

Philippines

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Overview

The Philippines is an interesting case study for ICT development led by the private sector. Unlike Singapore or Malaysia, where the state plays a dominant role in charting and jumpstarting ICT use and growth, the Philippine government plays a supporting role to the private sector. Recent strides in ICT development were achieved under a policy of liberalisation, competition and deregulation.

It is also noteworthy that while the country has a vibrant civil society, non-government and people's organisations have not undertaken significant ICT initiatives for development. This is in contrast with Indonesia, an archipelago like the Philippines, where there are numerous interesting grassroots ICT initiatives.

Telecommunications and information infrastructure

The telecommunications and information infrastructure in the Philippines is still relatively underdeveloped and largely concentrated in metropolitan areas. Low PC penetration, relatively high Internet access costs and bandwidth limitations have slowed down the adoption of the Internet for higher-end uses.

Telephony and teledensity

The telecommunications industry was deregulated in 1987 after over 70 years under a private monopoly. By 2001, teledensity stood at 10.91 per 100 people. This represented a 900 percent jump from 1993. In that year, the government implemented the Service Area Scheme, which required the installation within three years of 300,000 land lines by new international gateway facility operators, 400,000 land lines by new cellular licences and 700,000 land lines by firms with both cellular and gateway licences. It further required that a portion of these new land lines be installed in rural areas. As a result, there are 6,634,934 land lines installed nationwide by 2002. However, only around three million of these lines are actually subscribed, due in part to high upfront costs and the growing preference for cellular mobile phones. In fact, the number of cellular mobile users has soared dramatically, from 959,024 in 1996 to over six million in

2000. Currently, the estimated 12 million Filipinos with cellular phones send an average of 130–150 million text messages a day using short messaging service (SMS). The Philippines' 240 text messages per subscriber per month is significantly higher than Hong Kong's 4 text messages.¹

PC penetration and Internet access

PC penetration is estimated at 1.9 for every 100 persons; Internet penetration is at 6 for every 100 persons (or 4.5 million of the total 76.5 million Filipinos). Of these Internet users, 3.1 million (about 70 percent) are said to access the Internet using prepaid cards at Internet cafés.²

Two recent ACNielsen reports give a deeper insight on Philippine Internet users.³ Its "Activate" survey show that the majority of Filipinos between 13 and 30 years old access the Internet daily for at least an hour after work or school (and usually before bedtime). Heavier use has been observed during weekends, where they spend two to three hours mostly surfing or playing games. The other survey, NETScan, reveals that as of the second quarter of 2002 an estimated 6 percent of the total urban population is using the Internet, almost half of whom are based in Metro Manila (or 11 percent or 900,000 of the population in Metro Manila). Over half of those with Internet access belong to the upper and middle economic classes, although there is substantial representation from "Class D". This means that the upper and middle economic classes account for almost two out of three users.

There are an estimated 191 ISPs nationwide, mostly operating in urban areas, with 20 percent in areas with export processing zones. However, there are only about five Tier 1 ISPs. There are also three Internet exchanges, which are all located in Metro Manila. The subscriber base to date of these ISPs is approximately 1,850,000.

It has been noted that "Internet-wise, the Philippines is part of the US Internet at the end of a very long string across the ocean". This observation is based on the fact that "foreign (mostly US) traffic makes up 90 percent of the consumers' consumption" and that "connectivity to other Asia-Pacific countries is a small fraction compared to the US connection."⁴

Philippines facts

Total population (2002 projection):

79,503,675^a

Rural population as a percentage of total population: 42.32% (1999)^b

Key economic sectors: Agriculture, services, industry^c

Literacy in the national language(s): 93.9%^d

Functional literacy: 83.79%^e

Computer ownership per 100 inhabitants:

1.93^f

Telephone lines per 100 inhabitants:

8.91 (2001)^g

Internet hosts per 10,000 inhabitants: 2.54^f

Internet cafés/telecentres per 10,000 inhabitants: 0.165^h

Internet users per 100 inhabitants: 4.27ⁱ

Cell phone subscribers per 100 inhabitants: 15.897 (June 2002)^j

Number of websites in the national language(s): 1,814^k

Number of websites in English and other languages: 181,403^l

National bandwidth within the country: 31 Mbps^m partial aggregate data

National bandwidth to and from the country: 367 Mbps partial aggregate data

Ratio of incoming to outgoing Internet traffic volume: 80:20ⁿ

Sources:

(a) Population Projection 2002 <http://www.doh.gov.ph/data_stat/html/population.htm>.

(b) *Global Competitiveness Report 2001–2002* <<http://www.cid.harvard.edu/cr/profiles/Philippines.pdf>>. Definition: <http://www.nscb.gov.ph/activestats/psgc/articles/con_urbanrural.htm>.

(c) National Economic and Development Authority (31 January 2002). *2001 Full Year Economic Performance* <<http://www.neda.gov.ph/TheEconomy/EconomicPerformance/NIA/2001FYNEDASstatement.doc>>.

(d) National Statistical and Coordination Board <http://www.nscb.gov.ph/secstat/d_educ.htm>. Basic or simple literacy is defined by the National Statistics Office (NSO) as the ability to read and write with understanding of simple messages in any language or dialect <<http://www.nscb.gov.ph/glossary/educ.htm>>

(e) NSO Functional Literacy <<http://www.census.gov.ph/data/sectordata/1994/fl9406li.txt>>.

Functional literacy is a significantly higher level of literacy which includes not only reading and writing skills but also numeracy skills. The skills must be sufficiently advanced to enable the individual to participate fully and efficiently in activities commonly occurring in life situation that require a reasonable capability of communicating by written language <<http://www.nscb.gov.ph/glossary/educ.htm>>.

(f) *Global Competitiveness Report 2001–2002* <<http://www.cid.harvard.edu/cr/profiles/Philippines.pdf>>.

(g) National Telecommunications Commission <<http://www.ntc.gov.ph/images/consumer/wireline.jpg>>. Total lines: 6,938,762 (2001).

(h) Based on 1,312 estimated cafés in 12 major cities in the Philippines <<http://www.digitalfilipino.com/content.asp?FileName=percent5Cstatisticspercent5Cdemographics.ini>>. Denominator used is 79.5 million Filipinos.

(i) Based on 3.4 million Internet users. Internet Users Study by ACNielsen Consulting, June 2002, as reported by ITNetcentral <<http://www.itnetcentral.com/article.asp?id=10562>>.

(j) Based on 12,638,375 mobile phone subscribers as reported by *Computerworld*, 2 September 2002, p. 12. Denominator used is 79.5 million Filipinos.

(k) Through an e-mail interview, Ken Ilio (webmaster and owner of Filipinolinks.com since 1986), the trend is one national language site per 100 English sites.

(l) Statistics from Yehey.com indicate that it has a ratio of 5.88 Philippines-related websites per “.ph” website. Figures from <<http://www.isc.org/ds/WWW-200201/dist-by-num.html>> indicate that there are 30,851 “.ph” websites. Multiplying the total “.ph” websites and the ratio gives an estimate of Philippines-related websites of 181,403.

(m) There are three Internet exchanges in the Philippines. The bandwidth figure does not include private peering of ISPs (ISP1 connecting to ISP2 without going through an Internet exchange). Based on telephone and e-mail interviews <<http://www.apia.org/nl8/>>

Bandwidth and costs

Dial-up connection (maximum 56 Kbps) is still the most common mode of accessing the Internet, although the Philippines has both fixed and wireless broadband capabilities (via cable, DSL and satellite). The cost of dial-up Internet access is between US\$0.30 and US\$0.40 per hour. A 2001 survey of Philippine Internet users showed that 63 percent of respondents still accessed the Internet via a dial-up connection.⁵ They spent an average US\$15.50 per month for Internet access. This is around 2–3 percent of the monthly wage of the average Internet user. Cable and DSL connections for home use cost US\$50 per month on the average. Service, however, is limited to mostly urban areas.

ICTs

The ICT industry is one of the fastest-growing industries in the Philippines, with foreign currency earnings exceeding those of any other industry. The country is also ranked second to India as the largest producer of computer services in Asia. A number of global companies are outsourcing their ICT and ICT-enabled business processes to the Philippines. The country also boasts a number of world-class IT parks.

Much of the attraction of the Philippines for foreign investors lies in its skilled workforce. In the Global New e-Economy Index released in 2001 by the Meta Group, the Filipino workforce is ranked fourth worldwide in terms of ICT competencies. English proficiency is also very high, a direct result of the bilingual policy in basic education as well as the widespread exposure to American media.⁶

Content

As has been noted, 90 percent of Internet traffic in the Philippines goes to the USA. Local content that is available is overwhelmingly in English. The bulk of local content available on the Internet is provided by Philippine news and mass media organisations.

News and current affairs

The Philippines has a reputation for a free and unruly press. At present, there are 7 nationwide television networks and more than 200 regional television stations.⁷ There are 5 nationwide radio broadcasting networks and more than 350 regional radio stations.⁸ The *2000 Philippine Media Fact Book* reports that there are 475 newspapers and 45 magazines.⁹ Filipino and English are the languages used by the national television and radio networks. English is also the language of the major national newspapers.

As to be expected, traditional media corporations have appreciated the importance of the Internet. Major English language broadsheets, like the *Philippine Star*, *Manila Bulletin*, *Manila Times* and *Malaya*, have online versions.

The two major broadcasting companies – ABS-CBN and GMA Channel 7 – have taken different strategies regarding the Internet.

ABS-CBN has taken a go-it-alone strategy with its Pinoy Central portal <<http://www.pinoycentral.com>>. This portal is billed as a “business-to-consumer site providing Philippine-based content, community and commerce”. Initially, the core of Pinoy Central is the wide-reaching news and information-gathering resources available through the ABS-CBN network. Its content is lighter than what is available in the television outlets of ABS-CBN. Today, the portal has become primarily an entertainment-driven site. It prominently features entertainment stories as well as sports, health and other youth-related concerns.

On the other hand, GMA Channel 7 bought into Inquirer.net, the online edition of the *Philippine Daily Inquirer*, the country’s most read newspaper. The partnership gave birth to INQ7.net. But the entry of a broadcasting company did not change the character of INQ7, it remains primarily a news site. Aside from current news, INQ7 also provides audio-video clips from Channel 7 and its radio affiliates, selected articles from *Cebu Daily News* and *Newsbreak*, a weekly news magazine. In addition, it has a marketplace which includes myAyala.com, which claims to be the largest online shopping mall in the Philippines. It has also partnered with a financial online company to boost its interactive finance services section. Today, INQ7 remains the website that attracts the most Filipino netizens.¹⁰ As of June 2002, it averaged 12.4 million page views a month.

Education

Basic education is free in the country. Under the current bilingual policy, Filipino and English are taught and used in primary and secondary schools.

Most of the local education-related content on the Internet is provided by the private sector and is in English.

Aklatan.net is a portal to Philippine libraries and the material they hold.¹¹ It provides access to free and commercial databases, union cataloguing, interlibrary lending, advertising for book and journal publishers, and other services for libraries and their users. It also provides web-hosting services for library catalogues. Moreover, it is a community site where members can share news, views, projects, time and other resources to advance the state of Philippine libraries and the library profession in the Philippines. It provides chatrooms, forums, software and a free e-mail service to serve the goals of this community.

Bato Balani, a leading science and technology magazine for high school students, recently extended its reach through an online version <<http://www.batobalani.com>>. Favorite Tutor <<http://www.favorite-tutor.com>> is an online tutoring programme. Lessons.ph is another commercial service that provides online tutorials for elementary school children and their parents. The site has interactive exercises produced by

a team of education professionals and a library of web resources with hundreds of links to prescreened websites.

Agriculture and rural development

Local content about agriculture is limited and is slow to rise because only a small fraction of the agricultural sector has access to the Internet.

Content in agriculture is provided by the government's Department of Agriculture <<http://www.da.gov.ph>>. The department and its attached agencies have websites that contain information on procedures, the department's services, training schedules, statistics and policies. Administrative reports seem to form the bulk of its content. Content useful for farmers, if any, is minimal.

The International Rice Research Institute <<http://www.irri.org>>, which is based in the Philippines, provides journals, newsletters and research papers that are useful for scientists, researchers, academicians and policy makers worldwide. Information provided by the Philippine Institute for Development Studies (PIDS) <<http://serp-p.pids.gov.ph>> is likewise geared to policy makers and academics. PIDS, which was established to respond to the critical and growing need for research for planning and policy formulation, dedicates pages on agriculture and rural development on its website.

The World Bank has a dedicated page on the Philippine Local Government Units Assistance Portal <<http://www.lguportal.org/Knowledge/kb-rural.htm>>. It provides information on World Bank projects in the Philippines, as well as information on how to apply for grants and assistance packages. It also has a knowledge base sections, which provides a short introduction and links to various organisations (government, multilateral, NGOs) involved in rural development.

NGOs dedicated to rural development are also content providers. For instance, the Philippine Rural Reconstruction Movement, which is engaged in the design and implementation of community and habitat development programmes across the archipelago, has a website <<http://www.prrm.org>> that details its philosophy and positions on critical issues as well as its programmes and activities. The audience is other NGO workers, policy makers and opinion leaders.

Government

The government has the potential to be a provider of meaningful content to its people. Unfortunately, this is a role that it has yet to fulfil. While most national government agencies have some form of web presence, the same cannot be said of local government units.

A survey conducted by the National Computer Center reports that, out of 399 national government agencies, 325 or 81 percent have set up their own websites.¹² The remaining 74 agencies or 19 percent have not.

Digital Philippines assessed 100 national government websites from a list of 134 national-level departments and their attached agencies provided by the government portal using specific indicators based on the UN-ASPA categories of e-government.¹³ It discovered that (1) 17 percent had websites with basic information about the agencies, such as contact telephone numbers, office addresses, agency mandate, related laws, memos and orders; (2) 45 percent of the websites surveyed were in the "emerging stage", where they were regularly updated, included documents and resources that may be easily downloaded and had features that allow a site search and e-mail for queries and comments; (3) only 23 percent of the websites studied can be considered "interactive", acting as portals where users can search specialised databases and providing forms that can be downloaded or submitted online; (4) there was no "transactional" government website; and (5) 15 percent of the URLs were inactive.

The government portal <<http://www.gov.ph>> combines news, online services and other multimedia functionalities. It maintains links to government agency websites, including local government units and embassies. At the regional level, the Central Visayas Information Sharing Network (CVISNET) <<http://www.cvis.net.ph>> is a common exchange hub that interconnects all government and non-government agencies in Region 7 of the country. It provides online services such as news, relevant information about the region and an e-mail service for the CVISNET community. It provides links to government websites, NGO websites, regional reports, statistics, business guides, investment and industry information, directories, schools, municipalities and *barangays* (villages) in the region. It also brings together various government services: local price watch, business application forms, investor's guide, as well as government forms. CVISNET is connected to barangay.net – a community-based project which aims to develop and implement a flexible local approach to community development using ICTs to promote connectivity, access, capacity building and content creation. It also serves as a gateway for a number of NGO sites in the region.

The National Statistics and Coordination Board <<http://www.nscb.gov.ph>> has a wealth of statistics from various government and private sources. The Department of Science and Technology <<http://www.dost.gov.ph>> leads the way in gathering information from their attached agencies and putting it together in a portal. The portal provides links to all attached agencies and searches across all agency databases. The Department of Trade and Industry and the National Economic Development Authority <<http://www.neda.gov.ph>> are also very good sources of information in their respective areas of focus.

NGOs and civil society

The majority of the websites run by NGOs are aimed at members of the NGO community and other interested parties. One example is the Caucus of Development NGO Networks (CODE-NGO), which includes in its membership seven national networks and five regional networks, representing more than 3,000 NGOs and cooperatives all over the country. Its website <<http://www.codengo.org>> provides comprehensive information about the organisation: its philosophy, programmes and how it is organised. It also provides updates as well as an electronic resource centre where major documents and publications can be downloaded. In addition, it also has a members-only section on its site.

A number of NGOs have also been spearheading efforts to combat corruption in government and are using the Internet for information dissemination and mobilisation. eLagda (eSignature) <<http://www.elagda.com>> started as a non-partisan web-based initiative by an apolitical citizen as his contribution to the anti-Estrada movement. The objective was simple – to gather one million signatories through the Internet in a petition for President Estrada to resign. Today, eLagda, the website and the virtual organisation, has transformed itself into a vanguard for good governance. It has six communities: eMandirigma; Insiders, for those in government who are interested in the anti-graft campaign; special interest groups; chapters; affiliates; and “text brigade”, for rapid mobilisation and information dissemination. Among its current projects is the eLagda Anti-Graft Commission, described as “a comprehensive facility where any Filipino can report incidents of graft and corruption, request police or legal assistance, and follow-through on reported incidents by monitoring their status until their completion”.

The Transparent Accountable Governance project is an attempt to summarise how, why and to what degree corruption exists in Philippine society. Its activities include documenting perspectives among various sectors of the business community and the general public concerning corruption as it relates to doing business in the Philippines; identifying and analysing key areas of corruption, quantifying their economic costs; focusing business and public attention on how particular areas of corruption affect the conduct of business and economic growth in the Philippines; and building consensus on a concrete agenda for counter-corruption reform. Its website <<http://www.tag.org.ph>> provides results of public opinion surveys, research, investigative reports and case studies on corruption to inform and engage the public on the issue of transparency and accountability in governance. It is arguably the best source of information on the issue.

Political parties

Philippine political parties have yet to exploit the Internet for the citizenry’s political education. In fact, groups committed to overthrowing the government provide more information about their cause via the Internet than traditional elite parties that contest elections.

Only a few traditional (elite) parties, such as the Liberal Party and Lakas-NUCD, provide information over the Internet. The Liberal Party has basic information on the website of the Council of Asian Liberals and Democrats <<http://www.cald.org/website/lpp.htm>>. The information provided is minimal, and it seems that the site is not meant to educate readers about its party philosophy and programme. Lakas-NUCD has <<http://lakas-nucd.com>> (as well as <<http://lakas-nucd.org>> and <<http://lakas-nucd.net>>), which is interesting for its intentions rather than the content that is currently available. There is no information on the party, but an announcement that the website will serve as a portal for all Lakas-NUCD candidates.

While not a political party, Bagong Alyandang Makabayan (BAYAN) has spawned BAYAN MUNA, a political party that currently has three seats in the House of Representatives. BAYAN is a mass-based left-wing organisation that played a role in the February 1986 revolution. Its website <<http://www.geocities.com/CapitolHill/Lobby/4677/backgrnd.htm>> provides basic information about BAYAN, its principles, membership, programmes and contact information.

Partido Demokratiko-Sosyalista ng Pilipinas (PDSP) has a website <<http://members.tripod.com/~chapelnet/pdsp.htm>> that provides basic information on the party and its philosophy and policies. PDSP is a social democratic group and has made an important contribution to the mass campaigns which eventually led to the People Power revolution in 1986 and 2000. Like the Bayan website, PDSP’s uses a free web-hosting site (Lycos) under CHAPELNET (Christian Action for Peaceful and Meaningful Elections).

Akbayan! Citizen’s Action Party describes itself as “the most vigorous and determined effort from the Philippine progressive community to break the hold of traditional politicians and political parties on Philippine politics”. Its website <<http://www.akbayan.org>> provides basic information and documents on the party, as well as analyses and commentaries on Philippine politics by leading party members. It even provides a report on the activities and accomplishment of its party list member in the House of Representatives of the Philippine Congress.

The armed radical political parties provide the most information via the Web, among all Philippine political groups. The website of the secessionist Moro National Liberation Front <<http://mnlf.net>> provides basic information, documents and news about the organisation. It is apparently published out of Cotabato City, a major city in Mindanao. The National Democratic Front (NDF), which

counts as its members the Communist Party of the Philippines (CPP) and the New People's Army, also has its own website. While the site <<http://home.wanadoo.nl/ndf>> is still under construction, it apparently aims to provide accurate information regarding NDF's position on significant political events, particularly the ongoing peace negotiations between NDF and the government. The website also provides analyses and statements from leading NDF figures, particularly the CPP founding chairman, Jose Ma. Sison.

Online services

Filipino Internet users have been seeing a steady increase in online services. Most notably, the banking industry has taken leaps in bringing their services to cyberspace. The biggest banks now offer customers services via the Internet, telephone banking and mobile phones.

The government has also taken steps to bring their services online. Through partnerships with private enterprises, many government agencies are able to offer public services through electronic means.

E-government

The government portal <<http://www.gov.ph>> features a growing list of online e-government services <<http://www.gov.ph/eservices>>:

Government to citizen (G2C): The department of Foreign Affairs <<http://www.dfa.gov.ph>> and the National Statistics Office <<http://www.census.gov.ph>> have made partnerships with private service providers. The duly authorised group sets up websites that allow citizens to make online applications for passport renewal and for civil registry documents such as birth, marriage and death certificates. The status of online applications can also be verified through the respective websites. The private enterprise acts as a liaison to the government agencies when filing citizens' applications.

Government to Business (G2B): The Bureau of Internal Revenue <<http://www.bir.gov.ph>> accepts payment of taxes through their website. The payment system is open to large corporations but in future will accept payments from individual taxpayers.

The Department of Trade and Industry <<http://www.dti.gov.ph>> allows exporters or buyers to register online where they can specify their products and services or purchase requirements.

The Department of Finance, Bureau of Customs <<http://www.customs.gov.ph>> has also made partnerships with private enterprises in setting up online services. Through this collaboration, it is able to offer online monitoring of cargo booking, logistics, and payment and billing

transactions for both local and international traders. The bureau's computerisation program started in 1994 with World Bank funding.

Distance education and e-learning

E-learning is still in its infancy in the Philippines. A combination of infrastructural, human capacity, financing and policy issues has inhibited an otherwise more aggressive introduction of e-learning in higher education. There are, however, ongoing e-learning efforts that are worth mentioning.

At the University of the Philippines Open University (UPOU) <<http://www.upou.org>>, course materials are still predominantly in print or CD-ROM. However, online tutorials are becoming a convenient alternative to classroom instruction, especially for students unwilling or unable to go to UPOU's various physical learning centres. Online tutorials are offered as an option for 60–70 percent of UPOU's degree courses. A number of its non-degree courses conduct only online tutorials. UPOU uses a learning content management system called Integrated Virtual Learning Environment (IVLE) developed by the National University of Singapore.

De La Salle University's Department of Literature and Philippine Languages <<http://www.dlsu.edu.ph>> piloted the Internet-Enhanced Master of Arts in Teaching Literature Program (InterMATL) from 2000 to 2002. InterMATL was designed for colleges and universities outside the National Capital Region and consists of 14 courses plus oral and written comprehensive examinations. The programme is delivered using a combination of face-to-face sessions, web-based learning resources and e-mail-based learner support.¹⁴

The AMA Education System (AMAES) <<http://www.amaes.edu.ph/amacollege>>, comprising 41 geographically dispersed campuses, launched its virtual campus in 2000. The virtual campus began as a learning supplement to its regular students. During the second year of implementation, AMAES integrated the use of online tools with traditional classroom activities. In its third year, it has started offering non-degree courses online and eventually will develop more graduate-level courses.¹⁵ AMAES also offers e-training or online human resource development to employees and professionals.¹⁶

The Pilipinas SchoolNet <<http://www.pilipinasschoolnet.org>> aims to build a network of secondary (high) schools throughout the Philippines that will leverage the Internet and related technologies to improve teaching and learning and to better prepare the Filipino youth to meet the demands of the knowledge economy. Currently, there are 23 telecollaboration projects involving 15 schools throughout the country. Among these are Survey of Plant Diversity in School Campuses; Typhoons across the Philippines; Let's Sh@re Math; and Think Loud! Visayan Chums.

Related links:

- Philippine libraries shift from CD-ROM to online
<[http://www.mctimes.net/Education-09022002-Philippine percent20Libraries percent20Shifts percent20From percent20CD-ROM percent20to percent20Online.html](http://www.mctimes.net/Education-09022002-Philippine%20Libraries%20Shifts%20From%20CD-ROM%20to%20Online.html)>
- Infrastructure main barrier to e-learning
<http://itmatters.com.ph/news/news_08052002b.html>
- E-learning not effective for everyone
<<http://www.itnetcentral.com/article.asp?id=5705>>
- RP schools interested, but confused about e-learning
<http://www.inq7.net/inf/2002/aug/03/text/inf_1-1-p.htm>
- UPOU gears for active role in E-Philippines
<http://www.upou.org/upoupages/e_phils.htm>
- Distance learning activities and learning materials development among SEAMEO Centres
<<http://www.seameo.org/vl/library/dlwelcome/publications/paper/distance02.htm>>
- *Metropolitan Computer Times*
<<http://www.mctimes.net/education.html>>

E-commerce and e-business

According to a recent survey, the top five products and services that Filipinos buy online are books (54 percent), computer software (33 percent), domain names (31 percent), web hosting (25 percent) and computer hardware (24 percent).¹⁷ The top five sites Filipinos shop at are Amazon.com (54 percent), eBay (11 percent), myAyala, Network Solutions (8 percent) each, Barnes and Noble (6 percent) and Register.com (6 percent). It is important to note that only one of these sites is local (MyAyala). The same survey reports that Filipino online shoppers spend an average US\$522.13 a year in purchases.

Some of the local B2C websites are online counterparts of real shopping establishments. Divisoria.com and 22Ban.com are among e-commerce sites that set the standards in Philippine online shopping. Each of them features a wide variety of products ranging from music, garments, movies, books and even cars! The common payment scheme is the credit card. One site allows users to make purchases using prepaid cash cards.

BayanTrade <<http://www.bayantrade.com>> was founded in 2000 and is a joint venture between the Philippines' top six conglomerates. In 2002, its e-catalogue purchasing jumped 190 percent to P2.7 billion from P1.4 billion for all of 2001. At the same time, the number of purchase orders more than doubled as the number of e-catalogue buyers increased 51 percent to 244 from 162. The B2B hub owes its success partly to the amount of transactions brought in by these six conglomerates. Moreover, the site features a robust platform that allows buyers, suppliers and businesses from around

the globe to trade a diverse range of products and services. BayanTrade also has plans to build a local suppliers portal to help promote small and medium enterprises in the Philippines to the global online marketplace.¹⁸ It features a supplier database, bidding facility and e-catalogue downloads.

B2Bpricenow <<http://www.B2Bpricenow.com>> is a privately owned and privately run website that has earned an award in a World Bank-sponsored contest.¹⁹ It is an electronic marketplace that caters to farmers. The website helps market a farmer's goods by maintaining a tender board of available products. Traders from cities around the country can negotiate deals through the website. Local NGO partners provide training for farmers in the basics of using the Internet and using the site for trading.

Auctions have also penetrated the e-commerce scene. PinoyAuctions.com features not just merchandise but also services. It has a "freelance" subsite where people can offer or find freelancers or subcontractors. Some of the auction sites have already integrated their services to include bidding through mobile phone. Bidshot.com features real-time updates on bidding through their website or through mobile phone. Their system was piloted in the Philippines and is now being marketed in foreign countries.

The biggest barrier to higher e-commerce uptake is the lack of online payment services. The latter has been hampered by the relatively low penetration of credit cards in the country. Already, alternative payment solutions have been developed by private enterprises. Recently, Payplus! was launched allowing users to make payments to vendors using the more ubiquitous automated teller machines instead of the credit card. To date, the National Statistics Office is using the system to process payments for copies of birth and marriage certificates. Other major clients who use the system include Island Rose Flower Shop, E2door, Yehey prepaid, and Filgifts.

Civil society

The Philippine Sustainable Development Network (PSDN) <<http://www.psdn.org.ph>> is composed of organisations committed to sustainable development. It provides its members easy access to information by acting as an IT system integrator with services ranging from system design, provision of full Internet access, network (LAN, intranet) installation, training, creation of homepages, maintenance of websites, and meta-database. Established in 1993, it was a pioneer in electronic networking for NGOs. Today, the organisation struggles to operate on the US\$100 annual contribution from the 30 members of the foundation it established and US\$13 monthly payment from each of its 100 e-mail and Internet access customers, most of whom are NGOs with limited budgets. PSDN hosts the websites of 30 NGOs, government agencies and international organisations. It wants to progress from being a service

provider to a content provider. It hopes to develop a pay-per-use scheme for its biodiversity conservation database to help sustain its operation.

Telemedicine

DoctorGeorge.com.ph, a health resource website, is a localised version of a US-based website. It is actually a pool of medical doctors available online to give health advice and recommendations to patients who visit the site. The website features online tools that allow visitors to ask health-related questions, which can be posted through an online form. There is also a chatroom where visitors can discuss medical questions with a real doctor. A doctor personally answers medical questions sent in by e-mail within 24 hours. Other features include e-mail updates, scheduled reminders on medical check ups, health discussion boards and listings of hospitals, medical organisations and physicians' personal websites. Aside from the interactive online tools, the site has a very wide and searchable database of local hospitals, clinics, drugstores, health maintenance organisations and medical specialists.

The Philippines, being the SMS capital of the world, also offers SMS-based medical information. There are currently two SMS medical information services run by the country's two largest mobile phone companies. One service allows a subscriber to post a casual question through SMS. A real doctor replies via SMS. The other service has a software back-end that can instantly answer inquiries about the description, symptoms and home remedies of a variety of ailments. The inquiries must be sent in a prescribed format for the system to be able to respond instantly.

E-community

The Internet has made possible the creation of a global Filipino community. Filipinos overseas are able to maintain better and more sustained links with these in the Philippines. PinoyExchange <<http://www.pinoyexchange.com>> is an online message board where Filipinos from all over the world come together to share their thoughts and ideas on almost anything.²⁰ It has over 36,000 users, many of whom are based in the USA, Canada and other Asian countries. The community has also branched out into specific interest clubs that are operated by PEXers. The site features 25 forum categories and 11 clubs borne from the online community. It also boasts services that converge Web and mobile phone services. Members are able to post messages on the Web via mobile phones. Organisations, businesses and individuals can also collect feedback from community members via mobile phones.

PinoyExchange was cited as the most popular website in 2000 and 2001 by the readers of *Philippine Daily Inquirer's* lifestyle and youth sections. It won the Philippine Web Awards (People's Choice) for the "Community" category two years in a row.

ICT industries and services

Hardware manufacturing and assembly

Electronics accounts for over 50 percent of total Philippine exports worldwide and industry has been declared as one of the 14 priority products by the Department of Trade and Industry. The Philippine electronics industry consists of five subsectors:

- Semiconductor and component manufacturing
- Telecommunications, sound and video apparatus (telephone sets, Citizens' Band radios, scanners)
- Electrical machinery, apparatus and appliances
- Electronic office and automatic data processing machines
- Consumer electronics (colour television, stereos, video game players, etc.)

Approximately 70 percent of these products are shipped by Philippine-based multinational firms to their parent companies abroad for distribution to their clients.

Related links:

- Semiconductor and electronics industries in the Philippines <<http://www.seipi.org.ph>>
- Electronics sector downplays China threat <http://itmatters.com.ph/new/news_01312002c.html>
- Philippine Council for Advanced Science and Technology Research & Development <http://dostweb.dost.gov.ph/pcastrd/infoservices/primers/prmr_electronics.htm>

Software development

Manila is a major offshore software development site for companies in the USA, Japan and Europe. Products include system software, middleware and application packages developed for the banking, hotel, financial, health and manufacturing sectors.

Software exports have steadily increased in the Philippines rising from US\$338 million in 1998 to US\$657 million in the third quarter of 2000.²¹

It is estimated that at least 50,000 IT professionals are employed by the software subsector alone.²² IT professionals are seen as a competitive advantage of the country in the highly competitive software development market. The Philippines is seen as an alternative to India in offshore software development because of the English proficiency of its workforce, competitive labour costs and its Western culture.

There are about 86 local universities and colleges offering degrees in computer science and related programmes (i.e. engineering, mathematics, etc.) and close to 400 vocational-technical schools offering short courses on computing in the country. These schools produce about 350,000 students

yearly. About 70,000 complete courses in computer engineering and another 100,000 in computer science.

ICT services

Both the government and the private sector are aggressively promoting the ICT services sector. This industry is seen as an opportunity to obtain foreign investment, which has been steadily increasing worldwide. There are five key areas in the Philippines' e-services industry: contact centres, software development, animation, medical and legal transcription, and business process outsourcing.

There are at least ten IT parks in major cities around the country, which are equipped with world-class communication systems, IT and other business facilities. Companies located in these parks are given tax breaks and other incentives (see <<http://www.peza.gov.ph/ra7916.htm>>).

In June 2002, the Trade and Industry Department reported that there are about 150 companies in the Philippines offering ICT-enabled services.²³ It estimated revenue to reach US\$1.655 billion by 2004. The data processing and conversion subsector has an estimated capacity of about 100 billion keystrokes per year. Accuracy levels are as high as 99.98 percent.²⁴

A March 2002 study by the Gartner Group confirmed that the Philippines is an important offshore player in ICT-enabled services. The government is currently drafting a roadmap for ICT sector growth that takes into account the results of the Gartner study. The roadmap will feature ICT goals, agenda, activities and promotional campaigns spanning five to seven years.

Related links:

- Contact Center Association of the Philippines <<http://www.ccap.ph>>
- Center for International Trade Expositions and Missions <<http://www.citem.dti.gov.ph>>
- E-Services Philippines <<http://www.e-servicesphils.com>>

Enabling policies

ICT plans

In 1998, the government launched the National Information Technology Plan for the 21st Century, dubbed as IT21, <<http://www.neda.gov.ph/Subweb/IT21>> which lays down the common vision and broad strategy to spur the country to global competitiveness through IT. This ambitious plan specifically sets down the following goals and the time frame for each goal:

1. By the turn of the 21st century, the Philippines will have laid the infrastructure for every business, every agency of government, every school, and every home in the

Philippines to have access to information technology;

2. By 2005, IT use will be pervasive in daily life. Philippine companies will be producing competitive IT products for world markets.

3. Within the first ten years of the 21st century, the Philippines will be a knowledge centre in Asia Pacific, the leader in IT education, IT-assisted training, and in the application of information and knowledge to business, professional services and the arts.

In July 2000, a Government Information Systems Plan (GISP) <<http://www.neda.gov.ph/GISP/Default.htm>> was approved and adopted as a framework and guide for all computerisation efforts in the government. It aims to create a system of governance that will lead to faster and better delivery of public goods and services; greater transparency in government operations; increased capacities of public sector organisations; and proactive participation of citizens in governance.

Government agencies for ICT and implementation efforts

The National Computer Center (NCC) <<http://www.ncc.gov.ph>> was established in 1978 as the primary government agency with the responsibility of directing IT use for national development and rationalising computerisation in the country. It now functions as the lead agency for promoting the use of ICTs in government. It has also been given the task of monitoring the progress of GISP implementation. NCC's flagship projects include the development of the chief information officer manual to ensure proper implementation of IT projects and the development of the local government computerisation plan.²⁵ It is also involved in the formulation and development of data coding standards that will integrate the government's application systems.

In 1994, the National Information Technology Council (NITC) was created and designated as the central policy body on IT matters in the country. Four years later in 1998, the Electronic Commerce Promotion Council (ECPC) was created to be the coordinating body of public-private partnerships for the promotion and development of e-commerce. In July 2000, NITC and the ECPC were merged, coinciding with the approval of GISP. The merger resulted in the Information Technology and Electronic Commerce Council (ITECC <<http://www.itecc.gov.ph>>).

ITECC was created to ensure more streamlined and focused formulation and implementation of ICT policy. It is chaired by the President with a co-chair from the government – the Secretary of Trade and Industry – and the private sector. Members come from both the public and the private sectors. It has five committees: Business Development Committee, eGovernment Implementation Committee, Information Infrastructure Committee, Human Resource Development Committee, and Legal and Regulatory Committee.²⁶

ITECC is also designated as the central policy-making

and coordinating body for the implementation of GISP. It has identified four government frontline services that will serve as the priority ICT projects of GISP: the e-procurement project of the Department of Budget and Management; online registration for businesses of the Department of Trade and Industry; e-registration facility for overseas Filipino workers of the Department of Labor and Employment; and an enhanced government portal, which will serve as an online showcase of all the said services.²⁷

Among the policy changes that ITECC is promoting is the establishment of a Department of Information and Communications Technology, which seeks to integrate all ICT-related functions of the Department of Transportation and Communications, NCC and ITECC.

Related links:

- E-commerce law <<http://www.dti.gov.ph/ncr/ecom/Act.htm>>
- Other Philippine ICT-related resources <<http://www.disini.ph/resources.htm>>

Regulatory environment

Electronic transactions and online contract law

The *Electronic Commerce Act of the Philippines* gives legal recognition to electronic documents, electronic signatures and electronic transactions. This law applies to any kind of electronic data message and electronic document used in commercial and non-commercial activities and/or transactions, including electronic transactions in government. Because of this law, Philippine courts are now bound to accept electronic documents as evidence. The law explicitly states that electronic documents shall have the legal effect, validity and enforceability as any other document or legal writing. The Philippine Supreme Court has recognised electronic evidence in its recently promulgated rules.

The *E-Commerce Act of 2000* specifies the conditions that must be complied with in order for an electronic signature to be recognised:

(a) A method is used to identify the party sought to be bound and to indicate said party's access to the electronic document necessary for his consent or approval through the electronic signature.

(b) Said method is reliable and appropriate for the purpose for which the electronic document was generated or communicated, in the light of all the circumstances, including any relevant agreement.

(c) It is necessary for the party sought to be bound, in order to proceed further with the transaction, to have executed or provided the electronic signature.

(d) The other party is authorised and enabled to verify the electronic signature and to make the decision to proceed with the transaction authenticated by the same.

As a consequence of the *E-Commerce Act* the Department of Trade and Industry issued the *Implementing Rules and Regulations on Electronic Signatures* which provide for the following key areas:

- Liability for unauthorised use of secure electronic signatures
- Responsibilities of an information certifier
- Certification requirements and liability for incorrect or defective certificates
- Voluntary accreditation;²⁸
- Responsibilities of the signer
- Rules on recognition of foreign certificates and electronic signatures, among others

Cyber crime

While there is no unique Philippine law on cyber crime, there are provisions on cyber crime in the *E-Commerce Act*.

The law penalises hacking and online piracy. Hacking is defined as: (1) unauthorised access into a computer system; (2) interference in a computer system, server or information and communications system; (3) authorised access in order to corrupt, alter, steal or destroy without the knowledge and consent of the owner of the information and communication system; and (4) introduction of computer viruses and the like, resulting in the corruption, destruction, alteration, theft or loss of electronic data messages or electronic document. Online piracy is defined as “the unauthorized copying, reproduction, dissemination, distribution, importation, use, removal, alteration, substitution, modification, storage, uploading, downloading, communication, making available to the public, or broadcasting of protected material, electronic signature or copyrighted works, through the use of telecommunication networks, such as, but not limited to, the Internet, in a manner that infringes intellectual property rights”.

This provision also covers all types of intellectual property rights, including patents and trademarks. Criminal liability for piracy in e-commerce under the *E-Commerce Act* is separate and distinct from criminal liability under the *Intellectual Property Code*.²⁹

Data protection and privacy

The *Philippine Constitution* and the *New Civil Code* uphold the right of every person to privacy in general. There are, however, existing laws which particularly address privacy issues in the Internet:

- The *1998 Access Devices Regulation Act*, which punishes credit card fraud and outlaws the use of unauthorised access devices to obtain goods or services broadly
- The *E-Commerce Act of 2000*, which penalises unlawful and unauthorised access to computer systems

- The *Anti-Wire Tapping Act*, which makes it unlawful for any person, not being authorised by all the parties to any private communication or spoken word, to tap any wire or cable, or, by using any device or arrangement, to secretly overhear, intercept or record such communication or spoken word

Consumer laws for e-commerce and distance trading

The *E-Commerce Act* explicitly provides for the application of the Act to existing laws with respect to consumer protection which are the *Consumer Act of the Philippines* and its implementing rules (under the jurisdiction of the Bureau of Fair Trade and Consumer Protection), and the law on contract and tort.

Foreign equity limitations

The *Philippine Constitution* confers on the state the responsibility “to provide the policy environment for the development of Filipino capability and the emergence of communication structures suitable to the needs and aspirations of the nation and the balanced flow of information into, out of, and across the country, in accordance with a policy that respects the freedom of speech and of the press”.³⁰ There are, however, constitutional barriers to foreign investment in public utilities and the mass media. For instance, the Constitution mandates that the operation of a public utility shall be at least 60 percent Filipino-owned.³¹ The ownership and management of the mass media are also limited to citizens of the Philippines, or to corporations, cooperatives or associations wholly owned and managed by Filipino citizens.³² Moreover, only Filipino citizens or corporations or associations in which at least 70 percent of the capital is owned by such citizens are allowed to engage in the advertising industry.³³

Telecommunications

The *Public Telecommunications Policy Act of 1995*, or *Telecoms Act of 1995*, establishes the national policy for telecommunications. This law governs the development of telecommunications operators, as well as provides rules on interconnection of telecommunications service providers. Among the more salient provisions of the law are the delineation of the Department of Transportation and Communications as policy maker and the National Telecommunications Commission (NTC) as the regulatory authority; the rights of telecommunications users; and ownership of telecommunications entities.

The Act effectively liberalised telecommunications services by allowing multiple operations of local service

providers in most segments of the domestic and international telecommunications markets. The law, however, imposes significant constraints on convergent industries by providing that an entity cannot engage in both telecommunications and broadcasting under a single franchise. A specific provision of the Act also requires all telecommunications entities to make public offering through the stock exchange of at least 30 percent of their aggregate common stocks.³⁴

Foreign ownership and participation of telecommunications entities (as public utilities) is limited to 40 percent.³⁵ Under the *E-Commerce Act*, the physical infrastructure of cable and wireless systems for cable television and broadcast shall be deemed as within the activity of telecommunications for purposes of e-commerce and convergence. This implies that foreign ownership of the physical infrastructure of the said systems being considered as telecommunications, is allowed up to 40 percent of total capital stock. Programming, content and management, under the law, do not fall under physical infrastructure of cable television and broadcast.

NTC is mandated to be the principal administrator of the *Telecoms Act*. It is empowered to take the necessary measures to implement the policies and objectives of the Act including facilitating the entry of qualified service providers and the adoption of an appropriate pricing policy; ensuring quality, safety, reliability, security, compatibility and interoperability of telecommunications facilities and services; protecting telecommunications entities from unfair trade practices of other carriers; and promoting consumers’ welfare.³⁶ Under Executive Order 59, entitled *Prescribing Policy Guidelines for Compulsory Interconnection of Authorized Telecommunications Carriers*, NTC is also mandated to “expedite the interconnection of all NTC authorized public telecommunications carriers into a universally accessible and fully integrated nationwide telecommunications network for the benefit of the public”.³⁷

Executive Order 467 provides for the national policy on the operation and use of international satellite communications. The order provides policy guidelines and regulations on the operation and use of satellite communications facilities and services, specifically on allowing direct access to international fixed satellite systems and to international mobile satellite systems; encouraging a permissive approach to the use and operation of satellite news-gathering earth stations; requiring non-discriminatory interconnection of global mobile personal communication by satellite (GMPCS) with existing terrestrial systems, consistent with Executive Order 59 and its implementing rules; and allowing direct-to-home television services.³⁸

Currently, telecommunications services are regulated in terms of rates, tariffs, frequency spectrum usage, interconnection, access and interconnection charges, among others.

Broadcasting licensing and content regulation

Broadcasting companies are regulated by NTC insofar as the issuance of provisional authorities and certificates of public convenience and necessity, frequency spectrum usage and, to a limited extent, their operations and management. The Movies and Television Review and Classification Board regulates broadcasting content and programming, while the Videogram Regulatory Board supervises and regulates the use, production and showing of videograms (including CDs, VCDs and DVDs).

Among the pertinent laws which govern the establishment and operation of radio stations are the *Radio Control Law* and Presidential Decree 576-A, *An Act Regulating the Ownership and Operation of Radio and TV Stations*.

The *Radio Control Law* provides for the requirements on the establishment and operation of radio transmitting and receiving stations and radio broadcasting stations. The Act requires a congressional franchise for such stations to operate commercially. It empowers the Public Service Commission to regulate radio communication matters, such as the construction, location, possession, sale and transfer of radio transmitters and receivers; classification of radio stations by services; assignment of radio frequencies and call signs; rules to prevent and eliminate interference; and compliance with international radio regulations.

In terms of ownership, the *Philippine Constitution* mandates that broadcasting companies can only be owned by Filipino citizens or by corporations or associations wholly owned and controlled by Filipino citizens.

Cable television

Cable television operators initially secure a provisional authority to operate from NTC. After a certain period and upon submission of proof of financial capability and technical feasibility, a certificate of authority is issued. The cable television industry is considered as a form of commercial mass media, hence foreign equity participation in the industry is prohibited.³⁹ An opinion from the Department of Justice also supports this definition.⁴⁰ However, cable television service is also defined in the rules as one with a unique technology, separate and distinct from telecommunications and/or broadcast media.⁴¹ There is pending legislation to address the foreign ownership issue in cable television.

Under current laws, cable television operators are not required to secure legislative franchises. In lieu of the legislative franchise, what suffices is a local franchise, usually in the form of a resolution of the local government endorsing the operations.

Print media

Print media is regulated by a range of legal mandates on content restriction, such as the provisions of the *Revised Penal Code* and other related laws concerning indecency, immorality, pornography, libel, slander, inciting to rebellion and sedition, among others. Relevant provisions of the *Intellectual Property Code* and other related laws, especially those pertaining to copyright infringement and piracy, likewise control the sector.

Networks, value-added services Internet services

Network operators are classified as value-added services (VAS) providers only if they provide services to the general public. VAS providers without their own networks are not regulated by NTC; the only requirement is to register with NTC and submit quarterly reports on their operations.

The *Implementing Rules and Regulations for Republic Act No. 7925: An Act to Promote and Govern the Development of Philippine Telecommunications and the Delivery of Public Telecommunications Services* defines the applicable rules and regulations on VAS. Under this issuance:

- A non-public telecommunication entity (non-PTE)⁴² VAS provider shall not be required to secure a franchise from Congress.
- A non-PTE VAS provider can utilise its own equipment capable only of routing, storing and forwarding messages in whatever format for the purpose of providing enhanced or augmented telecommunications services. It shall not put up its own network. It shall use the transmission network, toll or local distribution of authorised PTEs.
- Entities intending to provide VAS only shall submit to NTC an application for registration for approval. The application form shall include documents showing, among others, system configuration, mode of operation, method of charging rates, lease agreement with the PTE, etc.
- The application for registration shall be acted upon by NTC through an administrative process within 30 days from the date of the application.
- VAS providers shall comply strictly with the service performance and other standards prescribed by NTC.⁴³

At present, the Internet is an unregulated environment. Internet services, in as much as they fall within VAS, are not regulated. ISPs are deemed not to fall within the category of VAS providers as long as they do not put up their own networks. ISPs are generally unregulated and only subject to the minimum requirement of registration with NTC and the quarterly submission of reports on their operations.

Intellectual property rights regime

The country is signatory to various international conventions and treaties on intellectual property rights (IPR), such as the 1951 *Berne Convention for the Protection of Literary and Artistic Works*; *Budapest Treaty on the International Recognition of the Agreement of Micro Organization for the Purpose of Patent Procedure*; and the Rome International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations, among others.

Upon gaining membership in the World Trade Organization (WTO), it became bound to apply the provisions of (Trade-Related Aspects of Intellectual Property Rights (TRIPS).

The *Intellectual Property Code of the Philippines*, which took effect on 1 January 1998, codifies the Philippines' commitment to the above agreements on IPR. This omnibus IPR law amended or repealed all previous legislation on IPR, such as the *Patent Law of the Philippines*; *Trademark Law of the Philippines*; law on literary and artistic works, including computer programs as provided for in the *Berne Treaty*; and the *National Reprinting Law*.⁴⁴

Trademarks: Under the Code, the rights to a mark, which includes trademarks and service marks, are acquired by registration. Priority is given to the first to apply for registration. The Code adopts a broader definition of a mark by simply defining it to include “any visible sign capable of distinguishing the goods or services of an enterprise and shall include a stamped or marked container of goods”. An internationally well-known mark which is not registered in the Philippines can prevent the registration of a mark identical or confusingly similar to the former. In determining whether a trademark is well known, account shall be taken of the knowledge of the trademark by the relevant sector of the public, including knowledge in the Philippines which has been obtained as a result of the promotion of the mark.

Copyright: The Code's provisions on copyright account for advances in digital technologies and the rapid development of electronic networks and other communication technologies, including digitisation rights, computer technology, e-commerce, multimedia, the Internet and other wire and non-wire modes of transmitting or communicating works to the public.

The Code provides that “works shall be protected by the sole fact of their creation and irrespective of their mode of expression, as well as of their content, quality or purpose” and that “no protection shall extend to any idea, procedure, system, method of operation, discovery, concept or mere data”. Hence, the Code also extends copyright protection to software-related works which are not included in the current law, such as multimedia works and databases or collections of literary, scholarly or artistic works and databases, which

by reason of their selection and coordination or arrangement of their content constitute intellectual creations.

The Code grants a new economic right of “other communication to the public of the work”, hence covering recent technological advances that make possible the widespread circulation of works through various forms of media to the broadest audience.

Commitments related to telecommunications under WTO

The Philippines, along with most Asian countries, is signatory to the General Agreement on Tariffs and Trade (GATT) and a member of the WTO. It is also a member of ASEAN (Association of Southeast Asian Nations) and APEC (Asia-Pacific Economic Cooperation).

The Philippines has the following general commitments under the WTO agreement with respect to telecommunications: liberalisation of existing foreign ownership restrictions, in the banking, telecommunications and retail sectors; and further liberalisation and WTO commitments in transport, telecommunications, financial services and natural persons supplying services. More specific commitments have been made with respect to the following:

Various communication sectors and subsectors: Voice telephone (local and toll, whether domestic or international), telegraph, telex, packet-switched data transmission, circuit-switched data transmission, fax and cellular mobile, phone services are offered only on a facilities basis for public use, using either wired or wireless technology, except cable television and satellite.

Limitations on market access: The Philippines' commitments under WTO with respect to entries relating to the telecommunication services section are as follows:

- For cross-border supply, consumption abroad and the presence of natural persons, the Philippines is unbound.
- For commercial presence, entry is subject to the following requirements and conditions:
 - (i) Franchise from Congress of the Philippines
 - (ii) Certificate of public convenience and necessity from the NTC
 - (iii) Foreign equity is permitted up to 40 percent
 - (iv) Resale of private leased lines is not allowed
 - (v) Call back, dial back and other similar schemes which result in the same operation are not authorised.
 - (vi) Subject to the availability and efficient utilisation of radio frequencies

Limitations on national treatment: With respect to these limitations, the following are the specific commitments of the Philippines:

- For cross-border supply, consumption abroad and the presence of natural persons, the Philippines is unbound.

- For commercial presence, the following are the preconditions for the Philippines to be bound:

- (i) The number of non-Filipino citizens in the Board of Directors of an entity shall be proportionate to the aggregate share of foreign capital of that entity.
- (ii) All executives and managers must be citizens of the Philippines.

Communication services in general: The regulatory framework for basic telecommunications services, pursuant to commitments under the GATS (General Agreement on Trade in Services) and its Annex on Telecoms is based on the following principles: (1) competitive safeguard; (2) interconnection; (3) universal service obligation; (4) public availability of licensing criteria; (5) independent regulators; and (6) allocation and use of scarce resources.⁴⁵

Local domain name registry

The country code top-level domain of the Philippines is managed by a company named dotPH <<http://www.domains.ph>>. In 2001, there were heated online and face-to-face discussions among ICT players about how the domain was being administered.

At that time, the “.ph” domain was being marketed as a “phone” domain. The registration targeted international telephone, mobile phone and telecommunications companies. dotPH was accused of misrepresenting the Philippine domain as a commercial domain for telephones. There were also accusations of alleged spamming and exorbitant domain registration fees.⁴⁶ Furthermore, dotPH was said to have a monopoly as it was the only registrar of the .com.ph, .net.ph and .org.ph domains.⁴⁷

In response to the perceived need for reforms in the administration of the domain, a group of concerned individuals formed the Philippine Domain Authority Convenors (PhilDAC <<http://www.phildac.org>>⁴⁸). The non-profit organisation is open to all Philippine Internet stakeholders, including the academe, science and research organisations, IT groups, civil society and the government.

In a white paper released to key government officials, PhilDAC made the following recommendations:

- The separation of the registry – the database of people, companies and information about their Internet addresses – from the registrar, the entity that sells domain names based on the registry.

- The management of the registry by an independent organisation that is representative of the Philippine Internet community

- The creation of a competitive environment to promote and sell .ph domains

At present, the dotPH domain registration page no longer makes conspicuous sales pitches to international telephone

companies. The interface and online services has been said to be one of the best in country code top-level domain registration. The company has opened up registration to small businesses so that third parties can become resellers of the domain. Meanwhile, PhilDAC continues to lobby for reforms in the administration of the “.ph” domain.

Open source movement

There are at least eight major open source user and advocate groups in the Philippines. A number of them have banded together into a group named Open Minds <<http://www.codeopen.org>>. The group recently stepped up advocacy for open source software. It is lobbying for the adoption of a law or an executive order that incorporates a preferential option for open source software in all government computerisation efforts. Its three-pronged approach has the following components: Open Community, a venue for user groups to collaborate and assist one another; Open Source Consortium, where open source companies can share resources; and Open Lobby, which gathers commercial, academic and non-profit concerns and will lobby to bring open source to the limelight.

Open Minds has a membership of organisations that focus on different aspects of the open source campaign. The Philippine Linux Users’ Group (PLUG) <<http://plug.linux.org.ph>>, the Cebu GNU/Linux Users Group (CeGNULUG) and Filipinos for Reform and Empowerment through Education, Entrepreneurship and Electronic Media (FREE3) <<http://www.free3.org>> are interest groups that aim to promote open source through the Web and via mailinglists and via personal interaction in meetings and seminars.⁴⁹

Bluepoint Institute of Higher Technology <<http://www.bluepoint.com.ph>> is an education and development centre that provides formal training and certification examinations in open source.

Q Linux Solutions Inc. <<http://www.q-linux.com>>, QSR Inc. <<http://www.qsr.com.ph>> and DDN <<http://www.distdev.com>> are engaged in open source solutions development, deployment, technical support and consultancy.

Open source in government

Two government agencies are also promoting open source in government and to the general public.

The National Computer Center, the lead agency for promoting the use of ICTs in government, conducts computer literacy training for civil servants using open source software. Moreover, it is promoting a suite of applications and website templates using open source.⁵⁰ The applications include billing, collection, licensing, business permit and payroll systems. These are systems that all local government units need. Free training courses are conducted when they adopt the suite.

The Advanced Science and Technology Institute (ASTI) <<http://www.asti.dost.gov.ph>> is mandated to conduct R&D in IT. It developed its own local flavour of the operating system: Bayanihan Linux.⁵¹ Although this version is initially targeted at government agencies, the general public is also encouraged to use the free software. The local version of Linux is being promoted by ASTI through road shows and training. It is distributed via CD-ROM and through the website <<http://bayanihan.asti.dost.gov.ph>>.

Research into ICTs

The academe and the government are the most active in ICT research.

Government

The Department of Science and Technology (DOST) leads the way in science and technology research initiatives in the Philippines, including research into ICTs.

DOST's ASTI is the lead implementer of the Philippine Research, Education and Government Information Network or PREGINET <<http://preginet.asti.dost.gov.ph>>. PREGINET is envisioned as a nationwide broadband network that links academic, research and government institutions in the Philippines. It aims to act as the national research and education network that will connect with similar networks around the world. PREGINET is part of the Asian Internet Interconnection Initiatives or AI3 <<http://www.ai3.net>>. AI3 connects the Philippines to Japan and other Asian countries through a satellite communication system. The network and its projects support research in ICTs for development.

PREGINET is undertaking three major research projects <<http://preginet.asti.dost.gov.ph/research>>. These are Internet protocol version 6, network measurements, and multimedia. The PREGINET website also hosts a variety of technology research papers and presentations.

Academe

Some of the research in ICTs at academic institutions is done in partnership with government agencies or with private corporations. For example, the University of the Philippines in Los Baños (UPLB) has many research projects that are designed for the specific needs of government agencies. Some of these projects are already deployed as online features or services on government agency websites.

As regards the private sector, a multinational corporation has established R&D centres in two of the leading universities.⁵² Another corporation has put up a technology and business incubation facility in the state university. Partnerships such as these are strong foundations for R&D growth in the Philippines.

A number of universities, computer schools and technical schools in the Philippines are undertaking worthwhile R&D projects. Below are links to some of the institutions' research pages:

- University of the Philippines Computer Science Department <<http://www.engg.upd.edu.ph/cs/research.htm>>
- University of the Philippines at Los Baños Institute of Computer Science <<http://www.ics.uplb.edu.ph/research.shtml>>
- University of the Philippines Electrical and Electronics Engineering Department <<http://www.upd.edu.ph/eee/Research.html>>
- Ateneo de Manila University Department of Information Systems and Computer Science <<http://discs.ateneo.net/research.html>>
- De La Salle University Advanced Research Institute of Computing <http://ccslinux.dlsu.edu.ph/adric_index.html>⁵³

Continuing challenges

The major challenge for the Philippines is ensuring that all Filipinos enjoy the benefits of the emerging information age. Thus, broadening Internet access remains a major goal. To achieve this requires not only developing the physical infrastructure, but also ensuring Internet literacy among the populace.

Increased competition in the telecommunications sector and the liberal environment in the IT sector contributed to the rapid growth of ICTs in the Philippines beginning in the mid-1980s. The present challenge is to devise a market-friendly policy that would ensure universal access to telecommunications and IT services. The policy must also solve the conundrum that despite a low national teledensity (of about one telephone available for every ten Filipinos) not all installed telephone lines in the country are subscribed!

Mobile phones, which have proven to be widely popular in the country, will play an important role in addressing the universal access issue. And with the advent of the mobile Internet, more Filipinos will be online. ITU has also singled out the Philippines (together with China, Romania, Peru and the Dominican Republic) as among the lower-income countries that are likely to do well in adopting the mobile Internet.⁵⁴

While addressing the issues related to developing the country's information infrastructure is important, it is equally critical that efforts be undertaken to enhance the populace's ICT skills. A developed national information infrastructure is a necessary, but not sufficient, condition to thrive in the information age. The government has taken the first step in getting computers into high schools. Yet, much more needs to be done to ensure that people have the requisite skills.

Developing skills is also related to ensuring that the Internet is more relevant to more Filipinos. As more Filipinos get on the Internet, there would be more demand for local content. And as more Filipinos are Internet literate, there would be more people able to supply the demand for local content.

Getting these virtuous relations going, however, is a considerable challenge for the government.

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Notes

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29. Compare with later discussion on intellectual property.
30. Section 10, Article XVI, 1987 Constitution.
31. Section 11, Article XII, 1987 Constitution.
32. Section 11, paragraph 1, Article XVI, 1987 Constitution.
33. Section 11, paragraph 2, Article XVI, 1987 Constitution.
34. Such requirement is not imposed on broadcasting and cable television operators.
35. Section 11, Article XII, 1987 Constitution.
36. Section 5, Telecoms Act.
37. Section 1, EO 59.
38. *Guidelines for Compulsory Interconnection of Authorized Public Telecommunications Carriers.*
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