.vn

Vietnam

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Total population	83.22 million (in 2005)
GDP per capita	USD 650
Key economic sectors	Agriculture (rice, coffee, cashew nut), Mining, Oil and Gas, Manufacturing (garment, textile, footwear, electronics etc.)
Computers per 100 inhabitants	2.4
Fixed-line telephones per 100 inhabitants	18.73
Mobile phone subscribers per 100 inhabitants	10.68
Internet users per 100 inhabitants	16.14
Broadband subscribers	227,000 (ADSL)
Domain names registered under '.vn'	21,481
Internet international bandwidth	5,795 Mbps (as of 2005)

Technology infrastructure

Over the past few years, Vietnam has both strengthened existing ICT infrastructure and set up new ICT infrastructure. The International Gateway Switch is being operated alongside the National Transit Switch. There are six national switching systems in Hanoi, Danang and Ho Chi Minh City. The local tandem switch is located in Hanoi and Ho Chi Minh City, and local switches are operating in many provinces. PSTN has been replaced by new technology such as Next Generation Network (NGN). ADSL services and broadband access are also being used to improve the quality of Internet connections. There are currently three international telecom centres linked to each other by optical fibre cable. The provincial network system relies on a north-south optical fibre cable of 20 Gbps and an electricity network with a 500 KV transmission. The backup system is a digital transmission system of 140 Mbps. The access network consists of a local cable network (coaxial and optical fibre), a wireless subscriber network and a VSAT system. Data transmission relies on X25 technology.

However, the use of telecom services in the rural areas remains poor. Although more than 92 per cent of communes in Vietnam have access to telephone services, less than 2 per cent of rural households have a telephone. Likewise, Internet use is not equally spread among regions, with 86 per cent of Internet users living in Hanoi and Ho Chi Minh City. Thus, Internet use in the rural areas is still negligible.

Fixed telephone infrastructure

According to ITU statistics, the rate of growth of fixed-line telephones in Vietnam in 2000–2005 was 44.1 per cent, the highest in the world. The Asian average for the same period was 11.9 per cent and the world average was 5.3 per cent. In 2005, there were 18.73 fixed-line telephones per 100 people in Vietnam.

The providers of fixed-line telephones services are Vietnam Post and Telecom Co. (VNPT), Sai Gon Post and Telecom Share Holding (Saigon Postel), Electricity Vietnam Telecom (EVN Telcom), Hanoi Telecom and Military Telecom Co. (Viettel). International telecom services are provided by VNPT, EVN Telcom and Viettel.

Mobile telephone infrastructure

The mobile telephone market experienced a 62.7 per cent annual growth rate between 2000 and 2005. However, the ratio of mobile phones to every 100 inhabitants is still only 10.68, lower than that of Asia and the world. Counting both fixed and mobile phones, the ratio is 29.42 per 100 inhabitants.

VNPT with VinaPhone and MobiPhone provides mobile phone services to 4.4 million subscribers using GSM technology. They have begun to provide GPRS/MMS services to prepare for 3G services. Saigon Postel uses CDMA1x technology and has 1.4 million subscribers. EVN Telcom also uses CDMA450. Hanoi Telecom began with CDMA2000 technology. Viettel uses GSM technology and has 1.5 million subscribers.

Internet infrastructure

Since it began operations on 19 November 1997, the Vietnam Internet Network has increasingly become an important tool in

many socio-economic, cultural and State management areas. Internet costs continue to decrease and favourable rates are charged during off-peak times. Software parks receive discounted rates. From April 2003, prices of 12 telecommunication services, including the Internet, mobile phone connections and international calls, were reduced by 20–38 per cent.

Between 2005 and 2006, the Internet in Vietnam continued to grow rapidly and the subscriber base grew by 53 per cent from 1.8 million to 3.6 million. However, users far outnumber subscribers at 13.4 million in 2006, representing 16.14 per cent of the total population of Vietnam. The annual growth rate of Internet subscribers and users is 1.5 per cent.

The total bandwidth linking Vietnam internationally is 5,795 Mbps. There are 21,481 registered domain names (.vn) and 764,672 IP addresses. There are 985,364 Kbps leased-line subscribers among 339,734 Internet subscribers, 13 licensed ISPs and six companies licensed for IXP (Internet eXchange Point). VNPT has the largest share of the market (43.13 per cent in 2006), followed by FPT Tel (24.08 per cent) and Viettel (18.61 per cent).

In 2005, the number of ADSL subscribers increased nearly 300 per cent, reaching a total of 227,000. VNPT, FPT Telecom and Viettel have a combined ADSL market share of 98 per cent.

As of late 2006, all 64 provinces and cities have completed the Internet development programme in universities, colleges and schools. In addition, most government agencies at the central and provincial levels have access to the Internet, which enables them to provide e-government services.

Organizations and companies like Intel, the US Agency for International Development (USAID) and Vietnam Datacommunication Company (VDC) have experimented with new technologies such as WiMAX. For example, Lao Cai, a mountainous province near Chinese border, is the test location for Intel's Asian Broadband Campaign.

The Master Plan for Internet and telecom development in Vietnam sets the following targets for 2010:

- A telephone penetration rate of 32–42 per 100 inhabitants (with a fixed-line telephone penetration of 14–16 per 100)
- An Internet subscriber rate of 8–12 per 100 (of which 30 per cent are broadband subscribers)
- 25–35 per cent of the population as Internet users
- Access to the Internet for majority of teachers, students, doctors and school children
- An Internet connection in all communes, and public Internet access points in 70 per cent of communes

- Broadband Internet services in 100 per cent of districts and key economic zones
- Broadband Internet connection and links to the government WAN for all government organizations and agencies, down to the district level
- Broadband Internet access points for all research institutes, universities, colleges and secondary schools
- Internet connection for 90 per cent of primary schools and hospitals

Digital content initiatives

The Vietnamese language has been standardized to Unicode UTF 8. There are many websites in Vietnamese. Several operating systems, especially open source systems like Linux, have been localized by some local companies. The domain name system is also supported in Vietnamese script. Other Vietnamese languages like Thai, Cham, Jarai, Bah'nar, Êđê, M'nông, Sê đăng and K'hor are also being standardized in Unicode.

Among local groups, the Vietkey Group is the most active (http://www.vietkey.net) in developing local language content. The Group is working on the localization of foreign fonts to support Vietnamese in Windows, Linux and PDA (Windows CE, Palm) environments. The Group also provides free Vietnamese language solutions. The EVietnam Group (http://evietnamese. net) provides e-learning training in the local language for foreigners. Its website is in five languages: Vietnamese, English, French, Japanese and Korean. Two other local language websites are Vietnameseonline (http://vietnameseonline.net) and eVietnamese (http://evietnamese.org).

The Ministry of Post and Telematics (MPT) initiated in 1997 the Commune's Cultural Post Office. This digital content initiative is based on traditional village cultural and social life and involves the setting up of a public access point equipped with newspapers, telephones and an Internet connection, as well as development of Web content in Vietnamese. The content is suitable to the conditions and interests of poor farmers living in mountainous and remote areas. Currently there are 8,000 public access points in 10,800 communes. Most have dial-up Internet access while a few have ADSL connections. Informal assessments indicate that farmers have benefitted from the use of these public access points. On the downside, some of the currently available content is not suitable for rural life and agricultural activities and the Internet connection is not always reliable.

Online services

Online gaming

A range of online services has been developed, including mobile content, e-news and online newspapers, online games and online databases. The most popular are online games and value-added services over mobile phones. In 2005, the leading company in the online game business (VinaGames) reached a turnover of USD 5 million while the Center for Mobile Business (VASC), another company, earned USD 9 million. Six locally developed online games were featured in a competition in 2005. Most of the games were built using 3D technology while some were written using Direct X 9.C technology.

Currently, there are about 10 companies with 300 employees working on the production of local online games. At a projected growth rate of 70 per cent per year, there should be at least 83 online gaming companies in 2010, with a turnover of USD 1 million each. It is also expected that by then, locally made games would have a share of 25 per cent of the gaming software market. The most active player in promoting online games is VASC, a company under the Vietnamnet Media Share Holding Group associated with VNPT (www.vietnamnetgroup.com), FPT Communication and VDC, another firm under VNPT. VASC is also collaborating with several foreign suppliers to bring online games into the domestic market.

e-Government

Efforts to computerize government offices under the previous National IT Programme have achieved some success. The State Administrative Management Computerization Project (known as Project 112) between 2001 and 2005 sought to build and put into operation an electronic information system to improve the effectiveness and efficiency of government administration. Some successful cases include online business registration and licensing in Ho Chi Minh City, customs declaration in the Dong Nai province and electronic forestry monitoring in Dak Lak. However, the Project will only fully succeed with more rigorous reforms in traditional public administration. Key reforms must include a reorganization of the public administration system in terms of reporting procedures, information control and information sharing over the Internet, as well as improved inter-agency cooperation. Furthermore, provincial and central administration agencies must find a way to harmonize their reporting systems to eliminate difficulties in exchanging files. Currently, different users have different Vietnamese fonts for Microsoft Word files.

Users in the north use the VnTime font while users in the south prefer VNI. The use of Unicode as a common platform has not yet been implemented.

The first experiences of some government agencies in using ICT as a means of providing information and timely services to citizens are encouraging. In Dong Nai province, the Customs Office has put custom declaration forms online. In Ho Chi Minh City, e-registration for business licenses has been implemented. Other attempts to introduce a 'one-stop shop' for public and administrative services have been undertaken in Hanoi, Haiphong, Quang Ninh, Thanh hoa, Ba ria-Vung tau and Da Nang, with some degree of success. Other central government organizations, such as the Ministry of Trade and the Ministry of Planning and Investment, are to follow suit in providing legal documents, regulations and other information on their websites. The websites are updated regularly to make sure visitors can get the latest information about new regulations and relevant business matters. Nevertheless, to make ICT a really useful e-government tool, a more comprehensive legal framework is required, as well as staff training and more vigorous changes in public administration.

Recently, the government put up its own website (www.gov. vn) to create an electronic database on government activities to serve as the official source of information about government policies and to provide an exchange forum for government agencies, government officials, corporations and the general public. The overall aim is to provide citizens with better access to public services.

e-Commerce

According to several surveys of the status of e-commerce in Vietnam (MOT 2005), 82.9 per cent of commercial companies have Internet access and 25.32 per cent have their own website. Seventy percent (70.14 per cent) use ADSL, 16.29 per cent use leased lines, and 13.75 per cent use dial-up. Seventy-three percent (73.91 per cent) are engaged in B2B transactions and 56.09 per cent are engaged in B2C transactions. In 32.9 per cent of the companies surveyed, there is a person designated to work on their online presence. However, the investment structure for ICT is still unbalanced: 62 per cent is for hardware, 29 per cent for software and only 12 per cent for training (MOT 2005).

Overall, the last few years have seen rapid development of various kinds of online services, such as information supply, online marketing, Internet-Intranet, software and e-commerce solutions, tourism, online learning and consultancies. The Vietnam e-Commerce Portal (www.ecvn.gov.vn) was created in 2003 to support companies interested in e-commerce (MOT 2005).

e-Banking

One of the most popular online services is e-banking, which includes Internet banking, mobile banking, phone banking and e-payment services. There are 6,400 ATMs in Ho Chi Minh City alone, and approximately three million ATM cards in the whole country. In 2006, banks experimented with new services, such as home banking and payment of salary and pension funds over the Internet.

ICT industries

In 2005, the Vietnam ICT market (that is, ICT spending, including production for domestic use and import) reached USD 828 million, which represents a 20.9 per cent growth since 2004. Of this total, the hardware market accounts for USD 630 million (76 per cent) and the software market accounts for USD 198 million (24 per cent).

The total industry production value (for both domestic use and export) in 2005 was USD 1.4 billion, which represents a 49.6 per cent increase since 2004. Domestic use accounts for USD 288 million (USD 108 million for hardware and USD 180 million for software), while export value accounts for USD 1,112 billion (USD 1,042 billion for hardware and USD 70 million for software).

The hardware industry includes production of PCs, telecom equipment and electronic products and components. Several Vietnamese companies manufacture and assemble PCs from imported semi-knocked down (SKD) components. Some companies cooperate with foreign companies in assembling computers with a Vietnamese brand name, such as CMC, SingPC, Mekong Green, VINACom, T&H, Robo and Elead. These cooperative efforts have resulted in lower prices for local consumers. A similar approach is being followed for the production of telecom equipment, such as switching systems.

In 2005, the Vietnamese hardware industry reached a turnover of more than USD 1 billion for the first time. Of this amount, USD 1,042 billion was for export and USD 108 million was for the domestic market. ICT became one of the top seven export sectors, after crude oil, garment, seafood, footwear, furniture and rice. The leading exporters were 100 per cent foreign-owned firms like Fujitsu (printed circuit board, USD 515 million) and Canon Vietnam (printers, USD 450 million). Other multinational companies began to increase their investment in the Vietnamese ICT market. For example, Intel invested more than USD 300 million in Ho Chi Minh City and recently upgraded this to a USD 1 billion investment.

The software industry in Vietnam consists mostly of small companies with an average of 20–30 staff members. These companies focus on Vietnam-specific requirements and on providing software services. There are currently about 6,000 software companies with 15,000 staff and a productivity of USD 10 million in 2005. Overall, the number of software and service companies as well as software engineers increased 23 per cent in 2005.

Subcontracting software for export reached USD 70 million in 2005, a 55.5 per cent growth over 2004 figures. The software and services industry grew 47 per cent and achieved a turnover of USD 250 million. Of this, USD 180 million (61.1 per cent) came from the domestic market and USD 70 million (38.9 per cent) came from exports.

The targets for software production by 2010 are: an average annual growth rate of 35–40 per cent; a turnover of USD 1 billion with an export share of 40 per cent; training of 150,000 engineers and IT experts, of which 40–50 per cent should be professional software specialists; becoming one of the top 15 software exporters; reducing the rate of IPR violations to the region's average; and mastering some technologies in key products.

There are nine software parks in Vietnam, including Saigon Software Park (SSP), QuangTrung Software Park (QTSP) and E-Town.

Needing more attention is the content industry which remains underdeveloped in terms of producers and technical facilities despite recent efforts to promote its growth.

Key institutions dealing with ICTs

To ensure the development of a cohesive regulatory framework, the government set up a new Ministry of Post and Telematics (MPT) in 2002. Most functions and responsibilities concerning ICT development have been transferred to MPT from the Ministry of Science and Technology (MOST) and the Ministry of Industry. However, several other ICT-related activities are under the supervision of different ministries. For example, MOST is responsible for R&D management and provides funding for high-technology development, among which ICT is a key priority. R&D activities are undertaken in several institutions, the most notable being the Institute for Information Technology under the Vietnam Academy of Science and Technology (VAST). The Ministry of Trade is responsible for commercial activities, especially those related to e-commerce development. The Ministry of Education and Training (MOET) is in charge of ICT training and education, while the Ministry of Industry has jurisdiction over industrial production activities.

MPT also hosts the Secretariat of Steering Committee for 58 Directive, which aims to facilitate the application and

development of information technology in industrialization and modernization for the 2001–2005 period. In 2004, a network of Departments of Post and Telematics (DPT) under MPT was set up in provinces and cities to deal with ICT-related matters on behalf of MPT. In 2005, MPT also created the Department for ICT Application to oversee broader ICT opportunities in all areas of the economy and society, such as those for improving productivity in the manufacturing sector and agricultural information. To oversee Internet promotion, management and development, MPT set up the Vietnam Internet Center. The Centre is also responsible for the allocation of Internet addresses and domain names (under .vn). In 2006, MPT set up the VTC-Multimedia Corporation as the basis for a television development company.

ICT is also being promoted by non-governmental organizations. Within the Central Committee of the Communist Party, there is a board tasked with promoting ICT applications among Party units and organizations. Within the National Assembly structure, the Committee for Science, Technology and Environment proposes various initiatives related to technology development, especially ICT-related legislation. A notable example is the e-Transaction Law enacted by the National Assembly.

Private sector organizations also play an important role in ICT development. The Vietnam Association of Information Processing (VAIP), Hanoi Association for ICT, Ho Chi Minh City Computer Association (HCA), Vietnam Association of Electronics Enterprises, Vietnam Software Association (VINASA) and Vietnam Chamber of Commerce and Industry (VCCI) are very active and work closely with the government to promote the growth of ICT. For example, these associations can involve ICT companies and organizations in the discussion and preparation of policy recommendations to the government. Their role has become important enough for the government to assign to VCCI the task of organizing implementation activities for ICT applications in SMEs. Other important association activities are the publication of an ICT yearbook, the organization of an ICT Olympiad competition for students, annual provincial meetings on ICT-related issues, and coming up with an ICT index (ranking) of cities and provinces in cooperation with foreign actors like the International Data Group and Asia-Oceanian Computing Industry Organization.

Enabling policies and programmes

Several important documents on ICT strategy and master planning were promulgated in 2005–06, such as:

- Decision No. 191/2005/QĐ-TTg promulgated on 29 July 2005, and establishing a programme to assist small and

medium-scale enterprises in using ICT to increase productivity and performance for the period 2005–10.
- Decision No. 222/2005/QĐ-TTg promulgated on 15 September 2005, and putting in place a master plan to develop e-commerce in 2006–10.
- Decision No. 246/2005/QĐ-TTg promulgated on 10 June 2005 to develop ICTs and ICT-supported development in Vietnam.
- Decision No. 32/2006/QĐ-TTg promulgated on 7 February 2006, mandating development planning to promote the development of telecommunications and the Internet in Vietnam until 2010.

In general, these strategies or plans would provide a platform and roadmap for the development of e-commerce, telecoms and the Internet up to 2010 and, in some cases, beyond 2010. More important, they provide for a tentative financial allocation for implementing the proposed activities.

ICT laws and regulation

The National Assemby enacted the law on electronic transactions on 29 November 2005 and the intellectual property rights law, which has a special section on software development, on 12 December 2005. In June 2006, a joint document (No. 60/2006) to regulate the production, supply and use of online games in Vietnam was issued jointly by the Ministry of Culture and Information, MPT and Ministry of Police. Also issued in June 2006 were the Decree on e-Commerce and the Information Technology Law. The Decree was issued to promote all e-commerce-related activities, while the IT Law sets the legal framework for infrastructure development, ICT application and industrial development.

There are others laws that are related to ICT, such as the Law on Commerce. In addition, a new law on telecommunication is being drafted. Since joining the World Trade Organization (WTO) in 2006, Vietnam also had to prepare for the Information Technology Agreement clauses, in particular the exemption of import duty on ICT products among WTO member economies.

All of these policy documents, laws, decrees and regulations constitute the legal framework for ICT development in Vietnam. As such, they clarify the 'rules of the game' for ICT development in the country. However, their implementation and enforcement is a problem as it usually takes some time before laws are transformed into concrete regulations. Moreover, different ministries and implementing bodies sometimes have different interpretations of policy documents.

Security issues

To deal with emerging security problems arising from inappropriate use of the Internet, the Ministry of Police issued in 2004 Resolution No. 71/2004 regulating Internet businesses in Vietnam.

To address potential emergency situations in the computing environment, MPT also set up in 2006 the Vietnam Centre for Computer Emergency Response Team (VNCERT). The Centre is tasked to deal with Internet safety, security and technical standards.

The most important security organization in Vietnam is the Bach Khoa Center for Internetwork Security (BKIS) under the Hanoi Technology University (www.bkis.org.vn). This R&D organization, which was created in 2001, provides services addressing virus attacks and hacking problems. BKIS supplies BKAV (Bach Khoa AntiVirus), the most popular antivirus software in Vietnam. It helps the government solve security problems, and works with foreign organizations and members of the Asia Pacific Computer Emergency Response Teams (APCERT). In 2004, the government upgraded it into a national emergency centre with 55 members of staff. In general, BKIS works as a core element within the VNCERT community.

The Center for Network Solutions and Computer Rehabilitation (http://www.sinhvienngheo.biz) and Vietnam Security (http://www.security.com.vn) are two other organizations working on ICT-related security issues in Vietnam. Within the Ministry of Police, there is a taskforce for computer-related or high-tech crimes.

Education and capacity building

Many colleges and universities have set up faculties teaching ICT subjects. By 2000, there were about 20 IT faculties in Vietnamese universities and more than 20,000 students had completed undergraduate (Bachelor's) degrees in ICT-related fields. This translated to 10,000 people working in professional IT units (that is, IT companies, R&D, and IT education and training).

The increase in the number of trained IT personnel is the result of Decision No. 331/QĐ-TTg (6/4/2004), which set up a programme to develop human resources for IT-related fields until 2010. In 2005, MPT was assigned to develop a master plan for ICT human resource development and many other strategies were formulated, including Resolution No. 05/2005/ NQ-CP which emphasizes the involvement of private sector organizations in ICT education and training.

On 14 June 2005, the National Assembly passed the Law on Education which provides for the development of private universities. A network of private universities has been set up, with several institutions working on ICT training, such as the ICT University in Ho Chi Minh City, FPT University (run by FPT, an ICT company) and the Vietnam-Korea College for ICT. Currently, there are approximately 80 universities providing university degrees in ICT-related fields, with an intake of more than 10,000 students per year. Counting the 103 colleges (which are middle-level educational institutions between high schools and universities) offering ICT degree programmes, the annual ICT student intake goes up to 20,000. There are also 60 diploma and certificate programmes (non-university degrees) in ICT offered by many training centres and units. A notable co-operative initiative in ICT education is being pursued by Microsoft Vietnam and Partners in Learning to provide ICT training and support to 50,000 schoolteachers and two million school children.

Research and development

The Ministry of Science and Technology (MOST) oversees the state's research programme in ICT, coded KC-01. One of the main goals of R&D is to establish a close link between the market, research and education, including a special orientation toward a Vietnamese-machine interface such as voice recognition.

The leading institute working in IT is the Institute of Information Technology (IOIT), which is under VAST. There are other institutes, such as on telecommunication, microelectronics and information systems, working with several ministries.

Every year, MOST selects key R&D programmes in ICT. In 2006, the projects selected included: development of key products in voice recognition and Vietnamese text, grid computing to support complex tasks, development of a buffer system and Internet security, and production of audio process and receiver using digital technology. The institutes involved in these projects are IOIT, the Department for ICT, the General Department of Technology and Voice of Vietnam Radio.

Open source initiatives

Linux was introduced in Vietnam in the mid-1990s through research institutes such as Francophone IT University and technology universities in Ho Chi Minh City and Hanoi. Both Linux Office and Microsoft Office are now available in Vietnamese. Open source software (OSS) is a main research thrust of the VietKey group, which has been using a Linux base to develop Vietnamese fonts.

To promote OSS, the Vietnamese government issued in 2004 Decision No. 235/QDD-TTG, which outlines a Master Plan

for Applying and Developing Open Source Software in Vietnam for the period 2004–08. According to the plan, OSS will be tested in selected organizations. A range of incentive policies and programmes have been designed, such as staff training, technical assistance and standards creation. The Master Plan's road map identifes the creation of some key software products by 2007. MOST has formed a special National Steering group to work on OSS development. The total investment for the period 2003–07 is about USD 20 million. This amount is divided among nine projects conducted by various ministries, such as MOST, MPT, MOET, the Ministry of Home Affairs, the Ministry of Labour and Social Affairs and the Ho Chi Minh City government.

There are no official statistics on the use of OSS in Vietnam, but MOST is conducting a survey with the support of the Organization Internationale de la Francophonie. It is safe to say that there are many OSS users, such as organizations under the e-government programme, Communist Party organizations and some small firms that provide Internet solutions and services.

Challenges

ICT development in Vietnam is still dominated by an industry that mostly seeks to generate profits. The notion of ICT as an enabler of economic development has not yet received adequate attention from key stakeholders in society. A more radical change of attitude at all levels and layers of society is needed to develop Vietnam into a more open, transparent and impartial ICT-friendly society.

For one, in spite of various efforts to encourage more competition, the mighty monopoly of VNPT remains almost intact. As it joins the WTO, Vietnam will have to confront the challenge of foreign players demanding the opening of the domestic market for telecom services.

Recent changes in state management of ICT also need some attention. Although creating a separate government body for ICT makes sense and is in line with trends in many economies around the world, it is not clear how this body, MPT, can effectively take over all ICT-related activities. MPT is responsible for regulating the telecommunications sector in Vietnam. It undertakes the dual role of policymaker and regulatory authority (Global Internet Policy Initiative 2003). This combination of functions is not common. Moreover, important areas of concern are still under the management of the Central Government Office (Project

112), the Ministry of Trade (e-commerce), the Ministry of Industry (PC production), MOST (R&D and other technology development programmes), MOET (education and training in ICT) and so on. On the other hand, no organization has overall responsibility for developing an e-economy and e-society. A balance must be struck for MPT to perform its organizational functions in coordination with other agencies. At the same time, MPT must assume leadership in the development of an e-society as one of its main functions in addition to telecom infrastructure and ICT industry development.

There is a need for impartial treatment of all telecoms players. MPT has a close relationship with business entities such as VNPT, the biggest player in the telecom and Internet market. Officially, the running of VNPT has been separated from state management. However, the previous relationship between the government and VNPT makes impartial treatment of this company difficult.

Despite the movement toward more liberalization and competition, vestiges of monopoly by some actors remain, which hampers the achievement of ICT4D goals. There are several points to note in this regard. At the macro policy level, there is no clear separation between the perception of ICT as enabler and the role of industry. At the meso and micro level of using ICT for development, the cost of access to ICTs for poor people and for rural areas remains high. The issue of affordability to achieve equity in access to information needs to be addressed as soon as possible. Deregulation and opening up the market is a step in this direction.

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