

## A History of Indonesian Telecommunication Reform 1999-2006

Susan Eick  
University of Washington  
susaneick@yahoo.com

### Abstract

*This study examines the effect of Indonesia's telecommunications policy on Internet access and the digital divide. The study finds that current government policy had minimal impact on Internet access. Policies of privatization and depoliticization should be fully adopted alongside the current policy of liberalization. These policies could lessen government intervention in both regulation and in corporate telecom ownership, and create a more stable, competitive telecom sector. The Telecommunications Act of 1999 signaled a new effort by the government to attend to telecom market reforms, but continuous political wrangling hindered reform implementation. While ethnic clashes and political instability hold Indonesia on the brink of a crisis, further reform policies could encourage the country to move forward.*

*A conceptual framework exemplifies a triangular relationship between the government, service providers, and users. Data used in the study are based on government statistics, company-published information, the World Telecommunications Indicators Database, and secondary sources.*

### 1. Introduction

In this paper, I argue that Indonesian telecom policy should be reformed to include privatization and depoliticization. While the government remains key to telecom implementation, its decrease in corporate ownership and enforcement of independent regulation could increase the pace and the impact of reform. As of December 2005, less than one percent of Indonesia's population subscribes to the Internet and seven percent uses the Internet. These rates are low, even for a developing country. Published research analyzes the digital divide between developed and developing countries, and reveals Indonesia's low technology development status within Asia and

worldwide. But very little research focuses on Indonesia's internal digital divide and policy that could be implemented to improve Internet access. Almost no research has been published on Indonesian telecommunications policy since 1997. While government policy is only one piece of the solution to narrowing the digital divide, it remains an important factor worthy of examination. Many factors affecting the divide stem from infrastructure policy. Indonesia's current course of action could help many countries understand the efficacy of telecom market liberalization in an emerging democracy.

### 2. Background

The conceptual framework explaining Indonesian telecom policy reform is illustrated in a triangular relationship. The first point on the triangle is the government branch called the Indonesian Ministry of Communication and Information Technology (MCIT). The MCIT sets the policy while the Directorate General of Posts and Telecommunications (DGPT), a subsection of the MCIT, is the regulatory authority. The DGPT's function is to regulate, monitor, and enforce laws in the telecom industry. Functions include licensing and surveillance to ensure laws are followed by telecom companies. (The Indonesian Telecom Regulatory Agency, or BRTI, was created in 2003 as an independent regulator. But it is currently chaired by a member of the DGPT, and the agency lacks any real power.) The MCIT's policymaking is a function which deals with strategic development planning and fundamental technical plans of national posts and telecommunications. The three functions held by DGPT comply with the MCIT's policies [1].

The second point on the triangle is the service providers, who are partially privatized, with significant government ownership in Telkom. While private competition has surfaced in policy and discussion, it has not been fully implemented. Political and cultural traditions have held Indonesia back from executing drastic reform in the past few years. The government's

company ownership alongside its regulatory power and policymaking complicates the reform process.

The Internet users represent the third point on the triangle. They rely on both the government and the service providers for affordable and reliable Internet access. One major reason telecom diffusion has stalled is the high cost to the end user. If the BRTI can regulate telecom without government interference, the process of pricing and tariff reduction, as well as end-user service, could dramatically improve.

Indonesia has remained low in Information and Communication Technology (ICT) growth over the past decade. The government has attempted to reform the market structure and increase competition in the market. The government has set a policy of liberalization and a framework for increasing Internet access throughout the archipelago. In order to understand Indonesia's most recent telecom policy, it is important to review the country's historical market structure, as well as the four types of market-oriented infrastructure policy. Such policies are referred to as depoliticization, separation, privatization, and liberalization. Depoliticization is the elimination of the executive branch's political influence on the regulatory authority. Separation means disconnecting the regulatory authority from the executive branch altogether. Liberalization is the opening of the retail market to multiple service providers. Privatization refers to privatizing ownership of state-owned companies.

The choice of policy affects the ownership and actions of service providers as well as costs to Internet users they serve. In an industry as multi-dimensional and far-reaching as telecom, which is merging with information technology more each year, it is impossible for any country to ignore the consequences of avoiding good policy which affects both the public and the private sector across socio-economic lines. A country's decision to adopt a certain policy type stems from economic and non-economic areas. Research in economics and political science implicates several domestic economic pressures, national political traits, and key interest groups' roles in policy reform. During the Suharto era, Indonesia's telecom infrastructure actually grew. But by the 1990s, the state could not financially or logistically keep pace with population growth and dispersion. The pressure to reform the telecom sector amplified.

As the population inches toward a democratic, civil society, it faces a daunting task of technology adoption and integration. Throughout most of the country, there remains a significant lack of basic telecom infrastructure. The legacy of the former President Suharto's regime continues to prevail; the

government maintains a high level of corporate ownership in the industry, thus restricting competition to open up the market and let needed foreign and private domestic money flow in. The reality Indonesia currently faces with a lack of ICT development reveals a common dilemma among developing countries. Better government policy is needed to create opportunity for stability, competition, and growth in the marketplace.

What makes Indonesia a fascinating and unique case study is its status as a balance between the Islamic world, state-run Asia and free-market Asia. Throughout his autocratic rule, Suharto would manipulate whomever he could to maintain control of the government. Suharto sided with moderate, mainstream Islam in the 1980s but completely reversed his stance to back conservative Muslims in the 1990s. His goal was to create barriers among his adversaries so nobody could obtain enough power to overthrow him. Suharto's manipulation of Muslims and political factions is a major factor in Indonesia's ongoing violent instability [11]. The former ruler severely limited liberalization of the press in 1994 to subdue the growing pro-democracy movement within the country. Throughout 1997 and 1998, Suharto instigated violence between political and religious groups, which nearly led the country to civil war. Almost all Muslims rejected Suharto's abuse of their religion and demanded his resignation [11]. This fact showcased the failure of his policy on Islam. It also revealed an appetite for a civil, moderate Islamic society. Indonesia's situation demonstrates the ability to balance Islam with an advancing technological, democratic society. Furthermore, some argue that privatization is a condition for democratic peace. It could help Indonesia to continue on the path toward democratic peace through the use of more progressive, free-market policies.

While key interest groups who opposed Suharto's government used the Internet to disseminate political views, the technology did not act as the primary catalyst that led to Suharto's downfall. The Internet was merely one of many ways to educate and influence the population. The unique aspect of the Internet in policy reform and the overthrow of Suharto's government was that it was independent. Suharto was not fully aware of or not able to control the Internet's use for spreading political discourse.

By using the Internet, interest groups obtained international support during the struggle for East Timor's independence. In the late 1990s (and still today), Internet access in East Indonesia was rare. It was just as unusual to find educated Indonesians who could understand the technology, use it for political

leverage, and speak English. Yet the Internet acted as a tipping point in East Timor’s pro-independence movement.

While examples of the Internet’s reach and positive impact in developing countries proliferate, it is imperative to consider the opposite effect ICTs have on Indonesia’s disparate population. Internet access seemed all that was necessary to achieve a given goal in the late 1990s. But no roadmap existed that would reveal how and when socio-economic equality would be promoted or positioned. Access to the technology remains the largest barrier to equality. Hugely unequal distribution of telephone lines and telecommunications equipment within Indonesia’s 33 provinces remains a problem for the vast majority of the population. Consequently, the Internet replicates old inequalities and provides the privileged with even greater advantages online [12]. Regrettably, the digital divide continues to grow within Indonesia’s population.

**2.2 Demographics**

Indonesia is the fourth most populous country in the world with approximately 245 million people. It is a predominantly Muslim country but is ethnically and geographically diverse with dozens of local languages and more than 17,000 islands. Indonesia encompasses an area of 1,919,440 square kilometers, slightly less

than three times the size of Texas [15]. The largest cities in the country are all located on the island of Java which is home to about 70 percent of the total population. Jakarta, the capital, is home to 18 million people. Surabaya and Bandung both have populations of 3 million [24]. Approximately 17 percent of the total population lives below the poverty line [15]. About 23 percent of all urban dwellers live in slums [13]. Approximately 69 percent of the total population lives in rural areas without telephone lines or wireless connections. Java is one of the most densely populated areas in the world, with more than 120 million people, or some 945 people per square kilometer. By contrast, the most densely populated Outer Islands have 90 people or fewer per square kilometer.

**3. The Digital Divide within Indonesia**

Just four in every 100 people have direct access to a fixed telephone line. Only one in every 100 people has a personal computer (PC). While PCs are not the only method of connecting to the Internet, the markets for Personal Digital Assistants (PDAs) and cellular phones have not yet expanded significantly in Indonesia. Table 1 reveals the growth of Indonesian telecom indicators over the past decade.

**Table 1. Indonesia Telecom Indicators**

Table 1		Source: World Telecommunications Indicators Database, UN Statistics, CIA WorldFactBook		
Indonesia Telecom Indicators		1995	2000	2004
Telecom	Internet Users/100	Less than 1	1	7
	Internet Subscribers/100	Less than 1	Less than 1	1
	Internet Service Providers	N/A	150	232 (2005)
	Personal Computers/100	Less than 1	Less than 1	1
	Telephone Lines/100	2	3	4
	Mobile Phones/100	0	2	13
Economics	% Population <\$1/Day	14	7	8 (2002)
	School Enrollment, Secondary	N/A	55%	62% (2003)
	Literacy Rate	N/A	N/A	95%
Politics	Corruption % (ranked as major business constraint)	N/A	N/A	42%
	Type of Government	Autocracy	Democracy	Democracy
Culture	Official Language	Bahasa Indonesia	Bahasa Indonesia	Bahasa Indonesia
	% Muslim	N/A	88%	88%

Internet access is determined by a combination of available telecom infrastructure and affordability of Internet services, both of which are closely related to government policies. The Internet is a tool for a given country’s social and economic development.

Indonesia’s internal digital divide is determined by Internet access. Internet access is indirectly determined by the educated rich versus the uneducated poor. About two-thirds of all users are male, and they usually access the Internet from work or from Internet

cafés [21]. The educated rich typically live in bigger cities. Jakarta, Bandung, and Surabaya are home to the highest number of public access points such as Internet cafés, post offices, and kiosks. Nearly half of all telephone lines are in Jakarta alone. In contrast, as of 2003, approximately 42,000 of 72,000 Indonesian villages had no landline connections [12].

As of 2002, approximately 75 percent of Internet subscribers and users were in Jakarta, 15 percent in Surabaya, 5 percent in other Java cities, and the last 5 percent scattered throughout the rest of the country. As of 2003, most ICT industry companies' addresses were in Jakarta, Surabaya, and Bandung (more than 1,500 companies). Less than six companies were listed in Sumatra and Bali, and a few in other locations [12].

The Indonesian Central Bureau of Statistics (BPS) reports that the price of a PC is more than one month's income for most Indonesians. Internet cafés have opened throughout the country over the past decade, albeit mostly in the big cities in Java. Warnets are a smaller, cheaper version of Internet cafés. They are typically run out of someone's home with one or more computers. A warnet rents Internet access by the hour or the minute. It is much more affordable than buying a PC and paying for a home subscription. Thus many middle- to lower-income citizens use warnets.

It is difficult to establish the actual number of warnets in operation. The Warnet Directory and other sources have listed 1,200 to 2,500 warnets throughout the country. In 2002 the government published information showing 35 percent of warnets in Jakarta, another 51 percent throughout Java, six percent in Sumatra, three percent in Bali and West Nusa Tenggara, two percent in Kalimantan and Sulawesi, and one percent in Maluku and Irian Jaya [12].

In the early 1990s, Internet access was mostly confined to universities. Internet Service Providers (ISPs) began offering dial-up service to homes and offices in the mid- to late 1990s. Today, the majority of Internet users access the Internet from a public Internet access point, or from an office landline, and a few from home [12]. Table 2 explains where Indonesians are accessing the Internet.

**Table 2. Internet Access Points**

Table 2	Source: APJII Statistics	
Internet access points	Indonesia before 1999	Indonesia after 1999
School/university	Primary	4%
Home		12%
Work	Secondary	Primary 41%
Cafés/Warnets	Secondary	Primary 43%

Like most countries, Indonesia allowed immediate competition in the Internet services market. By 2005, 232 ISPs were licensed and members of the Indonesian ISP Association. However, few ISPs have been able to obtain market share or sustain business. About 93 percent of the market is shared among five ISPs. Telkom's Telkomnet has 48 percent market share. Cyberindo Aditama, Centrin, Radnet, and Indonet collectively comprise 45 percent market share [26]. Telkomnet's dominant position is a result of its vast nationwide infrastructure and majority government ownership. The other ISPs focus on the profitable business markets in the large cities. Telkomnet serves business as well as residential markets throughout the country.

The Internet user base in Indonesia of 3.76 per 100 inhabitants at the end of 2003 was not only significantly lower than most Southeast Asian countries but it also compared poorly with the total Asian average of 6.86. The average includes East, South, and Southeast Asia. As of December 2005, Internet users increased to about seven percent of Indonesia's total population, compared to nine percent in the Philippines, 13 percent in Thailand, and 67 percent in Singapore. The only countries to lag behind Indonesia's Internet user base rank were Cambodia, Laos and Myanmar, all of which had a user base rank of less than one percent [18]. Table 3 shows that the estimated cumulative growth of Internet subscribers and users has slowed since 1998.

**Table 3. Internet Subscribers and Users**

Table 3	Source: APJII Statistics	
Year	Subscribers	Users
1998	134,000	512,000
1999	256,000	1,000,000
2000	400,000	1,900,000
2001	581,000	4,200,000
2002	667,002	4,500,000
2003	865,706	8,080,534
2004	1,087,428	11,226,143
2005	1,500,000	16,000,000

The volume of traffic carried on the Indonesian Internet Exchange increased from 2 Megabytes per

second in 1999 to 4 Gigabytes per second in 2005 [6]. This is partially due to the increasingly open political environment and a flood of Indonesian news-based online portals. This traffic volume reveals Indonesia's huge potential if Internet access becomes widely available. Wireless Internet connections and services are advertised heavily to the Jakarta elite; a miniscule amount of such services have been sold. Those running the ISPs and warnets are typically young, male, and relatively highly educated [12]. ISP and warnet owners should reach out to the majority of the population, but most Indonesians cannot afford Internet access. In 2003, 20 hours of Internet access per month cost U.S. \$22, about 38 percent of monthly gross national income per capita [30].

In 2001 the government spent only .6 percent of its GDP on telecom equipment. This investment was more than in previous years, but it was a small investment compared to The Philippines at 2.4 percent, Singapore at 3.7 percent, and Thailand at 1.2 percent [29]. In 2002 Indonesia ranked 35th of 45 Asian countries in telecommunications infrastructure. The country was ranked 23rd in foreign investment attractiveness [21]. This indicator advises foreign investors on whether or not to invest in a particular country. The indicator applies a ratio between the penetration of telephone lines and the GDP per capita, which reveals phone line availability compared to affordability. In spite of government liberalization of previously restrictive investment rules, foreign investors continue to encounter problems. Since the late 1990s, companies have remained wary of investing in Indonesia, and an increasing number of manufacturers have relocated outside the country because of security issues, deteriorating infrastructure, corruption, high interest rates, and increasing labor costs [9]. However, a strengthened currency, increased domestic consumption and successful small and medium businesses reveal a recovering economy.

#### 4. Policy Reform

The idea of a free market economy has gained momentum and increased its presence in policy reform across the globe over the past 30 years. Telecom and other infrastructure industries are the recipients of such reform. The approach is to attempt to reduce the role of politics and the state in the domestic economy so markets can function on their own. This includes encouraging entrepreneurship and investment, tax reform, free trade, and subsidy reduction to help long-term economic growth. This approach has not taken hold at the same level or within the same time frame in all countries that have adopted it [6]. In 1980, just 10

countries had adopted policy reform in the telecom sector. By 1999, 124 countries had adopted reform [10].

##### 4.1 Policy before 1999

In the case of Indonesia, the former President Suharto's 33-year autocratic regime tightly controlled all aspects of telecommunications. The Telecommunications Act No. 5 of 1964 gave the government full control in the form of a monopoly. The government both regulated and operated telecommunications. The 1964 Act provided an opportunity for the government to choose goals that would serve the national interest, which allowed its political ideology to direct the growth of telecom in the country. During the 1980s, there was a separation of national and international telecom services. Indosat, the Indonesian operating company in charge of international telecommunication services, was wholly owned and operated as a subsidiary of ITT, a U.S. multinational company. In the government's view, public interest would be served best if international communication rights using satellites were transferred to ITT. Then ITT sold Indosat to the Indonesian government in 1980, at which time Indosat became the sole provider of international services. Indosat successfully increased international traffic [8]. In 1974, a state-owned company called Perumtel provided both domestic and international services. Once Indosat became the sole international provider, Perumtel (now called Telkom) became the monopoly supplier of domestic services.

But the state-run incumbents could not solely finance the demand for telecom infrastructure. The government had not allocated any money for telecom infrastructure development since 1985 [29]. The amalgamation of a lack of government funding, increased demand, and technical difficulties in infrastructure development led to the Telecommunications Act No. 3 of 1989, which shifted away from total reliance on government resources to greater private funding. The government held its monopoly while allowing the two incumbents to form strategic alliances with private domestic and foreign companies, which created partial privatization.

Indonesia's telecom infrastructure grew during the 1990s. Landlines more than doubled from 1994 to 1998, a result of the partial privatization of the incumbent telecom companies. Although the infrastructure expanded, it remains far from enough to cover basic needs of the vast majority of the population. The important outcome of the reform process of 1989 through 1998 was the increased

competition in the market, although the impact was seen mostly in the mobile phone market. When markets are more competitive, the government benefits from increased taxes and fees. The service providers have to win customer loyalty, but they have more opportunities without political intervention. The users benefit from lower prices and more choices. As an example, South Korea privatized telecom in 1993 and liberalized the sector in 1996. South Korea's current global leadership in broadband adoption is a culmination of appropriate government policy, increased demand, and market competition [20].

The Asian economic crisis in 1997, which started in Thailand and spread throughout the region, put Indonesia's economy at its lowest level since its independence in 1945. From September 1997 to March 1998, the Indonesian rupiah lost almost 70 percent of its value relative to the U.S. dollar [11]. The regional and domestic financial crisis highlighted government weaknesses. Indonesians' resentment and intolerance ultimately forced President Suharto out of power in 1998. Socio-political change created opportunities for democracy, economic development and policy reform.

Another catalyst for reform was globalization which stemmed from new technology. Technology had become so much more integrated in society since 1989 that new law needed to be written to regulate the industry. Furthermore, in an attempt to recover the economy and increase international opportunities, Indonesia committed to the 1998 World Trade Organization (WTO) Basic Telecommunications Agreement, which theoretically provided fair competition under the transparent supervision of an independent regulator. Other stipulations of the WTO agreement included commitment to increased fixed telephone lines, open access to networks of incumbent operators, a smooth transition process of technical matters, and a transparent, cost-based tariff calculation of interconnections [5]. In order to obtain membership to the WTO, Indonesia had to agree to comply with the WTO's Basic Telecommunications Agreement.

## 5. The Telecommunications Act of 1999

When Suharto's autocratic government collapsed and the full weight of the Asian economic crisis halted Indonesian economic progress in 1998, the country's transition to the first stages of democracy included a second wave of reform to curb the continued political, financial and regulatory problems in telecom. While the partial privatization of Telkom and Indosat in 1995 helped increase telecom availability, political interests continued to influence the market structure and overshadow market needs [27].

Indonesia's transformation to a democratic government, the metamorphosis of technology, and the continued lack of foreign investment resulted in the Telecommunications Act No. 36 of 1999. The Act included a liberalization program which was deemed crucial to the success of disseminating affordable telecom access to the urban and rural population. Access was needed not only in Jakarta and other large cities, but also in the thousands of villages throughout the archipelago which continued to lack basic infrastructure and services.

The government's telecom sector strategy was based on the 1999 Blueprint for Telecommunications Development, published by the Ministry of Tourism, Posts and Telecommunications. The Blueprint was followed by the 1999 Act. The main reform objectives were to improve telecommunications performance to compete in globalization; eliminate all forms of monopoly by 2010; increase transparency of regulatory processes to enhance investor confidence; create opportunities for national operators to form international alliances; create opportunities for medium and small enterprises to participate; and expand employment [27]. The 1999 Act outlined necessary changes, which included eliminating the government's role as the regulator and primary service provider, as well as the policy maker. Ultimately, privatization and depoliticization are needed to make a difference in telecom availability throughout the country.

## 6. Challenges of Reform

Indonesia has had significant problems following through on any plans to fully implement meaningful change in ICTs nationwide. The push for liberalization was a start, but problems have persisted. The promotion of access to services in remote market areas has not fully developed. Most private Indonesian telecom companies focus on the profitable urban markets. There is little current incentive for them to invest in less affluent rural areas.

In 2001, a publicly listed company called Myohdotcom Indonesia partnered with multinational Hewlett-Packard and the Office of the Minister of State for Research and Technology. Together they created a network of small franchises operating a potential of 9,000 rural Internet access points. Referred to as warintek, these rural area kiosks provide Internet access as well as CD Roms with science and technology data. The purpose of the warintek was to create more community access points where people could learn about multimedia and the Internet, not simply access it. By 2002, the project was scaled back to 4,000 locations when Myohdotcom had trouble

securing financing from banks. Local governments were empowered by post-Suharto regional autonomy. Some of them made a push to support warinteks through local funding, but lack of support and follow-through caused many communities to never implement the idea [12].

The Presidential Decree No. 6 of 2001, signed by then-President Abdurrahman Wahid, presented basic principles of online government and the development and utilization of telecom. Another decree in 2003, signed by then-President Megawati Sukarnoputri, tasked government authorities to implement e-government nationally. The four primary objectives were to improve public information and services by government departments; improve government links with the business community to enhance international competition; create mechanisms to facilitate public dialogue in policy decision-making processes; and create a transparent and efficient system of governance at all levels. The plan failed to mention the lack of technology or Internet access among the population [12].

After signing the 1998 WTO Basic Telecommunications Agreement, and after democratic elections in recent years, Indonesia realized a need to conform to other nations in terms of socio-economic inclusion and universal telecom access. In 2003, the DGPT's presentation to the Asian summit in Thailand on its Universal Service Obligation revealed a rudimentary plan for universal telecom access by 2005 [25]. The goal has not been realized.

From 1999 to 2006, Indonesia has continued to struggle politically and economically. However, growth is slowly occurring. The emergence of democratic rule in 1998 led to significant changes in labor market policies, resulting in a climb in Indonesia's minimum wages from 2000 to the present [4]. But in December 2004, workers in Jakarta protested the governor's decision to raise the monthly minimum wage by only six percent to U.S. \$78 (711,843 rupiah), which is below the government-determined minimum living standard. The minimum wage in East Java increased to \$34 (310,000 rupiah) per month [16]. While incomes may be on the rise, Internet access is unaffordable for most people. Internet users remain a small fraction of the population. Government policy has not changed the high price of Internet connection fees and tariffs to the consumer, which remains one of the strongest inhibitors to more Internet access adoption.

In 2002, the government ended Telkom's exclusive rights to provide fixed line services in Indonesia, but as of 2005 the company still acts as the principal market player. The company also provides

interconnection, network, and Internet services. Some ISPs have complained of network interconnection problems with Telkom. Interconnection is crucial for efficient competition. Other shortcomings reveal the government's lack of follow-through. A provision in the 1999 Act to provide a tariff formula has not been fully executed. Telkom has been unable to calculate telephone tariffs using a logical cost-based formula. As a result, the company requests the DGPT to increase tariffs each year, which passes on additional controversial costs to the Internet user [29].

The Indonesian government owns 51 percent of Telkom. The government retains 15 percent of Indosat, but it sold 42 percent of the company to Singapore Technologies Telemedia (STT). (The Indonesian government has recently considered buying back its share from STT.) The remaining 43 percent of Indosat is owned by public investors. Indosat provides mobile, Internet, satellite and fixed wireless services [14]. The company owns several affiliates which dominate telecom markets. Indosat recently launched a fixed wireless service called StarOne, which delivers multimedia communications within Jakarta and Surabaya. What little infrastructure that does exist in rural parts of the country primarily comes from Telkom. No other companies have built as vast an infrastructure. But a balance must be struck between the politics and the benefits of government ownership.

Other Jakarta-based players exist in the market, but they are unable to financially compete at the current level of Telkom. Privately held Alcatel Indonesia provides the design and installation of personal voice and data communications networking equipment and services. Privately held BT Worldwide provides telecom services and support [23].

Previous policy stipulated that foreign ownership of a telecom company was limited to 35 percent, whereas in 2000 the foreign ownership limit was increased to 49 percent. This is a step in the right direction, but foreign companies still lack major incentives to invest in Indonesia's continuously unstable climate.

## 7. The Case for Further Reform

Research throughout this paper reveals failed government policy follow-through, resulting in room for further reform. It is entirely possible that privatization, depoliticization, and liberalization can be adopted over time, creating financial growth and technological diffusion. Indonesia's telecom monopolization addressed most urgent needs in the past, but more telecom affordability and availability are needed today.

While free-market reforms often benefit historically democratic countries, they don't necessarily benefit traditionally statist Asian countries. Autocratic rule has shaped Indonesian telecom, and drastic change does not come easily. Recommendations in the 1999 Act such as independent regulation and a competitive market have not fully come to fruition. But these changes need to happen if capital is going to flow into the telecom sector. While reform is needed now for underserved areas, change would most likely happen over several years since Indonesia is still being introduced to democracy and free-market reform.

The historically political nature of telecom in this country makes independent regulation difficult to achieve. But the nature of the industry and the needed capital makes depoliticization very important. A lack of independent regulation could result in the same high access fees and restrictions, regardless of public or private ownership. Both types of ownership need regulation. Furthermore, reforms that have not been depoliticized can often lead to increased corruption [10]. Independent regulation could also create an incentive for more foreign investment; companies wary of investing in Indonesia could see a break in domestic favoritism, high tariffs, or political interference. The country's new democratic leadership has an opportunity to push for further reform.

Privatization could also encourage foreign and domestic companies to invest in telecom. Competition is one of the most effective economic incentive systems. Since the government is unable to meet all telecom needs, privatization could help overcome the effects of government failure under public ownership. Private competition is neither necessary in all circumstances nor sufficient on its own; but if given more time, it could provide additional capital and stimulate further development in the industry. Although the country's statist traditions cause the government to hold onto central control of telecom, the World Bank continues to push for private competition [7]. While private competition may help meet demand, so too will state ownership. Indonesia's real-world solution most likely includes both private and public ownership to address infrastructure and service needs in urban and rural areas.

The telecom industry in many countries does not symbolize the ideal model of market competition. Privatization remains only part of the solution. Economists argue that the joint adoption of privatization, regulatory reform, and liberalization produces better outcomes than if adopted alone [10]. The World Bank also argues that private competition

coupled with independent regulation could help eliminate poverty in poor, developing countries [7].

Optimal policy in Indonesia would enforce more affordable user fees. It would also encourage urban and rural competition, and require state-run companies to invest predominantly in rural markets.

## 8. Conclusion

In this paper, I argued that Indonesian telecom policy should be reformed to include privatization and depoliticization in order to stimulate Internet access. The Internet is a powerful tool through which citizens can learn, communicate, promote and consume. Internet access can be used to direct the country toward a knowledge-based economy.

A country's greatest asset lies in the knowledge and creativity of its people. Thus, schools, universities, and companies should encourage Internet use for education, English language training, and research. Similar to the warintek model, urban and rural cafés should provide training rather than just online access. A temporary suspension of Internet café taxes or fees could spur usage. As democracy unfolds, ordinary Indonesians can participate in citizen journalism - they can collect and communicate information to share with the masses online. This powerful medium can help transform a struggling country into a global competitor.

While the 1999 Act undoubtedly impacted the growth of Internet users in recent years, it did not enforce many needed reforms. As Indonesia works for political stability and economic growth, state ownership and private competition must work together. State-led infrastructure and programs for rural areas should be met with financial support, creativity and competitive pricing from private domestic and foreign investors. Indonesia's telecom policy should reflect the country's symmetry with Islam, state-run Asia and free-market Asia. Further policy reform is therefore necessary, albeit in congruence with the country's cultural traditions in politics and business.

Regardless of how gradually Indonesia deregulates the industry, In order to expand infrastructure and ICT support, privatization should be implemented along with liberalization. Should more private domestic companies succeed in the market, the competition may increase the market's value. Encouraging more private ownership may also create opportunities for expanding companies to elevate awareness of ICTs to rural communities where potential markets can be tapped. The private sector may assist government campaigns or create their own.

The government should either create incentives for private investment, or invest a portion of current telecom funds in research as to how ICTs can help poor areas.

Depoliticization is equally important in creating fair market structure. Governments who regulate themselves can easily prioritize self-interest above the population's needs. An independent regulator could more effectively enforce the use of a tariff formula, fair ISP interconnection rules, and an actionable plan for universal service. The government's role as regulator must be handed over to an independent

entity. Its role as policymaker and partial corporate owner will remain, while service providers branch out to further private ownership. This formula could increase end users' access to Internet technologies and decrease costs through competition. As a comparison, no Asian country has implemented telecom depoliticization with the exception of Hong Kong in 1995, and Singapore, when it applied the policy in tandem with separation in 1992 [10]. Table 4 shows the policy use among the Telecommunications Acts.

**Table 4. Indonesian Telecom Implementation**

Table 4	Source: Aliep & Negeri, 1998 [2], <a href="http://www.unescap.org">www.unescap.org</a> , 2003 [27]		
	Telecom Acts		Implementation
Market Reform	1989	1999	
Privatization	Partial by incumbents 1995	Partial by incumbents; minimally introduced 2002	Incumbent monopoly legally ended 2002
Separation	Introduced in 1993	Not implemented	Not implemented
Depoliticization	Not implemented	Minimally introduced 2004	BRTI run by DGBT member; need more effective action
Liberalization	Not implemented	Competitive market structure encouraged 1999	Open market mobile/ISP competition by 2005

Research suggests that privatization executed with liberalization has often improved the economic performance of industries previously owned by the state [10]. It would be difficult for foreign or domestic private companies to compete if the state owns the dominant providers and also regulates the sector.

According to a study by the American Sociological Review (2005), China liberalized its telecom sector in 1997. However the country did not depoliticize or separate the regulatory authority from the executive branch. The study also states Indonesia separated the executive branch from regulation in 1993, but without a competitive market, the state-owned monopoly continued to control the market. Telephone lines were not built when and where they were needed. Similar to China, Thailand adopted liberalization in 1990, but without eliminating the political elements, the state of Thailand's telecom sector is not significantly better than Indonesia's sector.

Further research reveals that the structure of the international system of states results in cross-border influences in policy adoption [10]. If one economy adopts privatization in telecom or electricity, it is likely

that a neighbor economy of similar status will privatize those industries as well. A prominent example is Japan's telecom industry, which privatized in 1998, five years after its wealthy democratic neighbor South Korea adopted the same policy.

Since only seven percent of the Indonesian population uses the Internet, the internal digital divide remains a considerable obstacle to the country's socio-economic growth relative to other Asian countries. A civil democratic society demands a civilized state. As the 1997 economic crisis and the violent 1998 downfall of Suharto fades in time, Indonesia steps closer to a civilized state. The country's population, location and emerging democracy form a goldmine of opportunity. Enforcement of logical telecom policy will determine much of the country's future success in Internet adoption and use.

**8. References**

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