs claimed to have approximately 1 to 5 computers, while other 15.1 percent said that they employ 6 to 10 computers.

60 percent of those SMEs use computers for managerial activities and collect data from the Internet, 21 percent only use them for administrative and marketing activities, and 4.1 percent only for business correspondence [writing conventional letters/snail mail, not e-mail].

Furthermore, based on the research conducted by CastleAsia in January 2001 that covered 227 SMEs in 12 Indonesian cities, it is concluded that:

About 150 SMEs use the Internet, 98 percent of them have Internet access at the office whereas the rest 2 percent use the Internet at 'warung Internet' or warnet (telecenter/Internet kiosk).

About 100 SMEs use the Internet for the purpose of communicating with buyers from other cities/foreign countries.

50 percent Internet respondents use e-mail more than 20 hours per month, while yet another 25 percent use e-mail more than 40 hours per month.

93 percent Internet respondents use dial-up system, 15 percent of them has benefited from e-banking, and 38 percent of them have their own websites as a promotion tool.

According to a research conducted particularly in Jabotabek (Jakarta and its three nearby cities; Bogor, Tangerang, Bekasi) by Business Intelligence Report (BIRO), which was published on the book titled "Prospect of Small and Medium Enterprises in Indonesia", about 60 percent respondents are familiar enough with doing correspondence by e-mail and prepared to carry out online transactions. The research covered 420 SMEs located in the Jabotabek area, 80 percent of which has investment worth under US$ 1 million and 72.5 percent of which has the turnover rate at under US$ 1 million. It is also stated that 127 companies or around 30 percent SME respondents has already designed and used websites to support their promotion activities.

8.5   Telecommunication

With the telecommunication's deregulation being implemented in Indonesia, there will be at least two international gateway facility operators (companies that provide international calls) in Indonesia. They are Telkom and Indosat, both are the two biggest telecommunications companies in Indonesia. Apart from them, there are also nine cellular mobile telephone system operators, more than 101 paging companies and 2 fixed line operators. The country has an installed capacity of 7,882,000 units, with 7,825,152 fixed phone lines subscribed as the end of March 2003. Telephone line charges are at an average of US$1-$1.5 per hour (currency at Rp 8500 per US$1)

As of year-end 2002, the number of cellular users has reached 11,300,674 from 6,222,600 by the end of December 2001 and 3,669,300 in 2000. The Short Messaging Service (SMS) contribution is quite significant to cellular operators' income, which reached 13 percent in 2002, and 20 percent by March 2003. Various cellular services are becoming more common to mobile phone users as GPRS and WAP technologies are being offered at affordable rates.

8.6   IT and Internet Penetration

	1999	2000	2001	2002	2003
Internet subscriber (thousand)	256	400	581	667	800
Internet user (thousand)	1,000	1,900	4,200	4,500	7,550
.ID domain name registered	4,679	8,918	12,413	15,947	16,800
Peak of Internet Traffic (MBps)	2.05	3.07	40.96	245,760	620,595
Operating ISP	35	63	82	90	90

*) estimation until the end of 2003

Internet Service Providers (ISPs) in the country today with the major providers offer 56K service at an average rate of $0.40 per hour. ADSL, wireless, cable and satellite Internet facilities are now being offered as well. Based on IDC data, in 2001 Indonesia spent US$ 769 million in IT hardware, US$ 63 million in software, US$ 75 million in IT services. It is estimated a total of US$ 907 million of IT spending in 2001. There is approximately 2.3 million PCs in the country. Most of these PCs, about 1.9 million of them, are used in business and government. Only about 251,000 PCs are used in Indonesian households. In the area of education, more than 60,000 institutions currently use only about 58,000 PCs.

8.7   Education and IT

Nowadays, there are no exact number found on Internet penetration in educational sector. Nevertheless, many parties had several programs in increasing IT (Information and Technology) usage at school. For example, *Direktorat Menengah Kejuruan* (Directorate of Vocational School) from the Department of Education implements a developmental program called "Wide Area Network (WAN) *Kota*" (City Wide Area Network) in 11 Indonesian big cities. This program is aimed at connecting various schools in those cities together by using the Internet. There are also other similar activities, such as *Jaringan Informasi Sekolah* (Schools Information Network) which is provided by practitioners in education, and *Program Sekolah 2000* (School Program 2000), provided by Indonesian Internet Service Provider Association.

8.8   Law & Regulation

Issues	Status
Electronic Information and Transaction	Drafted by University of Indonesia (UI) and Padjajaran University. Had already conferred to Ministerial of Communication and Information. Will be soon presented to the President.
Telecommunication industry	Telecommunication Act (UU 36/1999)
Broadcasting licensing and content regulation	Broadcasting Act (UU 32/2002)
ICT industry	Presidential Decree (INPRES 6/2001)
Telecommunication Services	Ministerial Decree on Telecommunication Services (KEPMENHUB 21/2001)
Internet Telephony Services	Ministerial Decree on Telecommunication Services (KEPMENHUB 23/2002)
Digital Crime Act	Drafted by ICT Watch and Law Faculty of University of Indonesia
Intellectual property rights	Intellectual Property Right Act (UU 19/2002)
Consumer protection	Consumer Protection Act (UU 8/1999)
National strategy of e-Government Development	Presidential Decree (INPRES 3/2003)
Reference of Local Government Website Development	Drafted by Ministerial of Communication and Information

8.9   E-Government

Nowadays around 45 percent of local governments in Indonesia, ranging from regencies, cities, and provinces, have already owned their own Internet sites, which act as a basic tool for starting e-government. Unfortunately, only 27 percent performed well, performing daily updates and responding to the incoming e-mail. The President has issued *Instruksi Presiden* (*Inpres*) no.3/2003 (Presidential Decree) on National Strategy for Developing e-Government. Furthermore, the Department of Information and Communication is currently composing a Reference for Developing Local Government Site.

8.10   Indonesia Internet Review.

Introduction: The Bigger Picture

At first, the Indonesian Internet Service Provider Association or *Asosiasi Penyelenggara Jasa Internet Indonesia* (APJII) was highly optimistic that the customer growth of Internet Service Providers (ISPs) could increase to 72.12 percent throughout 2002, from 581 customers in 2001 to one million in the next year. Unfortunately, the optimism had failed in reality. Confronted with the result of current research conducted by AC Nielsen Indonesia, APJII had to give up to the fact that customer growth only increased 7 percent throughout 2002. Still according to AC Nielsen, the amount of residential access

user (household) in fact has declined 6 percent, from 13 percent in 2000 to 7 percent in 2002. This is partly caused by the telephone penetration rate in Indonesia, which is still low, only 3 to 4 percent from total population. This is quite a significant obstacle. Other obstacle which slightly dominant is the telephone tariff rate, which is quite expensive.

If in 2000 the *warung Internet* (*warnet*/internet kiosk) was the most favorable place for 50 percent Internet's user, then in 2004 the estimated amount will increase to 64 percent. The increasing number appears as the effect of the declining numbers of residential access users, which dropped to 7 percent this year, down from 13 percent in 2000. The declining trend is followed by office access user category, which falls from 42 percent in 2000 to 18 percent this year.

The Indonesia Mailing-list User Behavior*

In the end of 2001, Onno was evaluating http://groups.yahoo.com. He managed to review 30.000+ mailing lists out of 45.000+ mailing lists. Out of those mailing lists, only 1278 have more than 100 subscribers. Following is the data:

Total subscribers	465,749
Business	96,093 (20,6%)
Politics	32,388 (7.0%)
Hobby	48,342 (10.4%)
Religious	56,035 (12.0%)
Pornographic	59,871 (12.9%)
Knowledge	83,648 (18.0%)
Social Functions	89,372 (19.2%)

Message Distribution in 2001	1,635,395
Pornographic	42,590 (2.6%)
Politics	187,588 (11.5%)
Religious	194,714 (11.9%)
Hobby	236,023 (14.4%)
Knowledge	291,396 (17.8%)
Business	306,480 (18,7%)
Social Functions	376,604 (23.0%)

Subscriber Activeness	Average Messages / Subscriber / Month
Pornographic	0.71
Business	3.20
Religious	3.47
Knowledge	3.48
Social Functions	4.21
Hobby	4.88
Politics	5.79

Total consumed bandwidth	1,732 Kbps
Hobby	103 Kbps (6.0%)
Politics	113 Kbps (6.6%)
Religious	149 Kbps (8.6%)
Business	153 Kbps (8.8%)
Social Functions	237 Kbps (13.7%)
Knowledge	270 Kbps (15.6%)

*Digital Review of Indonesia by Onno W Purbo, November 2002

High-Tech Crimes and Impact to e-Commerce

Surprisingly, Indonesia is the second paradise in the world, after Ukraine, for cyberfraud agents. A Texas-based security company, ClearCommerce (ClearCommerce.com), claims this fact in 2002. The company added that around 20 percent of Indonesia-originated credit card transactions on the Internet are cyberfraud. The research, which began from mid 2000 until end of 2001, surveyed 1,137 merchants, six million transactions, and 40 thousand customers. Besides cyberfraud, other criminal activities often found on the Internet are phony trading (offering non-existent items) via chatroom and site hacking. Most of those cyberfraud agents perform their action from the *warnet*.

According to MarkPlus research in 2000, which concerned 1,100 people from five big cities in Indonesia (Jakarta, Bandung, Yogyakarta, Surabaya and Medan), 90 percent of total respondents have never done or been unwilling to do online transactions. When asked why, the answers followed: They simply do not trust transaction online (15.1 percent) and they do not feel safe or thought that the risk is too high (13.6 percent). That means 25.85 percent, or around 284 out of 1,100 respondents surveyed, turned out to be reluctant on doing online transactions because they are much worried about the safety factor when doing transaction via the Internet.