MPI
Department of Trade and Services

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Competitiveness and the Impact of Trade Liberalization in Viet Nam: The Case of Telecommunications

Ha Noi, May 2006

FOREWORD

The study *Competitiveness and the Impact of Trade Liberalization in Viet Nam: the Case of Telecommunications* was conducted in 2004 and 2005, in the framework of the project **"Capacity Strengthening to Manage and Promote Trade in Services in Viet Nam in the Context of Integration"** (or "Trade in Services" Project - VIE/02/009), which is currently being funded by the United Nations Development Programme (UNDP), and implemented by the Department of Trade and Services of the Ministry of Planning and Investment (MPI).

The goal of the Trade in Services project is to assist the Government of Viet Nam to further integrate into the world economy with a focus on trade in services. The purpose of the project is to strengthen the capacity in Viet Nam to formulate, coordinate and implement policies in support of the development of service sectors in the country and to manage and promote trade in services in Viet Nam in the context of economic integration.

The project consists of 4 outcomes: 1st Outcome: Provide technical assistance to formulate a comprehensive strategy for the development of the services sector in Viet Nam; 2nd Outcome: Improvement of information flows on trade in services; 3rd Outcome: Assessments of the competitiveness of services sectors and impacts of trade liberalization on the country and people; and the 4th Outcome: Enhancement of human resource development in trade in services.

The project has conducted the present study according to the specific objectives and implementation plan of its third outcome. This report presents an overview of the telecommunications sector in Viet Nam, including the legal and regulatory framework for telecoms networks and basic and value added services; provides a detailed analysis of the competitiveness of Viet Nam's telecommunications services in the context of recent global sector reform developments; and analyses the impact of the liberalization of this sector in Viet Nam from three different angles: impact on the sector itself, on the economy and on final consumers. The report also addresses in detail the weaknesses of telecommunication services in Viet Nam; identifies strengths, opportunities and threats for the sector in light of the country's current liberalization commitments; and presents some policy recommendations for the government, as well as suggestions for other actors in this sector.

The study was conducted by a team composed by Dr. Dinh Van An, president of the Central Institute for Economic Management (team leader); Dr. Le Dang Doanh, Advisor to Minister of Planning and Investment (team supervisor); Mrs. Phan Thanh Ha, Mr. Nguyen Dinh Chuc, and Mr. Pham Hoang Ha, from the CIEM Department for Macroeconomic Policies; and Mrs. Tran Thanh Binh, from the Development Strategy Institute; assisted by Mr. David Butcher (international expert).

Mr. Truong Van Doan, Vice Minister of MPI, was the National Director of the Project, as well as Dr. Ho Quang Minh, General Director of the MPI Foreign Economic Relations Department; while Mr. Thai Doan Tuu acted as Deputy National Project Director. Dr. María Cristina Hernández, Senior Technical Advisor to the Project, helped the team throughout the various stages of the study, from its design to the last revisions and completion of the report. Useful comments and inputs came from Mr. Nguyen Thanh Phuc, vice president of the National Institute of Posts and Telematics Strategy (MPT); Mr. Peter Smith and Mr. Carsten Fink, from the World Bank; and Dr. Dorothy I. Riddle, from Service-Growth Consultants Inc. (Canada).

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List of Abbreviations

ADB	Asian Development Bank
AFTA	ASEAN Free Trade Agreement
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of South East Asian Nations
B2B	Business-to-Business
BCC	Business Cooperation Contract
BTA	Bilateral Trade Agreement
CIEM	Central Institute for Economic Management
CPV	Communist Party of Vietnam
DGPT	Directorate General of Post and Telecommunications
DLD	Domestic long distance
DSL	Digital subscriber lines
EIU	Economist Intelligence Unit
FPT	Corporation for Financing and Promoting Technology
G2B	Government to Business
G2C	Government to Citizen
G2E	Government to Employees
G2G	Government to Government
GATS	General Agreement on Trade in Services
Gbs	Gigabytes Per Second
GOV	Government of Vietnam
GSM	Global System for Mobile Communications
HT	Hanoi Telecom
ICT	Information and communication technology
ILD	International long distance
IPR	Intellectual Property Rights
ISP	Internet service provider
IT	Information technology
ITU	International Telecommunications Union
IXP	Internet exchange providers
JETRO	Japan External Trade Organisation
JV	Joint Venture
MARD	Ministry for Agriculture and Rural Development
MFN	Most Favored Nation
MOET	Ministry of Education and Training
MOST	Ministry of Science and Technology
MOT	Ministry of Trade
MPT	Ministry of Post and Telematics

NIPTS	National Institute of Post and Telematics Strategy
NRI	Networked Readiness Index
OECD	Organisation for Economic Cooperation and Development
OSP	Online Service Providers
PSTN	Public Switched Telephone Network
PTDS	Telecom Sector Development Policy
PTT	Postal, Telephone and Telegraph (companies)
RFID	Radio frequency identification
ROR	Rate-of Return
SME	Small to medium sized enterprise
SMS	Short messaging service
SOE	State-owned enterprises
SPT	Saigon Postal and Telecommunications
TE	Telecommunications Enterprises
UN	United Nations
UNDP	United Nations Development Programme
USA	United States of America
VAS	Value Added Services
Viettel	Vietnam Military Telecom Company
VISHIPEL	Vietnam Shipping Telecommunication Company
VNCI	Vietnam Competitiveness Initiative
VNPT	Vietnam Post and Telecommunications
VoIP	Voice over Internet Protocol
WEF	World Economic Forum
WTO	World Trade Organization

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1. Introduction

Developing countries which have embraced the telecommunications revolution have found that telecommunications can be a powerful engine for economic growth as well as development. It has been shown world wide over the last two decades that ICT can also be an enabler of development, *improving the lives of poor people, improving the quality of education, increasing the efficiency and transparency of government, bringing government closer to the people, increasing economic growth, and making nations more competitive and integrated in the global economy*[1]**.** Significant reform in telecommunications is the most important factor in accelerating ICT usage in society and government, and to accelerate economic growth overall.

The last decade has seen a rapid and extensive development of telecom services and technologies as well as the international trade in telecom services. This development has led to telecom reforms in many countries, including liberalization and institutional reforms. These reforms have come via national initiatives, and also as a reflection of international commitments on telecom services, especially commitments under WTO frameworks.

The Vietnamese government and Communist Party have long recognised the importance of the telecommunication sector and ICT for Vietnam's security and development and have tried to guide the development of ICT and telecommunications through the implementation of several important decrees and regulations in recent years. The development of a knowledge-based economy is one of the key pillars of Vietnam's socio-economic development plan for 2000 to 2010.

The CPV central committee's Direction No 58-CT/TW in 2000 underlines this importance and emphasises the role telecommunications is to play in promoting economic reform, modernization and accelerating development. The Prime Minister further supported the development of the telecoms sector through the approval of the "Development Strategy of Vietnam's Post and Telecommunications until 2010 and the Orientations until 2020."[2], which sets out the goals and strategic objectives of the telecom sector as a whole, including becoming a key contributor to the Vietnamese economy.

1.1. Objectives of the study

This study will focus primarily on the pace and progress of reforms in the microeconomic environment faced by the Vietnamese telecommunication sector and whether these reforms are designed to foster a competitive environment. It will analyze the competitiveness factors currently impinging on the sector as well as the dynamic competitiveness induced through the process of liberalization, coming from domestic reforms and international integration commitments. This study also hopes to assist Vietnamese policy makers and trade negotiators in formulating appropriate policy, negotiating and strategic positions for the country in the telecommunications services sector in the WTO accession negotiations and other regional and bilateral trade negotiations. The objectives of this research are as follows:

examine the pace and progress of reform in the telecommunication service sector in Vietnam and the inconsistency of current regulations with the General Agreement on Trade in Services (GATS) for each mode of service provision;

portray the current competitiveness situation of the sector and its dynamics in the process of liberalization under domestic reforms and international integration commitments;

[1] World Bank Policy Note
[2] Decision No 158/2001/QD-TTg

analyze the impact of trade liberalization of services in the telecommunications service sector in Vietnam, namely the benefits and costs of trade liberalization of telecommunication services on the sector itself, on other industries and people, particularly the poor and disadvantaged groups;

assist Vietnamese policy makers and trade negotiators in formulating appropriate policy, negotiating and gaining strategic positions for the country in the telecommunications services sector in WTO accession negotiations and other regional and bilateral trade negotiations;

1.2. Structure of the Study

This study examines telecommunications networks and telecommunication services, including basic services and value added services. The report comprises four main chapters, which include a revision of the liberalization process of telecom services using a WTO reference paper as a comparison tool and also the US-Vietnam Bi-lateral Trade Agreement to illustrate some of Vietnam's international experiences and commitments. Other chapters analyse the competitiveness of the telecom sector and the impact of sector liberalization on its competitiveness. Finally, we explore the impact of liberalisation and increased competition on the economy and final customers. Arising from theses discussions CIEM makes several recommendations for the government and sector action.

1.2.1. Competitiveness and Telecom services

A critical concept of the study is the meaning of "competitiveness." Individual and national prosperity depends on the efficiency with which a nation produces goods and services. Economic efficiency of resource allocation or optimal conservation of resources requires that a nation should not use a resource if the cost of using it exceeds the benefits accruing to society from using it. Conversely, economic efficiency also requires that society should use a resource where the benefits of using a set of resources exceeds the cost of using it[3].

A necessary, but not a sufficient condition for prosperity is macroeconomic stability. With macroeconomic stability people can save money and invest and businesses can function without fear of inflation or crisis. However, the prosperity of a nation will also increase if businesses produce goods and services efficiently, with outputs of a high quality. Quality goods and services at reasonable prices will sell on domestic and international markets in preference to the goods and services produced in nations that are less efficient. Efficiency and quality are dependent upon an ongoing rivalry between local and international producers, with all striving to attain advantages from innovation and the application of new technologies and skills.

At its most simplistic, therefore, a telecommunications sector of an economy can be efficient and competitive if there is competition within the sector. However, the existence of two or more operators does not mean there is effective competition. Competition exists where:

all, or a large majority of consumers, are free to chose between a package of prices, services and quality offered by more than two suppliers of service,

a consumers choice is available, supplied and satisfies their needs, and

the rivalry involved in winning customers, through developing and modifying the options and prices of services available, is the principal regulator of the sector.

[3] DRAAC Study, ADB Study, 2005 (forthcoming)

If the telecommunications sector meets these tests, it will be regarded as competitive. A telecommunications sector is, therefore, competitive when the microeconomic business environment for the sector is conducive to rapid increases in productivity, resulting from competition. The rivalry fostered by competition results in efficient delivery of telecommunications services. It is the enterprises that are competitive, but their ability to be competitive is vitally dependent upon the environment in which they function.

International competitiveness of internationally traded goods and services is important as it ensures that the goods and services an economy can offer can win customers against other goods and services available on world markets. If comparisons of prices, quality and the range of services offered in an economy are favorable, the goods and services will be in demand in their respective markets and will sell well compared with the offerings from suppliers in other countries.

1.2.2. International Integration

Vietnam has made significant steps toward integrating itself into the international economy. Vietnam joined ASEAN in 1995 and is fulfilling its ASEAN Free Trade Agreement (AFTA) obligations by 2006. Vietnam became a member of Asian Pacific Economic Co-operation (APEC) in 1998, and signed the Vietnam – US-Bilateral Trade Agreement (VN-US BTA) in 2000. Vietnam has also prepared the majority of the groundwork for World Trade Organization (WTO) accession and should join sometime in 2006.

The Government of Vietnam is gradually exposing the telecoms sector and the rest of the economy to international competition, which is helping to develop an increased understanding of the components of competitiveness and the impact of trade liberalization in telecommunication services on the competitiveness of Vietnam, its industries, the telecoms sector itself as well as the welfare of customers.

There have been several studies carried out in the past on Vietnam's telecommunication sector, by multi and bi lateral government agencies and multinational companies, as well as Vietnamese government ministries and agencies themselves. These studies have touched on several different aspects of the industry such as the sectors development strategy, regulatory reforms and technical infrastructure and capabilities. There have been few studies examining the impact of trade liberalization in telecommunications and competitiveness. This study will try to answer the following questions:

How has liberalization been undertaken, and to what extent?

Which regulatory problems restrict competition?

What are Vietnam's commitments in respects of telecom liberalization and what effects has liberalization had on the competitiveness of the sector itself?

What effects has telecom service liberalization had on the economy and consumers?

What measures can the Government take to promote competition and give increased and better-balanced benefits to the government, telecom firms, the economy and final consumers in particular?

1.3. Measuring Vietnam's Reform and Competitiveness

1.3.1. International Assessments

This report analyzes the sector on both the supply and demand sides of the industry. It considers the supply and demand conditions through indicators such as telecommunications structure, revenue, telecommunication tariffs, market shares, quality of services and the growth and development situation of the sector. Data collected from the study's survey is used to support this analysis.

The report also uses international indexes, including analyses and comparison of policy, operation, tariff, quality and technology aspects as well as analyses of Information Communications Technology (ICT), networked readiness and competitiveness indicators in the World Economic Forum's (WEF) National Competitiveness Index and telecommunications competitiveness indicator rankings by the International Telecommunications Union (ITU).

1.3.2. Surveys

To add fresh information on the telecoms sector, the authors and a survey team carried out four surveys with different interviewee groups, telecom enterprises, government officials, institutional customers and individual customers[4]. The surveys were designed to analyze the competitiveness of telecom enterprises, the impact of telecom services on the competitiveness of customers, and also gain the view viewpoints of officials on telecom liberalization and competitiveness in the Vietnamese telecom sector.

Different questionnaires were used for each group. Institutional and individual questionnaires were almost identical and covered issues such as telecom service quality, price, cost, convenience and degree of satisfaction. Telecom enterprises were asked to give details of their company strategy, operations, business environment, the impact of regulatory issues in the past as well as in the future, as well as interconnection issues with the VNPT. Government officials were asked about a number of general issues such as the current situation of telecom sector, the liberalisation of the telecom sector, the impact of this process and policy recommendations.

[4] The Vietnam Chamber of Commerce and Industry (VCCI) was responsible for interviews and collecting data.

2. VIETNAM'S TELECOMMUNICATIONS SECTOR

2.1. Overview of the Telecommunication Sector in Vietnam

Vietnam's telecom liberalization policy is based on multi-economic ownership sector participation in the telecom sector, with a commercially-oriented state owned incumbent operator and a gradual increase in competition. These policies are stated in the form of general policies announcements as well as being included in legislation passed by the National Assembly.

The Telecom Sector Development Policy and Internet Development Plan to 2005 states that all enterprise ownership forms and sectors are encouraged to participate in the development of the telecom sector in a fair, transparent and competitive environment. Enterprises currently operating in the telecoms sector are diverse. They include enterprises with 100 percent state capital, a state majority or a special state share, as well as enterprises from other sectors and ownership forms. Though the Post and Telecoms Ordinance (PTO) affirms this policy, private participation in the telecom sector varies across different telecom services and activities. Enterprises that operate networks, including internet exchange providers (IXPs), must have 100 percent state capital or have a majority state or special state share. Any Vietnamese enterprise, in any ownership form or sector, can provide telecom services, including Internet service provision (ISP) and online service provision (OSP). This applies to most value added services (VAS).

The Telecom Sector Development Policy confirms the change from a monopolistic telecoms industry to a competitive telecom sector, in which the state sector plays a dominant role. The market share of non-incumbent enterprises in the telecom sector is planned to reach 25-30 percent in 2005 and 40-50 percent by 2010. The Telecom Sector Development Policy also aims for 3 to 5 IXPs and 30 to 40 ISPs by 2005, and numerous online service providers licensed to provide a variety of internet services. The general approach of the government is to expand the competitive market in combination with strengthening the dominant role of state-owned enterprises (SOE), allowing qualified domestic enterprises, mainly state-owned enterprises, to provide basic and value added services. Due to Vietnam's international commitments, foreign enterprises will enter the telecom market gradually. The market for telecom services is more open than network operation and control.

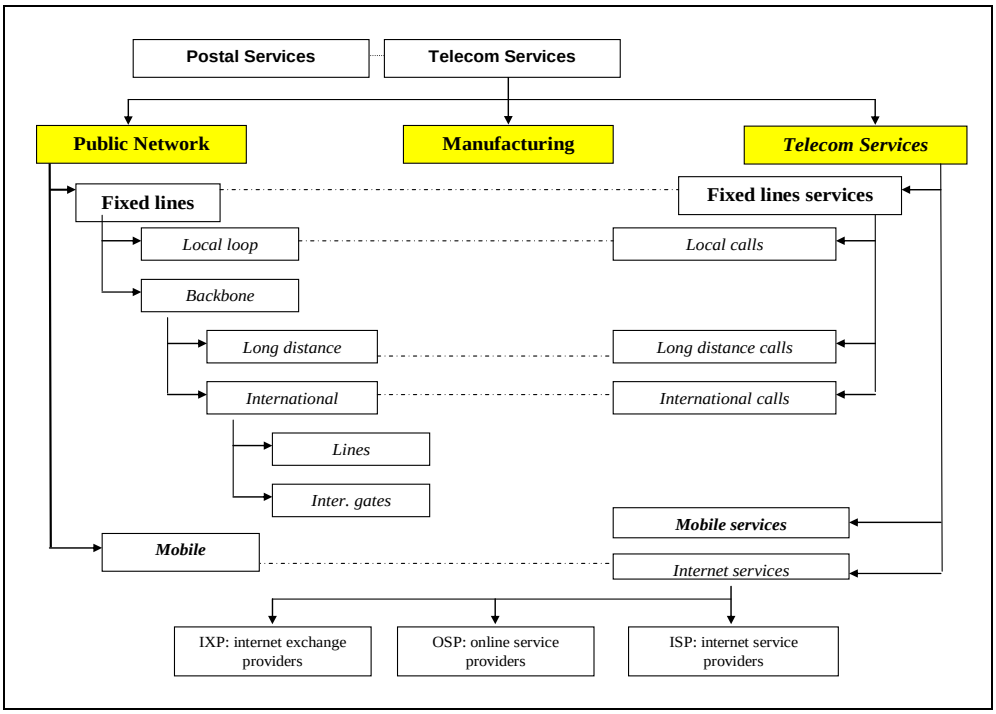
Vietnam Post and Telecom (VNPT), the current telecoms incumbent, has also experienced changes in its functions and organizational structure. The Prime Minister approved the separation of state management and business functions of the former General Department of Post in 1994[5]. In 1995 VNPT was officially established as a general corporation under the Governments control. VNPT business activities include telecom and postal services as well as having a business and public service function applying cross-subsidies for all services and providing accounting services for other providers. In an increasingly competitive environment the organizational structure and

[5] Decision No 91/TTg, 1994

functions of VNPT constrain its business operations as well as the telecom sector as a whole.

Recently VNPT has undergone further reforms and was planned to have its postal and telecoms businesses separated in 2005. This would see the establishment of two independent corporations: Vietnam Post Corporation and Vietnam Telecom Corporation. This separation is an important part of the reorganisation of VNPT into a new model from 2005-2006, which also includes the possible equitation of some units of VNPT[6].

Figure 1: Structure of the Sector



2.2. Regulating the Telecoms Sector

Initially, when VNPT was a sole provider and the market operated as a monopoly, it was essentially a self-regulatory body with regulation, policy, business management and ownership mixed together. With the introduction of competition to the telecoms sector it became inappropriate for one of the competitors to be the regulator. The first step towards independent regulation was the formation of the Ministry of Post and Telematics (MPT). MPT is responsible for the overall telecoms strategy and planning of the sector as well as regulating service prices. MPT also has extensive data gathering, coordination and other functions to perform. The regulatory structure of the sector is undergoing transformation as the pace of liberalization increases.

[6] It was announced in 2005 that Vinaphone and Mobifone, VNPTs mobile providers are to be equitised in 2006 or soon after.

The government has gradually been withdrawing from price regulation of the telecoms sector. A decree in October 2003 and an official letter in January 2004, gave telecom enterprises the freedom to determine tariffs in the telecom service market in which they are not dominant. Some tariffs, particularly those offered by VNPT, remain regulated.

After a pilot period from September 2001, it is planned that in 2005 the postal services business will be separated from the telecom business with the division of the existing VNPT into two independent corporations: Vietnam Post Corporation and Vietnam Telecom Corporation. This separation is an important part of reorganizing VNPT in a new model of independent Post and Telecom corporations from 2005-2006. Furthermore, government is considering the equitation of some units of VNPT.

2.2.1. Network Licenses

Current legislation defines three types of telecom networks, separated networks, public networks, and special networks. Telecoms policy and regulation allows agencies, institutions and enterprises to establish separated networks for their internal use and for non-profit purposes. The direct interconnection of separated networks to the public network is prohibited, except in some special cases. The special telecom network is used to transmit special information for the Party, state, national defense and security agencies and its operation is subjected to special government regulations. This report focuses on public networks.

2.2.2. Operating License conditions

To become a network operator applicants have to satisfy the following general conditions:

be a state-owned enterprise or an enterprise with the state controlling a dominant or special share,

have feasible network development and business plans, that are in compliance with the regulations on interconnection, utilization of information resources, charges, technical standards, and services quality as well as plans ensuring technical safety and problem fixing, equipment and technical plans for network safety and information security, and

have financial and human resource capacity appropriate for the scale of the permitted project.

License applicants must submit a Service Provision Proposal, which, among other things, contains a business plan specifying the contents such as the type of service, extent of service, service quality standards, tariffs, market analysis and forecast, revenue, total investment and disbursement for each stage of development, forms of investment, a capital mobilization plan and a human resource plan.

Once an applicant has satisfied the above conditions and criteria, it must receive the approval of various administrative agencies. The first step is with the Ministry of Posts and Telematics (MPT) who review the application and decide whether to accept it or not. The basis for any decision is whether the application is consistent with the National Telecom Development Strategy and Plan. Other relevant ministries and branches also consider the application. Once relevant ministries and MPT reach a consensus, MPT will then submit approved applications to the Prime Minister.

An enterprise must then begin implementing an approved project within two years or a license can be withdrawn if delays are caused without good reason. The maximum duration of a license for network operation is 15 years. Enterprises can apply for a license to be revoked before a license expires, however, it may be revoked only once for a maximum of one year.

The receipt of a network license does not mean that the successful applicant may engage in any network operation[7]. Only operators with licenses to establish fixed, long distance, or international lines may operate national trunk lines, or lease long distance and international lines. Operators permitted to operate the mobile public network may establish local and long distance loops but are not allowed to establish international gates and offer leasing services on their networks.

2.2.3. Licensed Fixed and Mobile Network Operators

The section above demonstrates the licensing regime for network operators. It is also important to understand the business operation of a network and the market structure of fixed lines and mobile networks. Before 1995, VNPT was the sole fixed line network carrier in Vietnam. Since then the government has licensed five enterprises to operate networks, the Army Electronic and Telecom Company (Viettel) and Saigon Postal (SPT) in 1995, the Vietnam Maritime Communication and Electronics Company (Vishipel), Electric Telecom Company (ETC) and Hanoi Telecom, in 2001. VNPT, Viettel and ETC have permission to construct and operate the national backbone and international gates, while SPT and Hanoi Telecom have licenses to build local networks in Ha Noi and Ho Chi Minh areas.

Viettel and ETC have recently been licensed by the Vietnamese government to expand their services from the original network service allowed in 1995. From July 2002 they have been licensed to offer local and long distance services and international services from April 2003. This move indicates that the participation of non-VNPT enterprises in fixed line networks remains limited, mainly due to the fact that constructing a fixed line network is unprofitable compared to other telecom services.

[7] There are several ways of classifying the public telecom network in Vietnam. The public telecom network consists of fixed network, mobile networks and others. It is also categorized into local loop and national highway (including domestic long distance, international line and international gates).

Until recently there were only three mobile networks operating in Vietnam, all owned by VNPT. The first cellular phone network in Vietnam arrived in 1992. "Call-link" was the result of a Business Cooperation Contract (BCC)[8] between Ho Chi Minh City Post and Telecom and Singapore International Telecom Company. In 1995, Mobifone was formed through a BCC between Comvik AB from Sweden and the Vietnam Mobile Services Company (VMS) a full subsidiary of VNPT. Vinaphone, a fully Vietnamese-operated network, began operations 1996 and was established by the Vietnam Telecom Services Company (GPC) another 100 percent subsidiary of VNPT.

There are now seven mobile providers with four more having recently received licenses. In 1998, Viettel received its mobile network license and began operating in October 2004. S-Fone began in July 2003 and is the result of a BCC between SPT and SLD Telecom from South Korea. Hanoi Post and Telecom launched Cityphone in December 2002 and expanded to Ho Chi Minh city in 2003. Hanoi Telecom also received a license in 2003 and is expected to complete a large telecom service development project in 5 years. While this expansion in licenses indicates an increased level of competition in mobile phone services, it should be remembered that VNPT retains 97 percent of the market and remains the dominating network operator in Vietnam.

2.3. Fixed Network Capacity

Telecommunication companies' operations in Vietnam are supported by a modern telecommunication network backbone, managed by VNPT. The network has been modernized over the past few years with a large investment in the telecommunication system, with VNPT increasing investment at 20 percent a year from 1995 to 2003. Transmission equipment and switches were digitalized in 1995. All districts within the country currently have digital switches with a minimum capacity of 2 Megabytes per second (Mbs). The network is supported by a circuit switch system of 04 international AXE-104 switch exchanges in Hanoi, Danang, Ho Chi Minh City, and Can Tho and 3 centers of inter-provincial switch exchanges located in Hanoi, Danang and Ho Chi Minh City. The network has 140 switch exchanges on the first layer of the system, 500 switch exchanges at the second layer and 1,600 switch exchanges at the third layer of the system.

The capacity of the cable network connecting the North and the South is currently 2.5 gigabytes per second (Gbs) and this network is now being upgraded to reach a transmission capacity of 20Gbs. Cable networks now reach most provincial centers except three provinces of Ben Tre, Lai Chau and Son La. The total length of the cable network is more than 5,090 Kilometers. In the three provinces mentioned above, a PDH system is used. 221 out of 576 districts have been connected with provincial centers by cable network.

[8] A BCC is a form of investment in which a Vietnamese and a foreign partner agree to carry on an investment activity without creating a new company where the foreign BCC partner normally provides capital and/ or technology and/ or know-how and shares part of the resulting profits from the venture.

The capacity of the international transmission system has been upgraded to 5,400 channels for with direct connections to more than 40 countries of the world. A sea optical cable system carries 3,300 channels and the remaining 2,100 channels are connected via a satellite system.

The Internet in Vietnam is globally connected via 7 gateways with a total capacity of 1038Mbs[9]. Two data communication/transmission lines or gateways directly connect Vietnam with the USA. There are currently 5 international connection gates with a total capacity of 172.8Mbs. Local data communication/transmission lines are made up of 3 connecting gates with a bandwidth of 2Mbs. 28 out of 61 cities and provinces now have access to direct data transmission services.

2.4. The Market for Services

The telecom services market is open to all Vietnamese enterprises of any officially recognised ownership form. The licensing conditions and criteria for telecom services are similar in many aspects to those for telecom networks. Unlike telecom networks, the Minister for Posts and Telematics makes licensing decisions for telecom services, rather than the Prime Minister. For licenses involving the use of information resources, the allocation of information resources to the project must be feasible. The maximum duration of a service license is 10 years.

Table 1: Enterprises in the Telecom Sector

	Fixed phone	Mobile	Inter-national	VoIP	IXP	ISP	OSP
VNPT	■	■	■	■	■	■	■
Viettel	■	■	■	■	■	■	■
Saigon Postel	■	■		■	■	■	■
Hanoi Telecom	■	■		■	■	■	■
ETC	■	■	■	■	■	■	
Vishipel				■		■	
FPT					■	■	■
OCI					■		■
TIENET						■	■
ELINCO						■	■
QTNET						■	■
THANH TAM						■	■
NETNAM						■	
TECHCOM						■	
XVNET						■	

Source: CIEM research

There are currently four categories of telecom service licenses, basic telecom services, additional services, value added telecom services and internet services. MPT specifies a

[9] Statistics at July 2004, provided by MPT

list of basic and value added services depending on the planning period of the telecom services markets. There are currently fifteen telecom enterprises permitted to operate in Vietnam. Five of theses provide telecom services, while the remainder, provide only internet services. However, the ownership structure of enterprises and their market shares suggest that most telecom services are provided by state-owned enterprises.

2.4.1. Fixed and Mobile Service Providers.

Two enterprises currently provide fixed line services in Vietnam, VNPT and SPT. By mid 20042004, SPT had 40,000 subscribers compared to VNPTs, 5.4 million[10]. In 2004, the new entrant remains in the early stages of network construction and will begin new services on a small scale. There remains no real competition in fixed line services. SPT's capacity is small, especially when compared to VNPT, making the government's target of 25-30 percent of fixed line service being in the hands of non-state sector's enterprises by 2005, difficult to attain. While there is no real competition in fixed line services for VNPT, voice over internet protocol (VoIP) services have been in operation since 2000 and do provide some form of competition.

Mobifone and Vinaphones' networks cover all cities and provinces of the country. Competition exists primarily between Mobifone and Vinaphone, and while this competition has resulted in a reduction in connection fees and an increase in new services, there was no real competition as both companies belong to VNPT. However, Viettel appears to be proving some competition and aggressively marketed its services in 2005, gaining a substantial number of customers[11].

New entrants in July 2003 and late 2004 provided new mobile services. At the end of 2004, Mobifone and Vinaphone still dominated the mobile services with the number of subscribers of round 2.5 million and 3 millions respectively, while S-Fone and Viettel had 200,000 and 250,000, respectively[12]. By 2006 this is reported to have risen substantially with Viettel closing the gap between itself and Mobifone and Vinaphone. By January 2006 Vinaphone had 3.6 million subscribers, Mobifone 3 million, Viettel 2 million and S-Fone 400,000[13].

Currently there is no provision requiring mobile companies to offer roaming facilities to Vietnamese mobile subscribers. However, visitors to Vietnam with compatible GSM mobile telephones find handsets automatically select the best network for the particular location and receive a strong connection in practically all parts of the country.

2.4.2. Internet Service Providers.

[10] VNCI 21:2005
[11] Vietnam Economic Times, February 2006. Viettel 2 million
[12] VNCI 23:2005
[13] Vietnam Economic Times, February 2006. Vinaphone 3.6 million subscribers, Mobifone 3 million, Viettel 2 million and S-Fone 400,000.

Internet services defined in the governments post and telecoms ordinance (PTO) include internet exchanges, access and application with internet service enterprises operating as internet exchange providers (IXP), internet services providers (ISP), and online service providers (OSP). There are currently six IXP, 15 ISP and 12 OSP providing internet services. In 2004, VNPT was the main internet service provider with a market share of 48.57 percent, followed by FPT, who had a market share of 28.56 percent.

Table 2: Internet Subscribers by ISPs, 2004

	Number of Subscribers	Growth rate (percent)	Market Share (percent)
VNPT	977687	3.32	48.57
FPT	574940	10.94	28.56
VIETTEL	194612	8.43	9.66
NETNAM	120173	5.59	5.97
SPT	115836	6.24	5.75
OCI	25970	2.02	1.29
HANOITELECOM	3708	2.80	0.18
Total	***2012926***	***5.62***	***100***

Source: Ministry of Post and Telematics

Internet telephony has opened gradually. Internet telephony provides PC-to-PC call services (for domestic and oversee calls), PC-to-Phone (for calls to abroad) and are classified as value added services. OSPs are allowed to offer internet telephony in the forms of PC-to-PC for both domestically and for oversee calls and PC-to-Phone for calls abroad. Internet telephony for Phone-to-Phone or Voice over Internet Protocol (VoIP) is limited and only a small number of telecom enterprises can provide this service.

The government has allowed six telecom enterprises to provide IP calls including Viettel and SPT in June 2001, VNPT in July 2001, Hanoi Telecom in April 2003 and VP Telecom and Vishipel in recent years. VoIP international traffic volumes have increased steadily since it was introduced in Vietnam. As of November 2004, VNPT's share of the international call market was 36.2 percent, SPT 22.31 percent, Viettel 20.1 percent and VP Telecom 12.93 percent. The traffic of calls from oversees is ten times higher than calls to abroad. International calls through VoIP, account for 56.55 percent of total international calls while conventional IDD calls account for 43.45 percent.

Figure 2: Timeline of Market Opening in Vietnam

Before 1995	1995	1997	2000	2001	2003
Only VNPT	Viettel and SPT were licensed by the Government	Viettel and SPT were licensed to provide telecommunication services	Vietshipel was licensed to provide Inmasat services and ship-to-ship, ship-to-mainland information	Viettel and SPT were licensed to provide VoIP	Foreign service providers with foreign ownership not exceeding 50 percent can provide value added services according to VN-US BTA
		5 ISPs were licensed, including: VNPT, Viettel, SPT, FPT and Netnam		ETC was licensed	

2.5. Telecom Sector Liberalization

The telecoms market has opened up considerably to competition over the last 10 years. In 1995 only VNPT, Viettel and SPT were licensed by the Government to operate in the telecoms sector. 1997 saw Viettel and SPT receive further licenses to provide telecommunication services. Vietshipel followed in 2000 when it was licensed to provide Inmasat services and ship-to-ship, ship-to-mainland information. In 1997 five ISPs were also licensed, including: VNPT, Viettel, SPT, FPT and Netnam. Viettel and SPT were licensed to provide VoIP in 2001 and ETC was licensed at a later date. Foreign service providers with foreign ownership not exceeding 50 percent can provide value added services according to the Vietnam/ US Bilateral Trade Agreement from 2003.

2.5.1. Opening Vietnam's Telecoms Market to the Outside World

The openness of the Vietnamese telecom sector to foreign competition is marked by Vietnam's agreed commitments under the Vietnam/ US Bilateral Trade Agreement of 2000. According to these commitments, Vietnam allows US companies to set up joint ventures with the Vietnamese partners authorized to provide telecom services. US companies have the right to establish joint ventures ,with a 50 percent cap on U.S. equity, to participate in value added services (such as e-mail, voice mail, electronic data

interchange, data processing) beginning in December 2003 and in internet services beginning December 2004.

US companies are also allowed to set up joint ventures with a maximum equity share of 49 percent in basic telecom services (such as wireless services, certain data services, leased circuit) beginning December 2005 and in basic voice telephone services (fixed local, long distance and international) from December 2007.

The Uruguay round of WTO has opened telecoms globally to trade negotiations. The Doha round and the development of the Basic Telecommunications Agreement (BTA) has strengthened this and expanded the rules for telecoms market access. Box 1 details this gradual inclusion of telecommunications in WTO trade agreements while appendix 1 shows current commitments within the WTO framework.

WTO and Telecommunications

The telecoms sector has been increasingly included in international trade agreements. The Uruguay Round of WTO (1986-1994) incorporated some of the first international commitments in telecom services with WTO member states agreeing to further negotiations on trade in basic telecommunications within the GATS framework.

The result of these negotiations between 1994 & 1997 was the Basic Telecommunications Agreement (BTA) or the fourth protocol. This Protocol and its annexes came into force in 1998 and since that date schedules on basic telecom services have been an integral part of the GATS. The recent Doha Round saw WTO member states committed to a new round of negotiations, launched formally in February 2000, and negotiating guidelines for services agreed in March 2001.

In order to ensure competitive telecom markets for new entrants, many participants suggested additional commitments on regulatory disciplines. A set of principles was determined covering, competition safeguards, interconnection guarantees, transparent licensing processes and the independence of regulators. By the February 1997 deadline for negotiations 69 governments had made commitments for market access, with participation of all industrialized countries and 40 developing countries. Twenty-six of these had committed on some form of basic telecoms and 50 had committed on some or all value-added services. Sixty-three of these included commitments on regulatory disciplines. Eighty-nine WTO members have included telecommunications services in their schedules of commitments[14].

The obligations within GATS comprise two broad groups, general obligations and specific commitments. The general obligations are in respect of Most Favored Nation

[14] 83 commitments were made on basic telecom services and 70 on value added services. Among these commitments, 9 percent committed on five or less out of total 15 sub-sectors of telecom services, 26 percent from 6 to 9 sub-sectors, 40 percent from 10 to 12 sub-sectors, and 25 percent from 14 to 15 sub-sectors.

(MFN) treatment and transparency and apply directly and automatically to all members and service sectors. Specific commitments include market access, national treatment, and other obligations in conformity with each country schedule. Parties negotiate commitments on market access for specific sectors and these relate to numerous types of limitations such as limitations on the number of services suppliers, service operations or employees, the value of transactions; the legal form of the service supplier, the participation of foreign capital. Telecom commitments include three types of market access such as the number of suppliers, the type of legal entity, and participation of foreign capital. Current commitments within the WTO framework appear in the appendix.

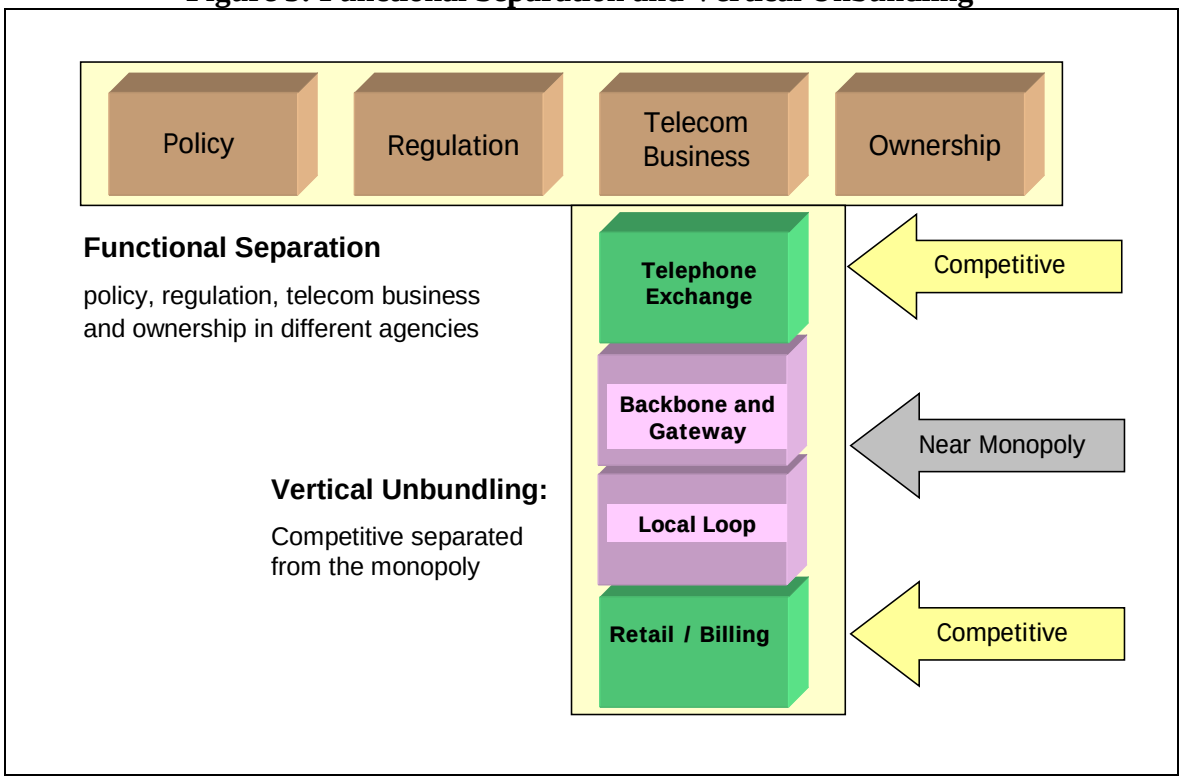
2.6. Sector Regulation

The competitiveness of a sector is determined by the number and relative size of competing enterprises, the size and depth of the market (depth meaning the number of options offered within a market), the rules that govern competition within a market. Sector structure can have a big impact on the incentives faced by enterprises and individuals.

This can mean the separation of posts and telecommunications into separate organizations, so that telecoms are not required to subsidize posts and posts have an opportunity to become successful logistics businesses. Unbundling also describes the functional separation of policy, regulation, business management and ownership into different agencies. Separation enhances transparency by clarifying where successes and failures are occurring. Unbundling can also mean vertical unbundling of monopolistic networks and the local loop from competitive services. While the former may need to be regulated administratively the latter can largely be regulated by market competition.

The figure below shows the effect of functional separation and vertical unbundling. In Vietnam, prior to 1995, all these functions were in the same organization. The separation of the functions into separate agencies greatly improves the transparency of advice and accountability. The process remains incomplete and post and telecommunications are still in the same organization.

Figure 3: Functional Separation and Vertical Unbundling



Source: CIEM

Vertical unbundling enhances the prospects for competition. The idea is that by setting up one monopolistic business with an incentive to maximize traffic, and a number of competitive service businesses with an incentive to compete, facilities are used to the maximum extent possibly and customers benefit from lower prices. In addition, by removing the relatively low risk wire business from the relatively risky services business, value is released[15].

Vertical bundling is also known as structural (or ex-ante) regulation because it focuses on the structure of the sector and how the structure influences incentives faced by enterprises. This distinguishes it from behavioral regulation where the regulatory authorities seek to influence the behavior of enterprises by making rules and regulations even though these may act contrary to the incentives facing the enterprise.

Vertical unbundling is a further stage of opening the sector to new providers. Because all potential competitors can use the local loop, long-distance, backbone and international facilities, entry by new competitors is easier and cheaper. New providers promote competition in advanced services. Details and examples of structural separation and an analyses some of its costs and benefits appear in appendix 2 and 3.

[15] We estimate the benefit of this to be an increase in the value of the wires business to a multiple of about 10 times earnings with services business increasing by only three to five times earning. Combined together an enterprise will be valued at no more than five times earnings.

2.7. Convergence of Networks

The boundaries between different forms of electronic communication, such as telecommunications, broadcasting and the Internet are blurring and converging. Electronic communication services were previously stand-alone industries operating in distinct markets such as fixed-wire telephony, broadcasting, cable and wireless communications while telecommunications and broadcasting were subject to separate sector-specific regulations. The boundaries between these markets are now eroding rapidly because of a shift to digital (as opposed to analogue) communications technology and will have implications for how Vietnam will seek to regulate telecommunications and other related areas. With the convergence of telecommunications, broadcasting and the Internet, regulation should now cover all ways in which the same electronic communications service can be provided.

In practical terms, digital technology means that most forms of information (pictures, video, sound, text or data) are available via any transmission medium (wired, cable, satellite, wireless). Moreover, the same transmission can be received by a range of reception devices (telephone, television, personal computer). At present, it is technically feasible to deliver Internet access via different types of networks (telecommunications, broadcasting and power) and through different transmission methods (fixed, wireless and satellite). Moreover, voice calls can now be made over the Internet. Similarly, e-mail and other Internet and data services, including interactive services, are now beginning to be delivered over broadcast networks.

Convergence is now a reality, and is likely to continue to rapidly break down and blur distinctions between telecommunications, broadcasting and the Internet. Increasingly countries are interested in moving towards the generic regulation of electronic communications to avoid anomalous overlaps or gaps between sector-specific regulations. It also has practical implications for the application and efficacy of any sector-specific regulation. Any differences in the way in which services using different delivery mechanisms are regulated (or not regulated) could create:

distortions in competition between different delivery mechanisms for the same service, and

incentives for providers in the converged environment to "pick and choose" the most appropriate method of service delivery.

To avoid these pitfalls and ensure a robust and durable regulatory regime the government must recognize convergence by ensuring any regulation covers all the different ways to provide the same service.

As we can see it is clear that Vietnam is putting a platform in place on which competition can take place. Developing a competitive environment has different institutional and legal requirements to the monopoly situation that characterized Vietnam before 1995. The

following section will analyze both the extent and degree of competition in Vietnam and the impact of liberalization on competitiveness.

3. COMPETITIVENESS AND THE IMPACT OF LIBERALIZATION

3.1. Recent Global Telecommunication Sector Reform Developments

The past two decades have witnessed liberalization of telecom sectors in many countries around the world, both developed and developing. This process has changed the supply of telecom services from government, to market-based approaches. The driving forces behind this process have been:

increasing recognition that the liberalized telecom markets can produce higher growth, faster innovation, and better services,

the need to attract private capital for expansion of networks and introduction of new services,

emergence and rapid development of new technologies and services, such as internet and wireless services, and

strong development of international trade in telecom services.

3.1.1. Telecommunication Sector Reform and Objectives

During the transition period from monopolistic to competitive telecom markets, governments around the world have implemented a wide range of reform policies. The next table summarizes the major reform approaches and their objectives as they have been implemented around the world.

Table 3: Principal Reforms and Objectives

Reforms	Central Objectives
Privatization of Post Telephone and Telegraph companies (PTTs)	▪ Attract financing to expand telecom infrastructure ▪ Increase sector efficiency, introduce new services ▪ Generate government revenue from privatization proceeds
Licensing of competitive operators	▪ Expand range of services; serve un-served markets ▪ Increase sector efficiency through competition ▪ Decrease price and increase range and supply of services ▪ Stimulate innovation and introduce advanced services ▪ Generate government licensing revenues
Introduction of transparent regulatory processes	▪ Increase success of licensing process and government credibility ▪ Increase government revenues from licensing new services ▪ Increase market confidence, attract more investment
Mandatory interconnection and	▪ Remove barriers to competition ▪ Promote competition in advanced services

Reforms	Central Objectives
unbundling of PSTN	
Price cap regulation	▪ Better incentives for efficient service supply by dominant firms ▪ Simper method that ROR regulation to prevent excessive pricing ▪ Reduce regulation lag; ensure timely price adjustments
Targeted universal funds	▪ Increase efficiency and effectiveness of universal policies ▪ Replace less transparent and potentially anti-competitive cross-subsidies
Removal barrier to international trade in telecom	▪ Increase investment in telecom sector ▪ Improve competition in telecom markets ▪ Improve global communication

Source: Telecommunications Regulation Handbook

Privatization and efficiency: One of the main objectives of the reform and privatization of PTTs is attraction of finance to the sector that may not be available from government sources. It can increase sector competitiveness by increasing sector efficiency, introducing new services and generate government revenues from privatization proceeds.

Licensing of competitive operators: The licensing of competing operators increases the competitiveness of all forms of businesses by expanding the range of services on offer, providing new connections to un-served markets and through increasing efficiency. Competition can result in decreased prices for enhanced services and in this way increase the competitiveness of all other businesses in the country. Businesses will also benefit from exposure to innovation and from the introduction of advanced services. The government will also benefits from the revenues that the licensing of new operators brings, though this should not be the principal consideration.

Transparent regulatory atmosphere: Fair treatment is also important in attracting capital to a telecommunications sector. Transparent regulatory processes give confidence to investors that they will experience fair treatment. If a climate of transparent and fair treatment is created, it will increase the success of the licensing process in attracting applicants and enhance its credibility and the credibility of the government in general. More participants in the sector will increase government revenues from licensing new services and increase market confidence, attracting further investment. Another measure to enhance transparency is sector unbundling as described above.

Price cap regulation: Monopolies are best limited by using price cap regulation, which imposes restraints on prices while encouraging companies to increase their profits by reducing costs. This approach creates better incentives for an efficient service supply by firms and is a simper method of price control to prevent excessive pricing, than rate-of return regulation previously used in the USA. It reduces regulatory requirements and

because of its simplicity reduces the lag caused by regulatory research and investigation, ensuring timely price adjustments.

Universal access: Targeted universal funds are also used increase the effectiveness of policies designed to ensure widespread access to telecommunications services. As they are used to replace less transparent and potentially anti-competitive cross-subsidies they ensure that more citizens are connected for the same expenditure.

3.2. Telecommunication Enterprise Survey Results

The structure of Vietnam's telecoms sector and the objectives of liberalization are outlined above. Before conclusions can be drawn on how liberalization may affect the sector it is necessary to identify the degree of competitiveness in the sector at present. To do this a number of critical performance indicators will be identified and analyzed.

3.2.1. Telecom Enterprise Financial Performance

Revenues: The CIEM survey of telecom firms shows that the growth of telecommunication firms has accelerated in recent years. In 2000, 50 percent of telecoms companies increased revenues, by 2001 this has reached 83 percent. The Survey showed that half of companies had grown their revenue by more than 50 percent in 2004. From 2002-2004, 100 percent of telecoms companies had experienced an increase in annual revenues and only 20 percent had a rate of revenue growth less than 10 percent in the last year.

State Budget Contributions: Other indicators of telecommunication companies' performance, such as their contributions to the state budget, capital volume, number of employees, volume of supplied services, have also increased in recent years. Between 2000 and 2004, 75 percent of telecommunication companies increased their contributions to the state budget. In general, there has been a reducing trend in state budget contributions, from 100 percent increasing their contributions between 2000 and 2002, while in 2003, 20 percent of companies decreased their contributions and in 2004 25 percent decreased contributions. Survey data is not sufficient to confirm that the decrease in budget contribution by some firms is offset by increase in other firms.

Investment in capital: Between 2000-2004 telecommunication companies continuously accumulated capital for the expansion of their operations. 80 percent of telecoms companies said that they had increased their capital during the period. The survey also showed increases in operational costs, the marketing share of revenues, costs, profits and other indicators under the liberalization of the telecoms sector to private investors.

Profit and costs: Between 2000-2005, 100 percent of companies answered that their operational costs had increased, with the exception of 2002, when 16 percent of companies said that their operation costs decreased. The surveys results show that the increase in operation costs were due to the expansion of operations.

The annual profits of telecommunication companies also increased over the same period, with 75 percent of telecommunications companies enjoying an increase in their annual profits between 2001-2004. In 2004, 100 percent of companies answering experienced an increase in annual profits.

Price reductions: The increase in revenues and profits is accompanied by a decrease in the price of telecommunication services, what would be expected from an increase in competition. Since 2000-2004, 50 percent of companies had continuously cut the prices of their services, with companies continuously cutting the price of their telecommunication services. In 2004, more than 80 percent of companies cut their prices.

Taxes and expenses: The cost of taxes and other expenses paid by telecommunications companies are generally the same as for companies operating in other sectors. 61.5 percent of companies paid from 10 to 20 percent of their revenues in taxes and other expenses, 23 percent of companies paid from 20 to 40 percent and 16 percent of companies paid less than 10 percent of their revenue in taxes and expenses. No company has had to pay more than 40 percent.

3.2.2. Government Assistance to Telecom Enterprises

Companies in the telecommunication sector in Vietnam enjoy several forms of assistance from the government. 38 percent of telecoms companies have received low interest rates on loans, 20 percent enjoyed exemptions from land and housing rents and 14.5 percent enjoyed deferred tax payments for more than 6 months. No company is enjoying debt relief from the government as well as direct subsidies in terms of interconnection charges. Some of them do not pay interconnection charges while others do.

3.2.3. Telecom Enterprise Business Strategies

All surveyed enterprises have business strategies. In an atmosphere of rapidly changing telecommunication technology an important aspect of a business strategy is technological change. The survey supports this hypothesis with more than 69 percent of companies agreeing that technological changes are one of the major motivations to their business strategies.

Government policies rank second and is considered more important than competition from market rivals. In strictly regulated markets such as Vietnam's, the consideration of government policies in making business strategies is very important. More than 60 percent of companies consider government policies as the most important facet of their business strategy. 46 percent agree that the operation of rivals in telecommunication markets is an important motivation. This seems a low figure and may suggest that competition is not effective enough if 54 percent of companies feel they can ignore the activities of their rivals.

3.2.4. Quality of Infrastructure, Services and Employment levels

The quality of services according to telecommunication companies own evaluation, have improved in recent years. From 2000-2004, 100 percent of companies felt their services had improved. Telecommunication companies agreed that improvements had taken place in the quality of infrastructure provided by VNPT. The speed of interconnection for international calls is considered normal by 66 percent of companies. For long-distance calls 83 percent assessed the speed as normal. For the local loop, 50 percent of companies assessed it as having a normal speed.

The only negative indicator was the speed of internet connection, where 60 percent of companies evaluated it as having a low interconnection speed. The frequency of technical troubles for international calls, long-distance calls and the local loop is low according to the majority of companies.

The number of employees in telecoms companies has been increasing, though a decline was seen in 2004 when 16 percent of companies said that their employee numbers decreased. In the same year, the volume of telecommunication services supplied also decreased, while between 2000-2003 all the companies experienced an increase, or at least no change, in the volume of telecommunications services provided.

The survey showed different satisfaction levels with the quality of the current network. For connection to international telecommunication networks, 84 percent of companies think that the current technology is relatively new or modern. 60 percent of them agree that the current technology for connection to inter-province telecommunication network is relatively new and modern. While 57 percent think that the current technology for local loops is new or modern. There is a consensus that current technology for connection to international internet ports is new or modern.

3.2.5. Market Entry and Conditions

Surveyed companies have a positive opinion on the entry of new investors to the telecommunication markets. No company felt that the number of current service providers was too many with 46 percent feeling that the number of companies was not enough. The majority of companies agreed that it is easier to access modern technologies through business cooperation contracts with foreign companies. 85 percent of telecommunication companies felt that the entry of foreign telecommunication companies would improve the sustainable development of telecommunication sector. The majority of firms, 92 percent, felt the degree of equitization in the telecom sector should be higher or more comprehensive than the current level.

3.3. Supply Conditions in Vietnam's Telecommunications Markets

The above section has given a sketch of the performance and competitiveness of the Vietnamese telecommunication sector. The following sections will explore the different aspects of the telecommunication market influencing the sector's competitiveness.

3.3.1. Market Entry

There has been a fundamental simplification of the procedure for market entry in Vietnam. The survey of telecommunication companies conducted for the report shows that of the 13 companies surveyed, 9 companies, 69 percent, felt that the waiting time for licenses of their major service was less than 2 years. This is a large improvement compared with several years ago, when the procedure for obtaining a license was much more cumbersome and lengthy. Vietnamese law continues to regulate the cross-border supply of telecom services with foreign enterprises entering into business cooperation contracts (BCC) in order to operate in Vietnam.

Vietnamese Business Cooperation Contracts

Though Vietnam's Law on Foreign Investment permits both joint ventures and 100 percent foreign-owned enterprises, this is not applicable to the telecommunications sector. A business cooperation contract is the only commercial framework allowed in the sector. The exception is American firms. Under US-Vietnam BTA they can establish Joint Ventures (JV) with up to 50 percent ownership of value-added services and 49 percent for basic services.

Under a BCC the obligations and rights of the two sides are set out in a contract. One or both parties may contribute fixed or working capital but profits will be divided in agreed proportions rather than being in the same proportion as the capital contributions. In the case of a telecom BCC, the Vietnamese party will usually contribute access to the networks and some working capital while the foreign partner contributes money for new fixed capital that becomes the property of the Vietnamese partner at the end of the project. Management control of the network remains with the Vietnamese party.

3.3.2. Major Service Providers

VNPT currently accounts for more than 90 percent of the total revenue of telecommunication services. The remaining five players account for less than 10 percent. This is an unsound phenomenon of the Vietnamese telecommunication sector. A recent VNCI[16] report stresses that while competition now exists in all segments of the telecommunications market VNPT's dominance as incumbent provider in all segments will be a significant barrier to the establishment of a sound telecommunication market

[16] VNCI – Vietbid, 2005

structure. VNPT dominates the main line services of the telecommunications sectors, such as local, long-distance, international and leased line services.

VNPT has a complex structure because of the diversity of its members. VNPT is a collection of regional and provisional PTTs, state-owned enterprises and Joint Ventures (JV) under BCCs and other ancillary businesses. The government recently decided to restructure VNPT into a parent-subsidiary consortium, comprising a group management board to manage the parent and the creation of separate post and telecom subsidiaries. This positive move to corporatize VNPT will enable it to operate using international norms of governance, finance and accountability. The next move to a better competition environment in the telecommunications sector should be the separation of VNPT's backbone services management function and business matters.

3.3.3. Telecom Market Structure and Reforms in Asia

Compared with China, Vietnam has a more monopolistic telecommunications sector. It also faces greater challenges in dealing with the telecommunication sector in terms of promoting competition. In China, there is no single dominant player in the telecommunication sector. Although as in Vietnam there is a high degree of state ownership and control, the fact that there are more competing enterprises means that the Chinese sector will support a higher level of competition compared with the Vietnamese sector.

Table 4: Comparison of Revenue Structure

Vietnamese players	Share of revenue*	Chinese players	Share of revenue
VNPT	91 percent	China Mobile	36.7 percent
VIETEL	4 percent	China Telecom	33.1 percent
SPT	3 percent	China Unicom	12.4 percent
ETC	2 percent	China Netcom	16.4 percent
VISHIPEL	0 percent	Other companies	1.4 percent
HANOI TELECOM	0 percent		
Total	**100 percent**	**Total**	**100 percent**

Source: NIPTS, 2003

A competitive telecoms sector policy comparison of the region shows that Vietnam's policy is relatively slow in opening to private players. However, the quality of Vietnam's reforms is at the same level as other countries in the region. In the telecommunications sector state-control remains in Vietnam and China, while other countries have opened the sector to the private sector relatively early. In terms of the policy towards competition in fixed line telephones Vietnam appears to be ahead of Singapore and Indonesia.

A comparison of the mobile sector shows that even though Vietnam introduced mobile phones later than other countries, competition in the mobile sector is as vigorous as in the

other countries. Vietnam was ahead of China, Indonesia and even Korea and Malaysia, in establishing an independent regulatory agency for telecommunications.

Table 5: Sequence of Reform in Selected Asian Countries

	Privatization	Fixed competition	Mobile	Regulation
China		LD (1997)	1 (1999) 2 (1996)	
Indonesia	19 % (1995) 23 % (1997)		1 (1989) 3 (1991) 4 (1993) 6 (1994) 7 (1996)	
Korea	10% (1993) 20 % (1994) 19 % (1996)	ILD (1991) LD (1996) Local (1999)	1 (1989) 2 (1996) 5 (1997)	
Malaysia	25 % (1990)	ILD (1994) Local (1996) LD (1996)	2 (1989) 4 (1994) 7 (1995) 8 (1997)	
Philippines	100 % (1989)	ILD (1992) Local (1995) LD (1995)	2 (1991) 5 (1994)	(1989)
Singapore	11 % (1993) 17 % (1996)	Local (1999)	1 (1989) 2 (1997)	(1992)
Vietnam		LD (1997) ILD (1997) Local (1997)	1 (1993) 2 (1996) 5 (2003)	(2002)

Sources: For other countries: WB/ITU Telecommunication Policy Database, adapted from ITU, 12.2003, World Telecommunication Development Report 2003, Executive Summary, pp. 22, For Vietnam: Authors synthesized

Notes: For Vietnam, time period of consideration is 1989-2003,
For other countries, the time period of consideration is 1989-1999,
The figure in brackets is the respective year,
Local, LD, ILD refer to the local, long distance and international fixed line service segment, respectively,
"Regulation" only captures the existence of a separate regulatory agency

3.4. Vietnam's Telecom Market Growth

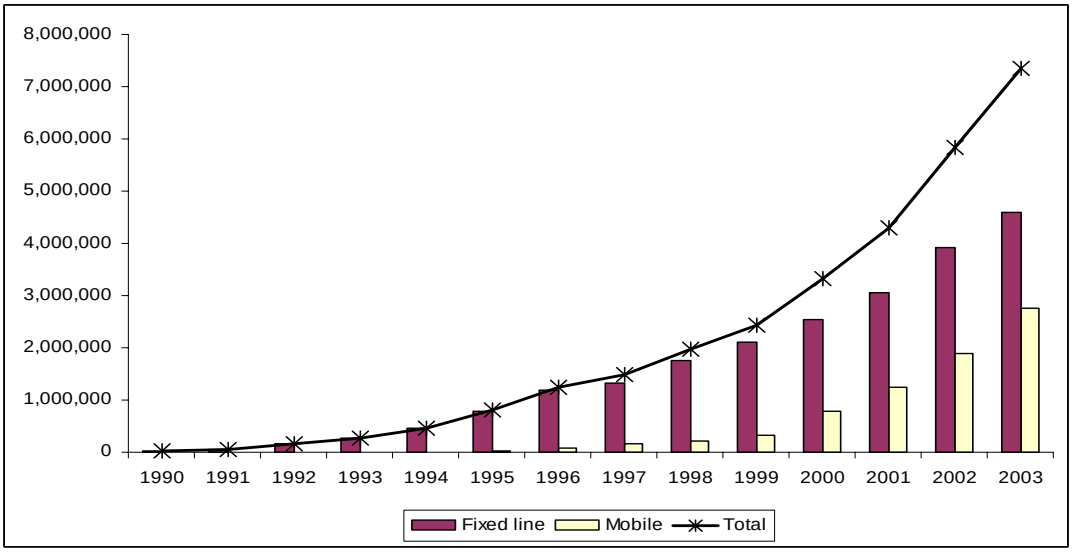
In the last few years the Vietnamese telecommunications market has been the fastest expanding market in the world. The telecommunication sector accounted for 4.69 percent of Vietnam's GDP in 2003, an increase of 2.6 compared to 1995 when it provided 1.76 percent of GDP.

3.4.1. Fixed Line Subscribers and Access

The growth rate of fixed line telephones in Vietnam has 32.5 percent a year, from 775,000 in 1995 to 4,600,000 in 2003[17]. The country passed the critical teledensity threshold of one mainline telephone per 100 inhabitants in 1994, two years after Indonesia. By 2000, Vietnam had reached a teledensity of 3.2, surpassing Indonesia. In 2003, Vietnam obtained a teledensity of 5 mainlines per 100 inhabitants.

In 2003, 92.75 percent of communes were connected to the telecommunications network, up from 64 percent in 1996, helping to improve the living standards of citizens and contributing positively to the government's poverty reduction strategy. The remaining 651 communes not yet reached by the telecommunications network are in 20 of Vietnam's 61 provinces. However, only 2 percent of the rural population subscribe to mainline telephones.

Figure 4: Fixed and Mobile Subscribers 1995-2003



Source: NIPTS, 2005

3.4.2. Mobile Network Subscribers and Access

Between 1995 to 2003 the mobile telephone market increased by an average of 88.46 percent[18]. From 2002, the whole country was covered by the mobile telephone services. The number of mobile subscribers increased from 23,500 in 1995 to 2,750,000 in 2003, reaching a density rate of 3.4 cell phones per 100 people[19] and was estimated to be over 9 million in January 2006[20]. The market demand in mobile telephone services is similar to mainline telephone in and is concentrated in big cities and provincial towns.

[17] NIPTS, 2003
[18] Calculated by authors based on data from NIPTS
[19] NIPTS, 2004
[20] Vietnam Economic Times, February 2006

3.4.3. Internet Subscribers

Vietnam started building its Internet base quite late compared to other countries in the region. First efforts to connect the country to the Internet began in the early 1990s, however, the country only came online from 1997 with 5 companies licensed as internet exchange providers. The Internet market in Vietnam has expanded rapidly. The number of internet subscribers increased from 14,667 in 1998 to 3,010,750 in January 2006. MPT estimates the numbers of internet users in January 2006 to be 11,073,520[21]. This is impressive especially as Vietnam only started internet services late and income per capita still at a low level. However, the majority of internet users are in big cities with 86 percent of Internet users in Hanoi and Ho Chi Minh City, though they account for only 10 percent of the total population of the country.

3.4.4. Observations on Sector Growth

The development of the Vietnamese telecommunication market shows quite distinctive characteristics and has now expanded extensively reaching remote communes and reaching to the poor. The growth rates of telecommunication markets are different in different areas, with large cities, industrial zones or economic centers, where incomes are higher having higher growth rates. This includes Hanoi, Hai Phong, Quang Ninh, Danang, Khanh Hoa, Ho Chi Minh City, Dong Nai and Binh Duong, who have all attained telecommunications growth rates of 30 to 40 percent in the past few years. Provinces such as Cao Bang, Bac Kan, and Son La, Lai Chau, Quang Binh, Quang Tri, are remote or less developed and have lower growth rates of 7 to 10 percent.

There is also a clear change in customer structure. Previously, the main customers for telecommunication services were government agencies and enterprises. Today, customers from the private sector are the main users of telecommunications services[22]. By 2000 the structure of customers began changing towards an increased proportion of private sector customers. This trend shows that telecommunications services are increasingly reaching ordinary people though still have substantial room for expansion in rural areas where about 80 percent of Vietnamese population lives.

The fast expansion of the telecommunications markets and the positive forecast for economic growth of the country suggests continuing rapid growth of the Vietnamese telecommunications market. This expansion will be an important factor that contributes to the building up of competitiveness of domestic telecommunication service providers. In the past few years, the telecommunication sector has invested huge amounts of investment into the economy, which has helped to boost economic growth and has also contributed to the development of telecommunication markets themselves

[21] Data for 1998 are taken from NIPTS, 2003; data for 2006 taken from MPT statistics, available at www.vnnic.net.vn

[22] VNPT reported in 1998 that customers from governmental agencies and state-owned enterprises accounted for 7.28 percent and 9.28 percent respectively. Private sector customers accounted for 82.19 percent.

3.5. Vietnam and ASEAN Country Telecom Sectors

Despite the rapid growth of internet services, fixed-line telephone and mobile telephone subscribers, the infrastructure for the telecommunication sector in Vietnam is amongst the least developed in the region. This section will compare Vietnam's telecommunications development with those of other countries in the region.

3.5.1. Teledensity in ASEAN

The fixed line teledensity of Vietnam is around a third lower than the average of the region 5.41/100 compared to 13.64/100 for the region. The only countries with a lower teledensity are Laos, Cambodia, Myanmar, Indonesia and the Philippines. Mobile telephone density is also low, 3.37/100 compared to a regional average of 15.03/100. Internet users per 100 inhabitants is about two thirds the average of the region, 430 users per 10,000 people compared to a regional average of 690 per 10,000.

The poor quality of network lines and the resulting service is an influence on the relatively low volume of telecom traffic. The country has a very low level of international outgoing traffic in comparison with other countries in the region. Vietnam averages 17 minutes of international telephone calls per subscriber, much lower than the average for East Asia and the Pacific and higher only than China.

Table 6: Vietnam ICT Sector Performance Indicators

Country	Population (mil.-2003)	GDP per capita US$-2003	Phones per 100 inhabitants	Fixed lines per 100 inhabitants	Mobile per 100 inhabitants	Internet subscriber per 10000 inhabitants	Hosts per 10,000 inhabitants	PCs per 100 inhabitants
Singapore	4.20	20,894	125.84	46.29	79.56	5,087.65	1,155.31	62.20
Brunei Darussalam	0.36	12,447	65.92	25.57	40.06	1,023.39	176.90	7.67
Malaysia	25.17	3,870	62.36	18.16	44.20	3,440.95	42.90	16.69
China	1,256.95	963	42.32	20.92	21.40	632.48	1.28	2.76
Thailand	62.53	2.044	36.55	10.55	26.04	1,105.19	16.44	3.98
Asian average	**3.621.14**	**2.313**	**28.52**	**13.64**	**15.03**	**689.69**	**50.29**	**4.56**
Philippines	81.10	969	23.29	4.17	19.13	440.38	3.45	2.77
Indonesia	215.09	860	9.17	3.65	5.52	375.65	2.88	1.19
Vietnam	***81.38***	***429***	***8.78***	***5.41***	***3.37***	***430.10***	***0.04***	***0.98***
Cambodia	14.14	254	3.01	0.26	2.76	24.75	0.58	0.23
Laos	5.68	328	2.12	1.12	1.0	27.11	1.65	0.33
Myanmar	49.62	148	0.85	0.72	0.13	5.26	-	0.56

Source: ITU, 2004

The Vietnamese telecommunication sector has developed quickly in the past few years. However, Vietnam still lags behind many other countries in the East Asia and Pacific

region, in terms of the level of infrastructure (including main lines, cellular phones, Internet subscribers, Internet hosts and computers). In some cases, the gap between Vietnam's performance and the average performance of Asia is large, such as the in the case of Internet hosts.

3.5.2. E-Readiness across Asia

The low infrastructure development and teledensity rates in Vietnam has resulted in a low ranking for Vietnam in the e-readiness assessments of several influential international studies. This includes the World Economic Forum (WEF) with its Networked Readiness Index (NRI) and the Economist Intelligence Unit (EIU) with its e-readiness rankings. These rankings provide additional evidence of the competitiveness of Vietnam's telecommunication sector.

Vietnam ranked 68th out of 104 countries in the WEF networking readiness index in the Global information technology report 2004-2005, the same ranking it held in the 2003-2004 report[23]. WEF's defines networking readiness as the level of preparation of a country or a community to take part in and benefit from the development of ICT and informatics. This index assess the development and application of ICT in each country and also helps evaluate its ability to harness its ICT sector to increase competitiveness and promote economic growth. The NRI is determined through three factors, macroeconomics and environment for ICT, the readiness of individuals, enterprises and the government for the use and benefit of ICT and the usage level of ICT. The WEF's 2005 report ranks Vietnam's telecommunication sector as the lowest in the region, having now been overtaken by Indonesia and the Philippines.

Table 7: E-Readiness and NRI Rankings

Country	E-readiness				NRI					
	2005		2004		2004-2005		2003-2004		2002-2003	
	Score (of 10)	Rank (of 65)	Score (of 10)	Rank (of 64)	Score	Rank (of 104)	Score	Rank (of 102)	Score	Rank (of 82)
Hong Kong	8.32	6 (tie)	7.97	9	1.39	7	4.61	18	4.99	18
Singapore	8.18	11	8.02	7	1.73	1	5.4	2	5.74	3
Korea	7.66	18	7.73	14	0.81	24	4.6	20	5.1	14
Japan	7.42	21	6.86	25	1.35	8	4.8	12	4.95	20
Taiwan	7.13	22	7.32	20	1.12	15	4.62	17	5.31	9
Malaysia	5.43	35	5.61	33	0.69	27	4.19	26	4.28	32
Thailand	4.56	44	4.69	43	0.27	36	3.72	38	3.8	41
Philippines	4.03	51	4.35	49	-0.43	67	3.1	69	3.25	62
China	3.85	54	3.96	52 (tie)	0.17	41	3.38	51	3.7	43
Indonesia	3.07	60	3.39	59	-0.13	51	3.06	73	3.16	64

[23] In 2003-2004 Vietnam received score of 3.13 points compared to 2.96 in 2002-2003 (71st/82).

Vietnam	**3.06**	**61**	**3.35**	**60**	**-0.46**	**68**	**3.13**	**68**	**2.96**	**71**

Source: WEF, 2003, 2004;2005 EIU, 2004, 2005

The EIU's, e-readiness assessment ranked Vietnam as one of the lowest in the region and the least equipped to prosper in the networked economy. Vietnam's position in telecommunication development is lower than both Indonesia and the Philippines, and much lower than Thailand. Vietnam and other countries in the region actually saw reductions in their e-readiness score in the EIU ranking for 2005.

3.5.3. Telecom Sector Productivity in Asia

A factor that clearly reflects the low level of competitiveness of Vietnam's telecommunications sector is its low productivity. Productivity is one of the most important aspects of the competitiveness of an economy in general and an industry in particular. Vietnamese telecommunications sector productivity as revenue per staff is one quarter of the average productivity in the region. It is higher only than Cambodia and Laos and is half as productive as the Chinese sector. This is due to overstaffing in the sector, with Vietnam having double the average number of staff per line compared to the region, and lower revenues being made in Vietnam compared to other countries.

Table 8: Comparison Indicators for Telecommunication Sectors

	International telecom, outgoing traffic (minutes per subscriber)	Internet total monthly price ($ per 20 hours of use)	Telephone average cost of local call (US$ per three minutes)	Telephone mainlines per employee	Telephone revenue per mainline (current US$)	Revenue from telecom /one employee (US$)
Cambodia	146.68	57.36	0.03	36.65	515.47	29,215.***
China	3.83	10.14	0.03	..	211.33	49,154.***
Hong Kong,	1155.92	3.85	0.00	184.03	1700.18*	--
Indonesia	37.34**	22.26	0.03	..	300.19*	37,119.***
Japan	37.08**	21.12	0.07	526.20	2805.02	763,824.***
Korea, Rep.	44.80**	9.74	0.03	249.10	957.89	228,615.***
Lao PDR	104.08**	31.87	0.06	49.79	447.90	20,064.***
Malaysia	144.39*	8.42	0.02	221.76*	948.13*	97,332.***
Philippines	51.65**	17.05	0.00	272.93**	883.84	--
Singapore	1019.61**	11.04	0.02	221.21*	1737.55**	231,311.***
Thailand	51.74	6.98	0.07	221.69**	635.75**	53,817.***
Vietnam	17.11**	19.85	0.02	48.91	366.13	24,721.**
East Asia & Pacific	42.43	31.31	0.03	49.11**	447.90	--
Low income	108.46**	57.55	0.07**	43.14*	717.56*	--
High income: OECD	180.92**	21.41	0.13	212.41	1615.16	--

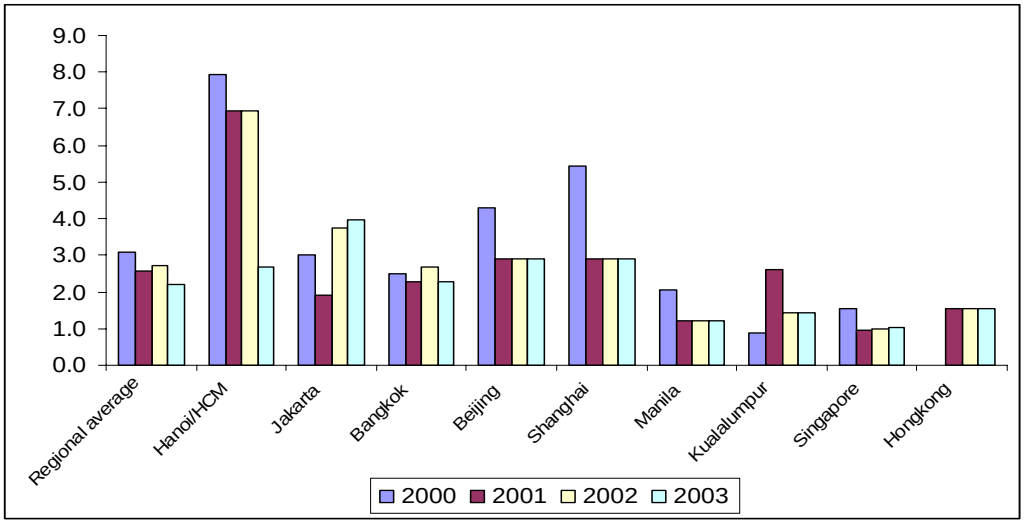
*Source: WB, World Development Indicators, available for subscribed members at: https://publications.worldbank.org/subscriptions/**WDI**; data for revenue/one staff are taken from ITU, 2003.*

*Note: The data are 2003 data if not otherwise indicated. The indication is as follows: *: 2001 data, **: 2002 data ***: 1999 data*

3.5.4. Tariffs and Changes in Asia

Recent reforms in the telecommunication sector of Vietnam have resulted in lower prices for telephone services. Vietnam is one of the leading countries in the region for cutting price costs. Even though prices have been cut substantially and several times in the past few years, international tariffs in Vietnam remain high. A study by JETRO showed that the cost of calling from Vietnam to Japan is higher than the regional average and only lower than prices in China and Indonesia. This conclusion is also supported by the study of VNCI[24].

Figure 5: Comparison of International Telecommunications Cost

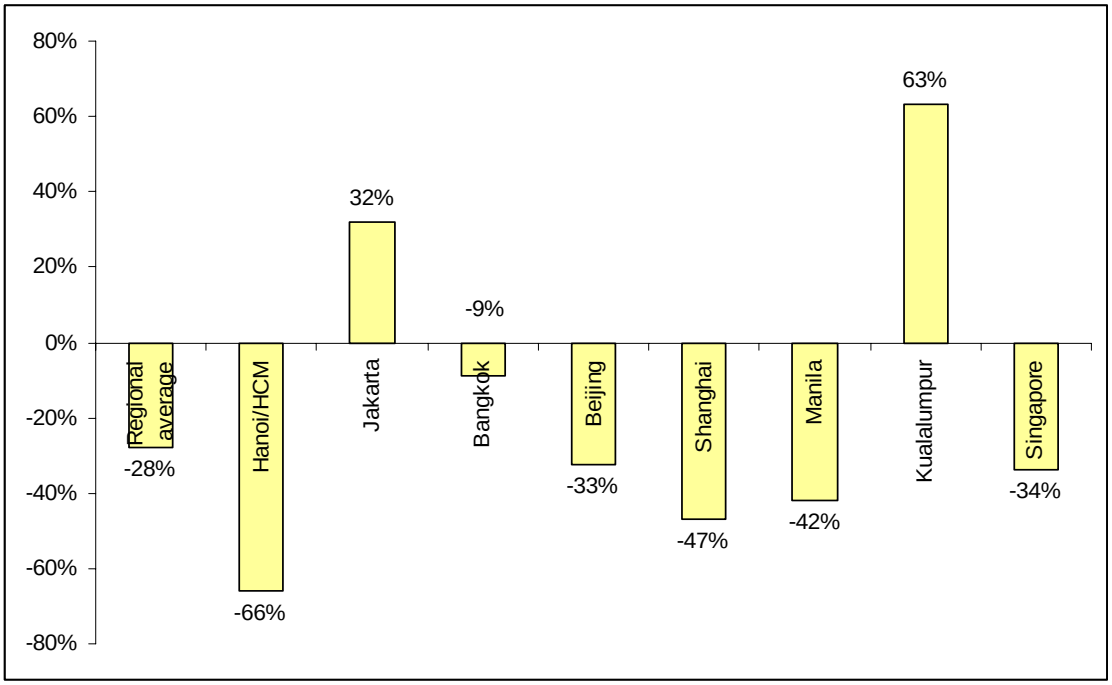


Source: ITU

However, although the high cost international calls impacts Vietnam's competitiveness negatively, this does not negate the rapid reforms in telecommunication price taken by Vietnam. In the last 4 years, VNPT has reduced mainline telephone tariffs 9 times[25]. Between 2000 and 2003, the international telecommunications prices for Vietnam have been reduced 66 percent. The cost for local and domestic calls in Vietnam is lower than the average level of the region.

[24] VNCI-Vietbid
[25] VNCI-Vietbid

Figure 6: International Telecommunication Cost Changes 2000-2003



Source: ITU

3.6. Obstacles to Liberalization

Liberalization is best undertaken when a number of preconditions are in place, including,

an appropriate workable legal framework, which lays down the operating rules for all operators, prevents the owner of essential facilities from making super profits and using these to defeat competitors and in this way protects consumers interests,

Service liberalization requires deregulation: Deregulation means market determined outcomes in place of administrative determination,

Price liberalization, allowing new comers to set their prices themselves. To use price caps on the incumbent, rather than administrative price determination,

Access to the network is decided by an independent regulatory body, for example a representative committee rather than the ministry in charge of telecommunications, or even separating the backbone network from the incumbent to ensure equal access,

Obstacles to Liberalization include the long and unclear process to get licenses granted, obstruction by the incumbent in getting sufficient access to the national network for their operation and the fear among some officials that liberalization will undermine government finances and national security. Sanctions are not clearly formulated. There is not arbitrage for dispute settlement,

Vietnam is now operating a relatively good telecommunications network, which meets international standards. The country also has good potential in terms of market growth. Although the telecommunications sector remains a small share of the whole economy, it is growing rapidly. Sustained by the highest market growth rate in the world, the government's objectives for the sector's market development will be achieved in the near future. However, in terms of demand conditions, there are negative influences from the level of development of the economy and the lack of sophistication in the demand for telecommunications services that reduce the competitiveness of the Vietnamese telecommunications sector.

There are many positive aspects to the country's telecommunications sector, including network infrastructure and demand conditions, the sector is evaluated as having limited competitiveness for several reasons. Firstly, the supply structure in the sector is anti-competitive. This is seen as the largest single obstacle to the improvement of the competitiveness of the telecommunication sector and the country. Secondly, the low productivity of the Vietnamese telecommunication enterprises negatively influences the competitiveness of the sector. Thirdly, the cost of telecommunication services should be cut to international levels by allowing application of new technology and by efforts to cut costs and improve productivity and Fourth, many of the preconditions for effective liberalization in Vietnam are not yet effective or in place.

4. IMPACT OF TRADE LIBERALIZATION ON THE TELECOM SECTOR

This section analyses liberalization in the Vietnamese telecom sector in the light of the WTO Reference Paper on telecoms and will look closely at the issues of importance to telecom sector liberalisation including competitive safeguards, interconnection issues, universal services, an independent regulator, public availability of licensing criteria, and allocation.

4.1. Competitive Safeguards in the Telecoms sector

The first approach in the WTO's reference paper, to ensure competition in the telecom sector, is to require WTO members to have appropriate measures to prevent anti-competitive practices in the sector. The paper specifies a list of anti-competitive practices, including cross-subsidization and misuse of information regarding competitors, essential facilities and commerce.

4.1.1. Cross Subsidisation

Anti-competitive cross-subsidization occurs where an operator maintains its prices above costs in the market where it has dominance (usually because of ownership of a monopoly asset or an essential facility) and uses its excess revenue from the dominant market to subsidize lower prices in more competitive market, creating significant barriers to competition. In practice, the dominant operator will seek to justify an anti-competitive cross-subsidization as a social subsidy, such as for implementing universal services. It is a complex regulatory task to separate the two effects.

International experience shows a number of approaches to attack anti-competitive cross-subsidization. These include behavioral regulation, such as price caps and price controls to structural regulation, such as accounting separation, structural separation of monopoly and competitive elements, divesture, vertical price squeezing and imputation tests.

The Vietnamese government is a frequent user of cross-subsidies and argues that this is necessary to ensure equality in service access in Vietnam. However, the benefits of the cross-subsidisation are difficult to identify with services provided at below cost, obtainable by both rich and poor. The negative effect of this is that if the rich do not pay the full cost of a service and funds to bring new services to deprived regions will not be available.

4.1.2. Information

The dominant operator of an essential facility is in a good position to collect valuable information on their connecting competitors and their customers. Many countries around the world have regulatory restrictions aimed at preventing the anti-competitive use of information. The best solution is for such an essential facility to be regulated separately. A minimum step would be to establish a separate organization within the incumbent

operator to handle the information of competitors. This organisation would deal with interconnection, interconnecting operators and would be subject to safeguards against improperly using information received through their organization. The dominant operator would also be required to share the information it provides to its direct competitors.

Vietnam has regulations on the confidentiality of information which deal mainly with information on national security and customers. These regulations do not apply to information on interconnecting telecommunications enterprises, and aim to protect the privacy of customers while also allowing telecommunications enterprises to use private information in a number of circumstances. This includes the prevention of contract violations by customers, the calculation, printing and collecting of telecom accounts, and on the request of public authorities. Existing regulations in Vietnam do not mention the anti-competitive use of information in the telecom sector and this is a major omission.

4.2. Interconnection Issues

Users and providers of electronic communication must be able to communicate with any other user, no matter which network each is connected to. This is one of the most important features of electronic communication and has been an important focus of regulators, particularly where an incumbent telecommunication operator owns or controls the network to which all other networks must interconnect, such as with VNPT. New competitors must reach interconnection agreements with other network operators giving existing operators the ability to overcharge for interconnection or delay new entry. Interconnection charges that are inefficiently high and/or delays in entering the market can result in significantly higher prices for end users.

4.2.1. Guarantee of Interconnection and Vietnamese Regulations

Under Vietnamese regulations any telecom enterprise has the right to connect its network to other enterprises and has an obligation to allow others to connect to its network[26]. Dominant operators are not allowed to refuse the interconnection of other telecom enterprises. Unlike the WTO principles, Vietnamese law applies a universal imposition of interconnection obligations on all operators, large or small[27]. The other major difference is that Vietnamese law focuses on the interconnection obligations of the incumbent operator, while the WTO framework focuses on major suppliers.

[26] Vietnamese law defines major suppliers of telecom services based market position and control of essential facilities. Dominant telecom enterprises are those with a market share above 30 percent. Enterprises controlling essential facilities are classed as those with 30 percent control of local loop, domestic long distance or international lines, or television stations of the mobile capacity. MPT annually determines enterprises with a dominant position for each telecom service and control of essential facilities.

[27] The first approach here imposes obligations on incumbent operators the other imposes on all operators. The former is criticized by incumbent operators as creating a “non-level playing field,” while the later is claimed to be “over-regulation.”. The first approach seems more appropriate in the competitive telecom market, and the second is suitable for the transition period to the fully competitive market.

4.2.2. Interconnection Point Negotiations and Rights.

In Vietnam interconnecting enterprises negotiate appropriate interconnection points and the number of these points in line with regulatory principles. Although regulations do not prescribe the permitted interconnection points they do require the parties to follow MPT requirements regarding interconnection points and determine the case without negotiations on the interconnection points.

Most new entrants to Vietnam's telecom market have a limited network and rely on the network and infrastructure of VNPT, the incumbent. Our survey results show that most telecoms enterprises share interconnection points (6 out of 7) and infrastructure (6/7) with VNPT. However, a number of enterprises (4/7) consider these interconnection points as inappropriate, while the majority (5/7) claim that the terms for sharing infrastructure with VNPT is unreasonable in terms of renting fees, cost sharing, convenience, and equal treatment. Many new entrants see high rental and leasing fees and the high interconnection fees charged by VNPT, as the main obstacle to being able to compete on price.

4.2.3. Non-discrimination

A central objective of most interconnection policy is to avoid discrimination. Vietnamese law provides measures against discrimination by an incumbent operator, with MPT regulating many aspects of interconnections such as conditions (technical standards and safety requirements), costs and quality (compulsory and voluntary). MPT also requires the incumbent operator to create a Sample Interconnection Agreement with transparent and non-discriminatory terms which parties submit to MPT for approval. These are made public and applied to all interconnecting enterprises.

The majority of new entrants (7/8) in our survey criticized VNPT's discrimination in favor of its member enterprises. VNPT's member enterprises are not required to sign interconnection agreements or infrastructure sharing contracts, or to rent local, domestic long distance or international lines. Interconnection requirements for VNPT member enterprises are seen as being satisfied in a timely fashion while new entrants may have to wait for a long time to open new services.

Examples of this include mobile network connections and VoIP services. VNPT immediately implemented page interconnection between two mobile network service providers which are members of its group, Vinaphone and VMS, while the mobile network of SPT was still unable to connect to the Vinaphone network after nearly 1 year in operation and was only able to connect to VMS on an experimental basis. Another example saw Viettel, VNPT and SPT gain official permission to deliver VoIP at the same time, but at present only VNPT provides VoIP in all provinces while Viettel provides VoIP in 29 provinces and SPT in 2 provinces.

Another form of discrimination has been interconnection charges. All internet users of VDC, a member of VNPT, are required to pay VND 40/minute, while this charge only applies to the internet users of Viettel within district and commune areas. Other users have to pay higher charges. More seriously, many enterprises (5/8) claim that VNPT provides insufficient network capacity to interconnecting enterprises compared to its own member enterprises. Even though there may be regulations aimed at ensuring non-discriminatory rationing of network access and facilities, an incumbent can always plead that it does not have the funds to construct sufficient capacity to meet growing demand.

The structural separation of the infrastructure from the provision of services will create an incentive to maximize the use of infrastructure, thereby overcoming discrimination problems. The implementation of appropriate reforms to VNPT should reduce the seriousness of the discrimination problem.

4.2.4. Timely Interconnection.

According to MPT's regulations, VNPT must provide interconnection within 45 days. However, our survey found the actual period for interconnection far exceeds this period. Viettel took 5 to 12 months to negotiate interconnection with VNPT, and another 5 to 6 months to negotiate with VNPT member enterprises, while it took a further 8 months for international line leasing with VNPT. One serious obstacle to new entrants is the insufficient network capacity provided to enterprises. All respondents in our survey were dissatisfied with the network capacity they received, with only 3/5 enterprises claiming 50 percent of their requirements were satisfied. There are several examples of this. In 2002, Viettel applied to open services in 19 provinces, but VNPT only allowed it to open in 18. However, due to network capacity problems Viettel could only open in 13 provinces. In 2003 Viettel applied to further expand into 21 provinces, but was allowed by VNPT to expand into only 9 provinces. In 2003, Viettel also applied for expansion of its VoIP connection capacity. Viettel received an expansion of only 18E1 from VNPT compared to the 118E1 applied for.

4.2.5. Transparent Cost-oriented Charges for Interconnection.

The principles for calculating interconnection charges amongst enterprises is regulated under Decree 217 issued in 2003 with interconnection charges calculated on the basis of:

i. interconnection costs,
ii. non-discrimination among enterprises and between members of enterprises and other enterprises,
iii. reasonable allocation among the components of networks or stages of service provisions,
iv. reasonable levels compared with regional and world levels,
v. clear specification of universal contribution component.

This directive seems to be in conformity with WTO rules but the lack of guiding rules limits implementation. MPT recently issued a decision on temporary interconnection charges, however, many enterprises feel the charges outlined are not based on actual costs and do not cover all new types of services. This creates difficulties for new entrants in negotiating with VNPT to introduce new services. Many enterprises would like MPT to issue official interconnection charges in greater consultation with enterprises.

Interconnection costs in Vietnam, as in many countries, represent a high proportion of the total telecom services costs and revenues, 82-93% for international calls. These high costs significantly reduce new enterprises' ability to introduce, expand and diversify services and prevent any effective price competition with the VNPT. Theses charges are neither transparent nor cost orientated and are contrary to the principle that network charges should create a reasonable charge and promote competition.

4.2.6. Interconnection Procedures and Agreements.

Many countries base the procedure for interconnection on negotiations amongst operators as operators understand their network and operational requirements better than a regulator. However, since an incumbent operator has little incentive to enter the agreements that support competitive entry of interconnecting enterprises, governments use regulatory intervention to impose interconnection obligations on the incumbent.

As we have seen the Vietnamese government has tried several regulatory approaches to complete interconnection arrangements such as interconnection laws to guide negotiations and also establish deadlines for completion. The government also requires VNPT to establish Sample Interconnection Agreements with transparent and non-discriminating terms which are submitted to MPT for approval. If interconnection negotiations fail, the regulator can act as mediator and hold a mediation process. Where the mediation process fails, the regulator acts as a final decision-maker for the interconnection agreements[28].

Despite these approaches interconnection remains a problem in Vietnam. International experience shows that it is important for regulators to establish interconnection procedures and guidelines that promote negotiation of effective agreements. However, in Vietnam there is lack of guiding rules for the negotiation process. Furthermore, the lack of an independent arbitrator to mediate the negotiations, the strong power of the incumbent operator and worries about the independence of the regulator continue to raise concerns about the fairness of interconnection decisions. The independence of a regulator is often questioned in countries where the incumbent is state owned. International experience shows that to resolve interconnection disputes the independence of the regulator is very important.

[28] MPT will consider and make the decision on a dispute and whether to accept the role within 30 days of receiving a written request. If accepted MPT will hold a mediation process between related parties within 60 days. Where mediation fails MPT will make a decision within 30. If the parties do not agree with the decision of MPT they can request to start the dispute settlement process again or take action to the court.

4.3. Price Regulation

The Vietnamese government has given telecom enterprises the freedom to determine tariffs, except for a few remaining regulated tariffs, in the telecom service market in which they are not dominant[29]. Telecom enterprises are required not to sell their services below cost or the common market price. New entrants, however, are allowed to offer tariffs below cost for a certain period, to attract new customers. Enterprise tariff plans must be registered with MPT who will approve or call for modifications or suspension.

This new law saw substantial changes in pricing in the market. SPT immediately applied for a ten-second block-based tariff system from the second minute of calls, for its S-Fone network, reducing costs by an average of 20 percent for consumers. VNPT also submitted a number of new tariff plans for the mobile market such as the extension of the duration of its existing cards as well as a thirty-second block-based tariff system. It also submitted a tariff plan reducing fixed line price by 15-20 percent and leased line services by 5-18 percent. In VoIP telephony SPT reduced its tariff by 20 percent from March of 2004 and VNPT applied reduce tariffs by 10-15 percent.

Non-dominant telecom enterprises are facing two problems in determining tariffs. Firstly, high interconnection costs paid to VNPT reduces price competition between VNPT and other telecom enterprises. Secondly, there is no clear selection of common market tariffs. A tariff offered by VNPT accounts for a large part of the market, making it unlikely that enterprises would be able to compete in terms of price and attract VNPT customers.

4.4. Independent Regulation

The separation of the functions of policy, regulation, business operation and ownership is detailed in figure 6. Under a standard institutional structure, the government makes telecom policies for the national interest, while the regulator implements government policy in an objective and impartial manner. Regulatory independence[30] means the regulatory authority is required, by law, to interpret the rules laid down in law, by the government, but is not answerable to the government for each interpretation of the rules. The objective is to ensure that the same rules apply to everyone and that rules apply consistently.

Similarly, independence of a regulator requires that the regulatory body is not accountable to any supplier of basic telecommunications services. Independent regulation adds to certainty, consistency and increases the flow of information for managers and investors alike. Independent regulators can increase transparency in the following ways:

[29] Decree 217, October 2003, Dominant enterprises were identified by MPT and include VNPT in long distance, international fixed line and VoIP, leased line, mobile phone, Internet, and Inmarsat, while Viettel is dominant in international IP telephony and Vishipel in inmarsat.
[30] DRAAC Report, ADB 2005, forthcoming book

maintaining consistency of decisions, adding confidence to investors that their investments will not be subjected to arbitrary decisions,

mediating between interests of diverse stakeholders, and by gaining acceptance that the regulator is not promoting the interests of one or more groups,

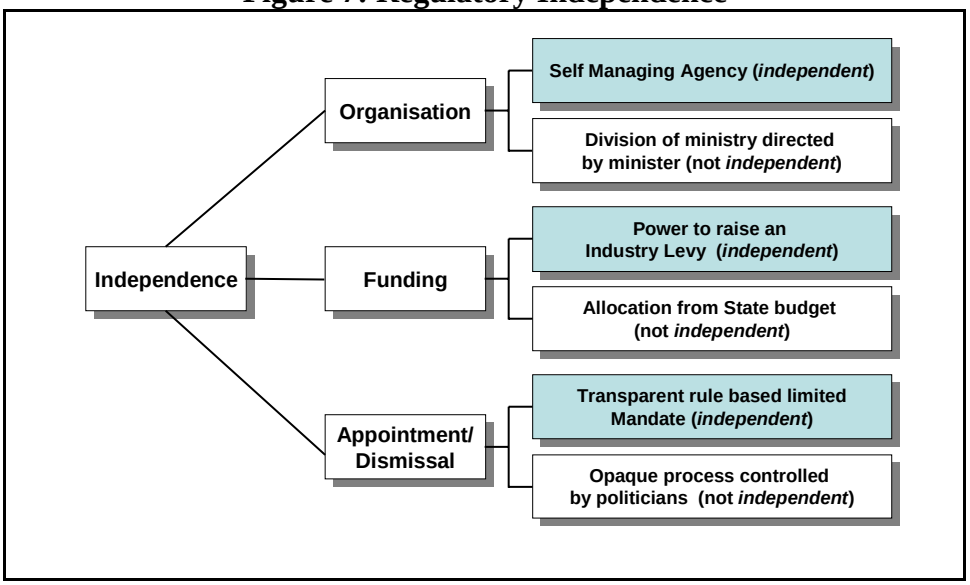
working to a mandate to make decisions based on the merits of a case, meaning that decisions will be objective and based on costs and facts, and

following precedents set in previous decisions, in respect of large long-term investments, will mitigate concerns that assets may be subject to arbitrary expropriation.

4.4.1. The Regulator

Three main elements reinforce the independence and transparency of regulation, the form of the organization, the source of its funding and the terms of appointment of the decision makers. A self-governing agency is a better form of organisation than a division of a ministry. The self-governing agency's members can usually only be removed before the end of their term due to age, ill health or criminality. A ministerial regulator becomes subject to greater political pressure, and its decisions tend to be less transparent.

Figure 7: Regulatory Independence



Source: Frontier Economics 2003

4.4.2. Independence and Party Control

An example of regulatory independence in an environment of virtual one party rule is Malaysia. A Commission set up under the Malaysian Communications and Multimedia

Act 1998 was a critical part of the legal framework designed to encourage investment and facilitate the growth of the communications sector. Malaysia decided to implement all regulatory decisions to relevant Ministers with the Commission only making recommendations to the Minister. However, the Commission is required to publish its recommendations on the internet at the same time that they are handed to the Minister. If the Minister wants to reject the Commission's recommendation, he must publish his reasons, also on the internet. The Commission has achieved a high degree of independence in its deliberations, with the overall process also being transparent. Despite limited independence and increased transparency, final regulatory decisions remain subject to political pressures.

A similar approach in Vietnam would represent a great improvement in terms of both independence and transparency. Another possibility would be the formation of a widely representative inter-ministerial committee. An inter-ministry oversight committee for licensing and regulatory activities could increase the efficiency and transparency of the licensing procedure.

4.4.3. Ex-ante and Ex-post Regulation

The need to ensure that a market is competitive draws attention to ex-ante market design and the need to align incentives with government policy. If market design is appropriate this reduces the need for any ex-post ad hoc intervention.

Ex-ante regulation focuses on the design for a sectors structure and is best undertaken at the time a sector is liberalized, or opened to competition for the first time. The aim is to develop a structure that creates incentives for enterprises so that in maximizing their efficiency and profitability, they contribute towards implementation of government policy.

Ex-post regulation takes sector structure as a given and seeks to overcome anti-competitive behavior with regulatory intervention. Because the existing structure may inhibit competition, incentives faced by operators may encourage them to circumvent the activities of regulatory authorities. A competitive outcome in a poorly designed structure does not necessarily aim in the same direction as government policy. The regulator has to work against the financial and economic incentives enterprises face to conceal information and exclude new competitors. Regulation is trying to repair the damage caused by an inappropriate structure.

The problem is serious in Vietnam where the whole concept of regulation of competition is a novelty and frequently becomes confused with the concept of regulating a vertically integrated monopoly. In Vietnam, there are several enterprises competing with VNPT but price controls are imposed on all parties including VNPT.

4.5. Universal Services

The central objective of a Universal Service Policy is to expand and maintain affordable telecom services for people who live in remote locations. In some countries policy aims for universal service (in other words that all people should be able to become subscribers if they wish to do so). In other countries with large rural populations scattered in small groups and villages over a wide area it is more practical to think in terms of a Universal Access Policy where every citizen, no matter how remotely located can gain access to a telephone when required.

The WTO Reference Paper contains a provision regarding universal services. Any WTO member can define and maintain universal service obligations, administered in a transparent, non-discriminatory and competitively neutral manner, provided they are not burdensome. Options available for ensuring universal services include internal cross subsidization, access deficit charging and the establishment of a Universal fund.

4.5.1. Internal Cross Subsidy

An enterprise or incumbent may agree to provide rural subscribers with services at rates below cost, provided the regulator and the government ensure that it does not face competition in the low cost areas where it was overcharging to provide the funds for the cross-subsidy. The incumbent uses the surplus from profitable services to cover losses from providing non-profitable services. This mechanism is in potential conflict with WTO rules as it is unsustainable in a competitive environment, it is contrary to international accounting reform programs to eliminate cross-subsidies, it is inefficient as the subsidies are not targeted, it encourages inefficient consumption and is easily muddled with anti-competitive use of subsidies by incumbent operators.

4.5.2. Access Deficit Charges

Many countries have used access-deficit-charge mechanisms to replace or supplement internal cross-subsidies. Here all providers of services must contribute to subsidize access to services. This also potentially violates WTO rules on universal services. As access deficit charges are collected in a similar way to interconnection charges, or services revenue taxes, it causes confusion with the standard interconnection charges and makes transparent implementation and administration more difficult. If this charge is not transparent it potentially violates WTO rules on cost-based and unbundled interconnection charges.

4.5.3. Universal Service Fund

Universal service funds are widely considered the best mechanism for achieving a universal service policy. In Vietnam, enterprises have an obligation to contribute to public telecom services. Compulsory services are services provided to meet the state's

requirements for economic and social development, defense and security. The government defines universal services as telecom services provided to all people under the conditions, price and quality determined by the relevant authorities with VNPT determining a list of public telecom services. Compared to WTO rules on universal services, the obligations of Vietnamese enterprises are broader as their obligations satisfy not just a central objective of universal services, but also the less clear purpose of creating economic and social development.

Vietnam applies different approaches in implementing universal services. Currently, cross-subsidies are heavily used. Long distance and international calling are priced high, above their costs, and subsidise below cost local calling. However, like many other countries, this mechanism is strongly criticized by enterprises for its lack of transparency and abuse of this mechanism by the incumbent operator to keep out new entrants.

A recent decree supported two universal service mechanisms, interconnection charges and a universal service fund. The interconnection charges will consist of interconnection costs and contributions to public services. This mechanism has the weaknesses of a cross-subsidy and is potentially in conflict with the WTO rules. The Public Services Fund in Vietnam is a state body, part of MPT and operates for non-profit purpose. The revenues of the Fund come from various sources and consists of VND500 billion, with the national budget contributing VND200 billion for legal and operational capital. The balance comes from compulsory contributions from enterprises (which are allowed to reclaim it through their telecom services costs) funding from official development assistance, organizations, and individuals, domestic and foreign, and other legally mobilized sources.

Vietnamese law calls for the equal participation of enterprises in programs and projects of public telecom services. Two disbursement mechanisms are applied to the universal fund, competitive bidding and appointment. Vietnamese enterprises find the Universal Service Fund the most effective way to address anti-competitive behavior by the incumbent operator, however, they also express concerns over the efficient, transparent and fair disbursement of funds. This is especially so when enterprises are appointment rather than bid to implement projects.

4.6. Transparency and Public Licensing Criteria

Procedural transparency is crucial requirement for the success of the licensing process. The WTO Preference Paper requires member countries to make public all licensing criteria, time-periods for reaching a decision and the terms and conditions of individual licenses. Furthermore, the reasons for the refusal of licenses must be made known.

Vietnamese regulations contain licensing conditions and formalities, but are unclear, especially those regarding economic tests (market forecasts for example). At the same time satisfying these conditions and criteria does not automatically ensure a license is obtained, and represents the starting point for consideration. The basis on which the authorities give a licensing decision is even less clear, using conditions such as a project

having to be compatible with Vietnam's development strategy and plan, which often contains general statements and even conflicting objectives.

Though regulations do specify response times for applications there is some uncertainty in time periods for some parts of an applications consideration. For instance in the case of operating telecom transportation networks, MPT is to respond within 75 days of receipt of a valid application. After consulting the relevant ministries and branches, MPT submits the application to the Prime Minister. Once the Prime Minister gives written approval, MPT will inform the applicant within 15 days[31]. The time period for consultation with the relevant ministries, for submitting an application to the Prime Minister, or a time period for the Prime Minister to make a decision is not specified. There is also considerable room for interpreting what a "valid application" is and this may be used to delay licensing.

[31] Other time limits include telecom service applicants where MPT will make a decision within 60 days though the time can be extended but must not exceed 75 days. The regulation also allows a maximum time for consideration of revoking application of 60 days.

5. LIBERALIZATION AND VIETNAM'S ECONOMY AND PEOPLE

5.1. The Digital Age and the Economy

The digital and information knowledge era has witnessed the increased inclusion of telecommunication services as an engine of economic development and human prosperity. Significant reform and increased competitiveness in this area will be the most important factor in accelerating ICT usage in all sectors and by all people. In Vietnam significant reforms in a number of areas are already underway with official support for the sector underlined in Directive No58 of the Vietnamese Communist Party. The directive, issued in October 2000, reflects official policy and goals for ICT in Vietnam. This has been further supported and built on in the drafting of Vietnam's ICT strategy to 2010 and 2020 by MPT and its approval by the Prime Minister in 2005.

The most significant indicator of ICT success in Vietnam is the fast growing rate of penetration and accessibility. More and more people can afford Internet and telecom services and there is an ever increasing number of websites and services. This is bringing a positive impact including increased sector competitiveness, improved productivity and efficiency of businesses and service sectors, as well as better livelihoods for individual people.

However, there are obstacles that impede ICT usage including a low awareness amongst people of the role that ICT can play in accelerating economic growth and human prosperity as well as a the low skill level of most users. There also remains inadequate capitalization of infrastructure and poorly equipped facilities creating an ineffective atmosphere for ICT usage. Vietnam must also address its institutional capacity if it is to harness the full potential of digital opportunities to promote sustainable development and economic growth.

In brief, the result of liberalization of telecommunication services is significantly improved ICT penetration and accessibility. Institutional and legal frameworks have improved rapidly during the last several years and have strongly influenced the application of ICT services. However, to some extent, these initiatives are not comprehensive or strong enough to give incentives to development, reflected very obviously in the slow development of e-commerce and the software industry.

This section will focus on an examination of critical impacts that policy reforms have had on ICT usage in some specific areas especially ICT usage by the government, small and medium sized enterprises (SME), the development of the software industry as well as the use of ICT for rural development.

5.1.1. E-Government

E-government has made some progress in government to employees (G2E) or government to government (G2G), but has made few gains in government to business

(G2B) and government to citizen (G2C) services. Most government websites are poorly constructed, irregularly updated and slow to download. A centralized, internally oriented ministry-based approach has resulted in limited ICT solution usage. A low awareness and skill, amongst leaders in particular, contribute to the slow implementation of e-government and ICT usage in government.

5.1.2. E-Business

The situation is better for e-business but results from our survey found that most enterprises are poorly equipped and staff lack ICT skills. Only a small number of enterprises are involved in e-commerce and only at very initial level. Those with access to the Internet have limited access worldwide, particularly through commercial networks. In most of cases there is low awareness among enterprises about the practicality of ICT and the benefits from ICT applications.

Usage of ICT in the software industry is at the highest level. However, the largest obstacle to software development is the serious violation of Intellectual Property Rights (IPR) and the lack of IPR enforcement in Vietnam. Staff in the industry also have a lack of qualifications and skills especially in language and management skills, organizational and marketing skills.

5.1.3. Individuals Use

Although ICT usage is highest for individual users, the way they use ICT remains very simple, with ICT being used for emailing, searching information and entertainment purposes. Using the internet for learning or for more complicated activities is not widespread. Among the barriers identified the most important are users' ICT skills, language skills in particular, the quality of services and the cost of services. In rural areas, with limited affordability and accessibility, there is little content with appropriate and relevant information for farmers' needs. In addition, the language barrier and unsuitable media channels limit rural people's benefits from ICT.

5.1.4. Human Resources

Despite the possibilities, e-education has experienced slow development due to a shortage of funds for infrastructure, training and operating and maintenance. Distance learning is now encouraged in Vietnam but it is being deployed slowly.

5.2. E-Government

5.2.1. E-Government Policy

Implementing e-government and the increased government usage of ICT is a key factor in sustaining growth in ICT throughout society and are among the government's top

priorities. As the architect of the ICT legal and policy environment, the government does its best to create an enabling environment for ICT application, from scaling up, and at the same time making efforts to leverage the absorption capacity of the public sector.

The e-government situation has been improved over the last few years with the government enacted a series of decisions to guide the implementation of Directive 58, as well as some large e-government initiatives. ICT initiatives include:-

guidelines for the computerization of government operations (Decree #112),
the re-engineering and modernization of public administration systems (Decision #136 on Public Administrative Reform),
Decisions #128 covering 19 on incentives to support the IT industry,
Decision #158 approving Directorate General of Posts and Telecommunications (DGPT)'s Telecommunications Development Strategy and Decree #55, which liberalizes ISP service delivery and allows competition from the private sector.

Two key e-government projects are the state administration management computerisation for 2001 to 2005, also known as SAMcom or project 112, as well as the Public Administration reform project. SAMcom is focused strongly on networking ministries and departments and is very much hardware and government to government based. Training of public servants and leaders is a major component of the project. SAMcom has also overseen several pilot projects across ministries and provincial governments to develop standard applications and management information systems for use across Vietnam.

One hindering factor in the development of e-government, especially in providing services for business and citizens online, is the fact that current back-end public sector procedures do not lend themselves easily to computerisation and then movement online for use by business and citizens. Public Administration Reform is a key factor for the success of e-government and public service provision online. Vietnam's PAR master plan pays considerable attention to online services and a number of pilot projects have aimed to put some services online including some elements of the business registration process and also customs procedures.

5.2.2. Improvements in Government ICT usage

Vietnam's E-readiness has improved very fast during the last five years. Increased Internet access for civil servants has increased dramatically as we have seen from a number of e-readiness assessments. A recent United Nations e-government report saw Vietnam move from 112th to 105th in 2005 out of an assessment of e-government in 191 UN countries. Use of the internet by citizens is also increasing, as we have seen, increasing the market for e-government services.

Despite our survey finding an increase in service quality, cheaper prices for internet services and more diversified services it also fond a low level of ICT usage remained,

with most continuing to use the internet or telephones with few using more sophisticated tools such as data transmission, data attraction, information processing and data online.

Our survey, and others[32], shows that the quality of government websites is very low. Most government websites are slow to load and contain a limited amount of information. Websites are limited in their content and the number of pages they have and lack links to other ministries, agencies and to other important information sources. Information that may be available online is often very difficult to find due to the poor design of government websites. Website interactivity (taxation, customs, licensing requirements, etc) is at a basic level.

5.2.3. Obstacles to Full Use of ICT by the Government

There are a number of problems holding back the full implementation of e-government. Regulation has reached a bottle neck and ministries have failed to coordinate their activities due to a lack of an effective central coordination agency or regulation. In public administration reform, essential for e-government development, the highest-level legal documents for informatization of public administrative systems are still in their first stages and are awaiting decisions by the Prime Minister for implementation.

At the same time there is a lack of legal and regulatory documents which causes difficulties in carrying out tasks which need inter-ministerial cooperation as well as supplying e-government services and electronic transactions online. This lack of coordination and information sharing within ministries as well as between departments and central and provincial levels is a feature of Vietnam's vertically integrated organizational structure. This limits the efficient use of network systems, resulting in government networks and websites not being integrated or widely used.

A further and major constraint is the low ICT awareness and capacity of public servants and government leaders. Under SAMcom the focus of ministries and agencies has been on improving the computerization levels, developing technical databases and management information systems, while skill levels remain very low amongst government officials and staff. The low awareness of many central and local government leaders, officials and staff also leads to slow progress in promoting ICT applications, especially at the local level.

5.2.4. Confronting e-Government Problems

Vietnam has already taken a number of steps to overcome the constraints listed above. To implement e-government, the government has allocated $100 million to the SAMCom computerization program and plans to spend 1 percent of the State budget on e-government from 2006. E-government networks will focus on local government, offering

[32] Pham Thi Bich Hoa “Vietnam e-Government Overview: A survey of Government Websites”, in Vietnam IT Overview 2005, HCMC IT Association

services and information to local residents, while central government networks are too act as internal network. The goal is that by 2010, half of all government agency documents will be accessible online, residents in Hanoi, Ho Chi Minh City, Can Tho and Da Nang will carry e-identity cards and up to 40 per cent of enterprises will be able to conduct customs procedures online[33].

5.3. Small and Medium Sized Enterprises and ICT use

Since the majority of private firms in Vietnam are SMEs, strengthening their capacity to apply new ICT tools will assist Vietnam's competitiveness and participation in international trade. ICT offers SMEs the chance to maximize their current efficiency and improve their competitiveness, while e-commerce provides the opportunity to promote the growth of SMEs in countries where capital is scarce.

The Vietnamese government has placed a strong emphasis on the IT industry and is keen to develop the software industry and has taken steps to promote and facilitate Internet usage and e-commerce. This can be seen in the development of IT hubs and software parks, and in the lowering of Internet access fees. However, much work still needs to be done in introducing regulations to facilitate e-commerce.

The e-commerce development plan for 2001-2005, identifies the obstacles hindering the development of e-commerce in Vietnam, such as the lack of social awareness and understanding of e-commerce, and the high cost of Internet access, lack of regulation specific to e-commerce. To develop the IT infrastructure and legal structure to enable e-commerce transactions by 2005 the plan aims to raise awareness among companies and establish an e-commerce legal system, addressing matters such as information security, e-payments and intellectual property rights. An annual government budget of VND100 billion, US$6.6 million, is proposed to fund the project.

SMEs in Vietnam have been found to have low ICT penetration levels, poor ICT infrastructure and a lack of awareness. Along with the lack of a legal framework to support e-commerce, and the lack of government encouragement and programs in this area, there is low ICT usage amongst SMEs. Those that are using ICT mostly use the Internet or email with few having their own website[34]. Even fewer firms advertise, market and eventually sell their products online[35].

5.3.1. The Positive Impact of Telecom Liberalization for SMEs

Trade liberalization has had a positive impact on SME's access and use of telecom services in recent years. A number of surveys of SMEs show recognizable improvements in ICT service quality as well as ICT usage among enterprises. Understanding e-

[33] HCM City also plans to invest VND100bil/year to implement IT programmes in State agencies, 50 percent of which will go to database, software development, service and training

[34] Vietnam had 72000 registered enterprises in December 2003 and had only registered around 5000 com.vn domain names.

[35] Mekong Private Sector Development Facility, 2001, unpublished survey.

commerce and awareness of its benefits to businesses have been improved and e-commerce has begun to take its first steps. Some companies have experimented with alternate communication and transaction methods and some have set up electronic supermarkets for several companies from a single website., though this is still not widespread.

While larger enterprises are more likely to deploy e-commerce than smaller ones the majority of companies have had problems, especially in accessing the appropriate technology for sales and promotion online. As we have seen, our survey found the quality of telecoms services had improved for both fixed and mobile lines as well as internet connections. Our survey also found that respondents felt prices had been reducing[36].

Enhanced access to ICT services is likely to have a profound influence on increasing the efficiency and productivity of economic sectors. Our survey results show that the majority of telecom service users reported that telecom services have had a good impact on the operations of their companies. Productivity and revenue have increased, production costs have reduced and profits have increased[37]. Production costs also fell with more than 40 percent of respondents to our survey reporting that production costs had fallen about 5 percent and profits increased about 5 percent[38]. In general, telecom services have a positive impact on business users. This fact is promising with more and more businesses adopting telecom service facilities and seeing practical benefits.

5.3.2. Constraints on ICT Utilization

There still exist a number of constraints which are hindering SMEs from ICT implementation. The main reason telecom service usage in SMEs has not expended is the lack of ICT knowledge and skills of SME owners, managers and employees as well as a dissatisfaction with the quality of telecoms services (speed of connection, delay in connection and frequency of technical troubles). Our survey found that 45 percent of Internet users, 32 percent of VOIP and 29 percent of mobile phone users complained about the slowness of connections, while only 5 percent of fixed line users complained. 29 percents of internet users, 14 percents of data transmission users had complained of significant delays in connections, while only 5 percent of mobile phone users and 2-3 users of fixed phones have had similar complaints. The quality of telecom services should be improved, especially that of complicated services.

The telecom market is in a state of unbalanced development with the number of telecom suppliers greater than the number of telecom services. 93 percent of survey respondents reported that they can choose from a number of alternative suppliers while only 25

[36] 12-13 percent of respondents reported price reductions from 10 to15 percent. 14 percent recognized price reductions of 15-20 percent and 20-27 percent agreed that prices reduced more than 20 percent.
[37] The majority responded that ICT use helped to increase revenues from 2-5 percent. A smaller proportion agreed on 5-10 percent increases in revenue and a smaller number of cases reported having 15 percent revenue increased.
[38] Productivity increased from 2-5 percent in most of cases, from 5-10 percent in some cases and about 16 percent of respondents reported that productivity has increase above 15 percent.

percent felt they could choose alternative telecom services. To develop more harmony between telecom suppliers and telecom services it is necessary to create favorable conditions for telecom service usage. Telecom services lack diversity, with 60 percent of respondents reporting that there were not many options. After sales care is another impediment to broader application of telecom services.

The e-commerce environment is still disorganised due to a lack of legal regulations on electronic information exchange and the expense of credit card services. These problems have led to many difficulties in dispute settlement, not only between business partners, but also between the partners and management organizations in finance, tax, customs and security services. Protection of intellectual property rights (IPR) is the most serious problem for companies that produce software products.

5.3.3. Incentives for Greater Use of ICTs by SMEs

Incentive policies to help enterprises embark on e-commerce activities should be considered by the Vietnamese government. The taxes levied on the IT industry are similar to those applied to other services, however VAT (Value Added Tax) has increased on software products from 0 per cent to 10 per cent over four years rather. Fees for leased lines are still high with many companies unable to afford these prices.

Some survey respondents felt the existing business monopoly was raising fees and making telecommunication services cumbersome. SMEs in general hope that the government will reduce taxes enabling them to build websites and develop e-commerce activities. In the last few years, things have begun to improve as connection costs have declined.

Most enterprises argue that the government does not have a suitable mechanism to understand or study the business needs of their companies, particularly in relation to ICT development. Policy steps are often inconsistent or even contradictory. In the formulation of the ICT master plan and strategy (approved in 2002), representation from the business community was limited, though this improved with the drafting of the new strategy, approved in 2005[39].

5.3.4. Legal framework Needs and Constraints to e-Commerce Development

The Vietnamese financial system is currently inadequate to support sophisticated electronic transactions. In addition to legal measures, mechanisms are needed to operationalize electronic financial and banking systems need to be further developed[40]. Though banking transactions are now computerized, inter-bank networks and consumer

[39] A series of roundtables in 2003 organised by MPT and UNDP included the private sector in the discussion of the new ICT strategy.
[40] Such as inter-bank e-payment systems, ATMs and online banking, and bank credit cards.

services are not well developed. The limited use of credit cards within Vietnam also minimizes the potential for e-commerce.

A strategic plan for establishing an enabling framework for e-commerce needs to be developed, including provisions for strengthening financial and banking systems, legal and security measures, and consumer financial services. This should also include increased coordination and consensus among key institutions on the pace, extent, format, and nature of e-commerce development in the country and a move away from inappropriate policies, which are sometimes contradictory, or ineffective in accomplishing their purpose.

5.4. The Vietnamese Software Industry

Vietnam is among the few countries in the region to have an explicit policy for promoting its software industry. Software technology parks have been set up in Ho Chi Minh City, Da Nang and Hanoi to attract investment in software development and outsourcing and to achieve the government's target of producing software worth US$500 million, including exports worth of US$200 million by 2005. However, this looks unlikely to be met as the software industry in 2004 was estimated to have a revenue of just US$160 million, with US$100 million in sales domestically and US$60million in exports sales. Growth however had reached 52% in 2004[41].

The International Data Group (IDG) estimates that the ICT industry as a whole (software and hardware) has recorded an annual growth rate of 25 per cent which will continue through to 2010. The new ICT strategy has set even loftier goals for the software industry. The government's strategy has set a target of US$1 billion in revenue for the software industry by 2010 which will require growth of 32% per year.

By 2004, MPT estimates that of the 2,500 companies registered to operate software businesses only 600 were in operation. These firms employed 12,000 engineers a large improvement on the 2,000 employed in 1996[42]. MPT estimates that of these 600 software companies, 37% employ less than 20 people and a further 39% employ between 20 to 50 employees.

The software and IT industry in Vietnam is in its infant stages, but is dynamic and is experiencing rapid growth. The movement of software and related industries away from traditional producers and towards emerging markets presents excellent opportunities for Vietnam to develop its ICT sector and achieve significant growth. Vietnam has an affordable, high-quality labor, a low geopolitical risk to investment, and close proximity to the growth economies of China and India.

[41] Hanoi Computer Association, 2005
[42] MPT, 2005

5.4.1. Policy Initiatives

The local Vietnamese IT sector has received strong support from the government with tax incentives aimed at encouraging investment in the sector. Fiscal incentives include income tax exemptions and preferential tax for ICT workers as well as a VAT and import/export tax grace period for companies[43]. In addition, there are a number of government supported ICT and software parks[44] in place, under construction, or being planned (in and around both Hanoi and Ho Chi Minh City). The focus on software is in part based on a competitive advantage in Vietnam of low land costs, a highly capable work force, and relatively low wages[45].

Software industry development is constrained by a number of major problems. Companies complain of the comparatively expensive and low quality bandwidth links internationally. Engineers in the industry also have poor English language skills and the industry lacks high-level software specialists to expand its activities into more complex software projects as well as a shortage of up-to-date IT systems designers, analysts, programmers, administrators, teachers and consultants. Quality is also low in the industry.

There is also a low level of commitment to ICT, outside of policy, by the Vietnamese government, as illustrated in Vietnam's e-government implementation problems and weak enforcement of intellectual property rights. IPR is a major concern of firms and is slowing domestic software development significantly.

5.5. ICT for Rural Development

Nearly 75 percent of Vietnam's population lives in rural areas. Developing agriculture and the rural economy is one of the most important goals of the government. There have been a number of initiatives undertaken recently designed to spread the availability of ICTs in rural areas. The growth of accessibility includes rural areas, with Vietnam's telecom system now accessing 93 percent of Vietnam's communes[46].

The Vietnamese government has harnessed existing networks to deliver ICT and telecoms to remote and rural areas and have converted, with 1,728 out of 2,362 less developed communes, 319 out of 401 border communes, and all the island communes, 55,000 of Vietnams 10,000 postal into "cultural information centers" which act as postal centers and also information centres. There have also been some movements to make these telecentres with MARD installing computers and Internet access in rural post

[43] Decision 21/2001/QD-UB sets out incentive policies for Quang Trung Software park. Decision 128/2000/QN-TTg by the Prime Minister establishes policies and measures to stimulate investment in the software industry.
[44] Quang Trung Software park in Ho Chi Minh City is the largest
[45] Some studies indicating wage costs are approximately one twentieth that of the US and one seventh that of India.
[46] 1,728 of Vietnam's 2,362 less developed communes, 319 out of 401 border communes and all 5 of Vietnam's island communes have telephone access.

office/cultural center in a number of pilot communes. VNPT has installed computers at 2,000 post offices and planned to give computers to an additional 2,000 stations in 2005.

VNPT and MARD have cooperated in providing cheap internet access to these centres as well as building specialized websites on agriculture, forestry, healthcare, education, hunger eradication and poverty alleviation, for isolated rural residents. Reduced costs are essential for increased access to telecoms in rural areas.

As ICT industries become increasingly competitive in Vietnam and prices are pushed down more and more people will be able to afford internet and telecom access. 40% of our survey responded that they spent between 10-15 percent of their income on telecom services[47]. However, for the majority of people in Vietnam Internet charges and spending on ICT services remains too costly due to low income levels. Efforts have made to help farmers gain increased access to market information, children gain better access to education and health clinics to access better techniques and knowledge to provide better healthcare. Public administration and public service delivery could be made more efficient in remote communes using ICTs.

As we saw earlier in the report, despite numerous reforms made in the telecommunications regulatory environment, such as increasing competition and universal access, Vietnam's use of telecommunication services is still at a very low level. Vietnam remains behind most of its neighbours, particularly Thailand, in terms of its number of Internet users. High telecommunication charges in Vietnam ranks it the third highest in the world, just behind Cuba and Guyana.

5.5.1. Constraints in Rural Access to ICTs

There are numerous constraints in making full use of ICT's potential. There are few computers in Vietnam per person in general, in rural and mountainous areas they are very rare and used mainly for mainly for word processing purposes and may be without internet access. Most efforts concerning ICT use in rural areas have focused principally on improving telecom facilities as there is limited availability and affordability of telephone services in rural areas. Rural landline penetration is well below two percent. Cellular services also have poor coverage, at around 25 percent.

There is also a critical lack of content, especially relevant information and knowledge for rural populations, and this can often be inappropriate. Knowledge of English and the lack of Vietnamese and Vietnamese language information sites is also a problem.

In order to increase the use of ICT for rural development a concerted effort needs to made by all government agencies at the local and central level including encouragement of the

[47] 10 percent reported that telecom service costs represent less than 3 percent of total income. 49 percent, spend 3-10 percent of their total income on telecoms services and about 40 percent of respondents spend more than 10 - 15 percent of their income on telecom services.

incorporation of ICT in all agricultural development activities and advocacy of the advantages of ICT to farmers.

5.6. ICT for Education

Vietnam has more than 22,000 primary schools, 7,000 secondary schools and 200 institutes and colleges. 62 universities across Vietnam currently offer ICT related courses. 101 colleges offer courses and a further 69 informal centres offer courses[48]. This has included the establishment of a number of foreign universities and colleges such as the Royal Melbourne Institute of Technology (RMIT) with campuses in Ha Noi and Ho Chi Minh City. Aptech, Tata Infotech and NIIT, three leading private training institutes from India, are also providing extensive ICT-related programs in Viet Nam. The Viet Nam Association of Information Processing has been instrumental in providing ICT related awareness and training through the television and in 90 ICT training centers throughout the country.

However, education in Vietnam is still considered to be inadequate and of a poor quality across grades and curriculums. Regionally, Vietnam has one of the lowest human resource and education levels[49] in ICT. Vietnam's proficiency in high-tech was ranked as the lowest of the twelve countries surveyed. English proficiency also ranked the lowest of any country, including China.

5.6.1. The Development of ICT in Vietnam's Education System

Vietnam's leadership has made education one of its highest priorities, and is investing heavily to improve its quality and equity in the next five years. Educations strategic agenda will focus on improving the quality of the education infrastructure in Vietnam, creating interesting educational content, superior learning environments in government institutions and exploring the better use of the extensive network of ICT training opportunities throughout the country.

The Government is targeting the training of over 50,000 ICT specialists at different levels with half being high-level programmers fluent in English. ICT is to be integrated in all levels of education to improve learning in all subjects and to empower its younger generation with skills and tools for the information age. In infrastructure 15 provinces and cities have connected all national-standard secondary schools and those with good infrastructure to the Internet by September 2005[50]. The program will continue in 2005 in the remaining provinces and cities.

[48] MPT 2003 and HCA 2005
[49] USAID (2001)
[50] Da Nang City, was first to complete this program followed by Dong Nai, Thanh Hoa, Tay Ninh, Bac Ninh, Ha Tay, Ben Tre, Quang Tri, Nghe An, Lam Dong, Long An, Ninh Binh, Thua Thien – Hue, Ha Giang and An Giang.

5.6.2. Distance Education

Despite substantial constraints Vietnam's readiness for distance learning is higher than may be anticipated and provides a good basis for rapid advancement, given the right support and local changes. Furthermore, Vietnam has many facilitators who can assist with further development of ICT in distance learning. The high motivation of students and teachers to learn English is especially noteworthy.

Hanoi and Ho Chi Minh City Open Universities, have demonstrated the effectiveness of distance learning. Hanoi National Open University has had 5,000 students graduate through distance learning programs and presently has 18,000 undergraduates enrolled, and provides print, audio and video tapes, CD ROMs, and some experimental internet resources. It networks effectively with 18 provincial Continuing Education Centers with visiting lecturers and tutors, using the computer labs in these centers. It also produces videotaped and live programs regularly through VTV2 and Hanoi TV.

5.7. Future Growth of ICT

Starting at very low levels, ICT usage of Vietnam has been developing impressively over the last several years. Sector liberalization has triggered these developments as people seek to benefit from it and in response to the challenges it poses. Liberalization has brought positive impacts on people and the society's prosperity. However further efforts should be made to ensure that Vietnam keeps pace with developments in a digitally enabled world. Comprehensive measures should address the following areas:

accelerating liberalization with priority given to progressing e-commerce and software industry,
improving the penetration and accessibility of ICT to create digital enabling conditions for wider spread ICT usage,
raising awareness in government, business and social sectors of the full potential of ICTs as an enabler of sustainable development (including youth, women, ethnic minorities),
promote more private investment in infrastructure as this will provide more widely available services,
standardising the training of human resources for IT development and ICT usage with the focus made on informatics, management and English skills as a priority, rapidly improving the quality of teachers is also an important task.
improvement of access to ICT in rural areas, where the majority of the population is, to help accelerate poverty reduction, enhancing education and health care services for people in under-developed remote regions, ethnic minorities and disabled people,
activities targeted to narrow the gap between groups in the community in order to assure sustainable economic growth.

These activities must all be aimed at improving the legal and environmental framework for creating favorable condition for ICT development and ICT applications.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1. SWOT Analyses of Vietnam's Telecom Services Sector

Before looking at a number of key recommendations to further develop Vietnam's telecommunication sector under further liberalisation we will review Vietnam's achievements in the telecommunication sector. Rather than concluding with a review of the reports findings we have chosen to review Vietnam's telecom sector though the lense of a Strengths, Weaknesses, Opportunities and Threats (SWOT) analyses .

6.1.1. Strengths:

Fast growth: Vietnam's telecom sector has experienced the fastest growth rate in the world, with the number of users, consumers and penetration increasing steeply due to the high demand of the economy for telecom services, strong support by the government and large investment.

Expanding infrastructure and services: Infrastructure is reasonably well developed, comprising a digitalized network, satellite, fiber optic cables, internationally connected that allow fast connections. Most telecom services are available, but only some are used extensively, due to high prices and the lack of knowledge amongst the public.
Vietnam has an advantage of the late comer in introducing new technology.

Positive movements towards competition: Vietnam has chosen a positive development strategy with most policies and regulations being pro-competition and promoting competition in all market segments, network services including domestic, international, mobile telephones and Internet. Even in backbone network operation there is no longer a monopoly, with an oligopoly now existing. In fact Vietnam is ahead of most countries in the region in opening the market for competition in terms of network entry.

Legal framework: The legal framework, in general, is consistent with the WTO reference paper but regulations are not detailed enough for implementation. That causes unreasonable disputes, troubles and costs for telecom firms.

Strong contribution to Vietnam's economy: Despite its small share in the economy, the telecom sector has significantly contributed to efficiency and effectiveness of governance, economic development, national competitiveness and the improvement of living standards, due to easy and fast communication, availability for more people in more areas, not only in the urban but rural and remote areas.

Latecomer's advantage: Vietnam continues to be able to benefit from its latecomers advantage and is able to learn from other countries experiences saving it time, money and effort.

6.1.2. Weaknesses

State-owned enterprise bias: Though the sector is liberalized and has increased competition, this is only for state-owned enterprises. The participation of the private sector, both foreign and domestic, is limited. The only form of commercial presence of foreign investors is through the BCC frameworks, while domestic investment is not accepted.

Slow pace of liberalisation: Liberalisation has been proceeding, but slowly. The reduction in the market share of the incumbent from 100 percent to 95 percent has taken more than 10 years. Competition is not yet effective with only half of surveyed telecom firms finding competition pressures significant.

Incumbent control of the network: The incumbent still holds an effective monopolistic position operating the strategic infrastructure, a major part of the backbone network, including fixed international and domestic long distance lines and international gates, mobile international stations and gates, and more importantly nearly total control of the local loop within the country.

Capacity and quality of infrastructure: Existing infrastructure cannot meet the fast growing demand from users, with the incumbent blamed for slow interconnection. Quality problems also remain and are evident in the slow speed of connection to the Internet, delays in connections for local calls and data transmission and technical troubles. However, quality has improved.

High tariffs: Though tariffs for customers have been reduced by half in recent years, they remain high compared to other countries in the region, especially interconnection charges and international calls. With the entry of new companies tariff reductions have been more extensive and frequent.

6.1.3. Opportunities from Trade Liberalization:

For Telecom Firms:

Growth and profits: Under liberalisation, business opportunities increase with new firms introducing new technology with lower prices and new services with more applications. Mobile services highlight this as it is a highly profitable business due to its low level of sunk costs in investment, in comparison to other services and high levels of usefulness for consumers. Both incumbent and newcomers enjoy fast growth.

Capital mobilisation: Liberalization offers more opportunities to mobilise capital for upgrading existing networks and the construction of new networks, and expanding network capacity, especially in rural and mountainous regions. New capital is associated with better management and better use of capital employed as international best practice in investment planning and management is introduced.

Greater choice: Increased choice of new technology in terms of higher feasibility, earlier access to new technologies

For Customers:

Affordability of services: Liberalization has seen an increase in affordability for telecommunications and increased demand and popularity. Fixed phone lines have expanded strongly into rural areas and mobile phones are increasingly affordable.

Increased customer service focus: There is now a greater focus on customer services which has also led to increased pressure for lower prices on providers and on the government. Waiting times for services have also fallen with the cost of installation reduced to compete with other communication services. Repairs are now quicker and breakdowns have reduced.

Variety of services: There is a wider range of new and diversified telecom services available for customers. There are also more applications of telecom services in business and administration increasing their efficiency and effectiveness.

For Government:

Increased state budget contributions: Though there has been a decline in budget contributions from the telecommunication sector, in the long-run liberalization will generate more revenue and more taxes from a larger sector.
The rate of profit of individual firms and the taxes they pay may be a smaller proportion of their turnover, but because the sector is much larger, government revenues will increase.

Improved governance: The efficiency and transparency of Vietnam's government will increase with greater use of information technologies. This has created improved communication between government agencies as well between the government and businesses and citizens.

6.1.4. Threats from Trade Liberalization:

Powerful incumbents: The major threats from liberalization are to the powerful positions of the incumbent firms and institutions. Liberalization implies letting go of the detail in order to gain greater control of the bigger picture. It aims to align the incentives faced by companies and customers with government policies, instead of relying on administrative controls and regulations. Incentives move power from the institutions to the customer.

Lower budget contributions: Some institutions see dangers in falling contributions to the government budget from particular firms as the market becomes more competitive and profit margins shrink. Compressed profit margins also lead to a falling capacity to employ people and there is a danger particular jobs will be lost. However, looking at the

sector as a whole the pattern is clearly for revenues, profits and employment opportunities to increase year on year.

6.2. Recommendations

In order to ensure a strong competitive market in telecommunications and the successful implementation of a liberalisation policy, it is essential to have an appropriate workable legal framework, deregulation and competitive safeguards, price liberalization, allowing new comers to set their price themselves. It is also necessary to ensure that access to the network is decided by an independent regulatory body as well as an arbitration body for dispute settlement.

In this final section we use these guidelines for liberalisation of the telecommunications sector to guide our key recommendations. Further recommendations for the industry's wider development are detailed in the annexes.

6.2.1. Legal framework and transparency

Licensing: The long-term interests of the telecom sector will advance and investment in the sector encouraged if policy aims at making the process clear, transparent and non-discriminatory. Some activities are considered security or politically sensitive. International contact is security sensitive and backbone networks politically classed as national assets that are not for private ownership. The two classes of services could be separated from non-sensitive publicly available services and could be regulated under a different licensing regime. The government should;-

1. Ensure that the process of licensing and licensing criteria is clear, transparent and non-discriminatory. including:

   the separation of sensitive from non-sensitive services and application of different licensing regimes depending on the level or national importance,
   MPT should implement a less elaborate and less expensive registration system, instead of licensing for value added services,
   licenses for services and network operation should be technology neutrality in order to encourage the use of the most cost effective methods,
   MPT should issue quantitative, clear, and detailed non-sensitive criteria for financial and technical evaluations,

2. Publicly available criteria for licensing should state clearly the conditions that the applicant must comply with, to obtain a license.

3. The licensing authority (MPT or its successor) should be required to reply within a stipulated time-frame for replies.

4. An inter-ministerial oversight committee should be established to provide wider involvement of all affected institutions and customers for licensing evaluations.

5. When an application is denied, reasoned explanations for the grounds for refusal should be mandatory,

6. MPT should plan a strengthening of the capacity of the licensing department, to enable timely decisions and to provide advice and support to applicants,

Transparency and Non-Discrimination: The foundation of effective liberalization is transparency and non-discrimination. All enterprises, government and private, should face the same incentives and penalties and government rules. Transparency is essential for the effective management of a market led sector. Transparency ensures that all parties are assured that they have received fair treatment. While a policy of non-discrimination may seem as a threat to SOE market share, an imposition necessary to comply with commitments under the WTO framework, it will bring benefits to Vietnam in terms of greater efficiency and investment.

1. To enhance the competitiveness of the telecommunications sector the government should accept a policy of non-discrimination as a policy priority

2. It should aim to make the performance of all enterprises more transparent and to improve the climate of competition in the sector.

3. Non-discrimination should be advanced as a priority for the most favoured nation (MFN) negotiations within the WTO framework, in order for Vietnam to comply and gain the full benefits of WTO membership,

4. The government should identify privileges and handicaps enjoyed and suffered by SOEs and make a priority of eliminating these distortions. The government should schedule measures to remove distortions in the internal markets so that a more level playing field is established between incumbent firms and new entrants,

Universal Service Policy: With Vietnam's widely spread, large rural population, many in areas that are currently un-served, there is clearly a need for a clear policy on Universal Service, or if that is not practical, on Universal Access.

1. In order for a universal service policy to be put in place with no adverse effects on the competitiveness of the telecommunications sector it is important that the following principles be adhered to:

    Levy of funds from operators on a non-discriminatory, transparent basis,
    Clear, transparent system for managing funds after they have been collected,
    Clear rules for application for funding,
    Cost effective method of negative tendering for funds,
    A transparent method of evaluation and ordering of priorities.

6.2.2. Regulation

Independent Regulation: MPT is the principal regulatory body but has several roles, policy maker, regulator and representative of the state owner. It is claimed by private sector parties that MPT cannot operate as an impartial regulator, due to its third role of representative of the state on the boards of telecom companies. The best choice solution would be to establish an independent regulator in addition to MPT as in many other countries.

1. To enhance the framework for competition in the telecommunications sector, the government should adopt as an objective the formation of an independent regulatory framework for telecommunications, based on the following principles:

   maker of the rules should not be the party to apply the rules,
   party applying the rules should be required to justify its decisions,
   regulatory organization should be a self-managing body,
   with a source of its funding independent of the national budget
   the terms of appointment of the decision makers should be clear and fixed,

2. Critical regulatory and licensing decisions should be made by a widely representative inter-ministerial committee that represents commercial, trade and foreign affairs interests as well as the telecommunications sector,

Structural Regulation: Structural regulation is designed to separate the potentially competitive telecommunications businesses from predominantly monopolistic wires or network business. The OECD and recent steps by regulators in several countries show that unbundling the backbone and local loop is the best option to reduce the need for telecommunications regulation.

1. To ensure greater transparency and create a greater scope for services competition, there should be an immediate move to separate accounting for the operation of the local loop, backbone and international network assets,

2. These Network assets should be formed into a Telecom Network Group, initially as part of the Vietnam Posts and Telecommunications Business Group.

3. There should be a phased process aimed at ensuring that all players have equal access to the backbone, international services and local loop.

4. When the new structure is in place it should be set up as a separate state entity completely unbundled from VNPT.

5. There will need to be rules in place that clearly set out the following principles:

the purpose of the separation of network assets from VNPT is to ensure equal and open access to the local loop, trunk, backbone and international assets for all licensed telecommunications service providers,
the sole business of the transmission company will be to transmit signals for voice and data traffic from any enterprise or government agency licensed to transmit such signals,
access must be offered on an open access basis, on comparable terms and conditions for comparable levels of service,
under no circumstances will the owner of the network assets be allowed to offer service level competition, its mission is to be a backbone network company,
the management of the network assets must be overseen by a committee of users representing all the licensed service providers,
in the event that the business of a licensed service provider is being constrained by the slow implantation of necessary facilities by the new network company, after notice, it has the right to arrange for alternative provision of the facility.

Regulatory Reform and Dispute Settlement: During the transition period from the monopolistic to competitive telecom markets regulatory intervention ensures viable competition through authorizing or licensing new entrants, eliminating barriers to entry of new entrants, overseeing interconnection of new entrants with incumbent operators, and ensuring competitive markets to serve high cost areas or low income groups.

As the competitive market is established, regulation needs to be less focused on management of the sector and aim at common objectives such as promoting universal access, fostering competitive markets, preventing abuse of market power, creating an environment conducive to investment promoting public confidence, protecting consumer rights, and encouraging optimal use of scarce resources.

1. In order to enhance the competitiveness of the telecommunications sector the government should ensure that the settlement of commercial and regulatory disputes is handled fairly, impartially, speedily and at the lowest possible cost,

2. In the Vietnamese context the main tool of effective disputes settlement should be the proposed inter-ministry committee on regulatory and licensing matters.

3. MPT should develop the resources and the staff to work on regulatory matters and on dispute settlement and should establish a department to deal with competition cases. A program should be put in operation to enhance the expertise of staff in investigation and dispute settlement.

6.2.3. Competitive safeguards

Anti-competitive practices: A number of Vietnamese business practices, regarded as normal, are considered unfair by foreign companies. These anti-competitive practices remain despite the passing of the competition law.

1. In order to enhance the competitiveness of the telecommunications sector MPT should issue a "code of conduct," clearly detailing anti-competitive practices to avoid.

2. An effective interface that provides a two way exchange of ideas and information between the sector and the government should be established.

3. A Telecom Industry Association should be established, which all affected companies can join should be the first step.

Pricing and Cross Subsidies*:* There are some cross subsidies still operated in telecom services, principally high priced international calls subsidizing low tariff local calls.

1. To eliminate barriers to competition, VNPT should have neither privileges (such as tax breaks or rent holidays) nor penalties (such as extra levies) in its pricing policies when compared with other companies and entities,

2. To implement this policy, VNPT should be transformed into a Posts and Telecommunications Business Group.

    - the objective of the group is to ensure that all firms in the group become more independent of each other,
    - each firm in the group should set up its own accounting system, have its own board and independent organizational structure,
    - actual costs of services should be identified and charges based on long-run incremental costs, with cross subsidies phased out
    - any remaining cross subsidies can be phased out in synchronization with reducing prices following the introduction of new technology.
    - business entities should be required to be self-funding,
    - the interconnection charges paid to VNPT should be cost based,

Interconnection: Interconnection is the key to the successful operation of a competitive telecommunications sector. Any user of electronic communications must be able to communicate with any other user, no matter what network to which each is a subscriber. The current interconnection regime is regarded as unfair and it is believed it has bias in favor of VNPT, making its performance look better at the expense of other companies.

1. To enhance the climate of fair competition MPT should enact the Ordinance and decree 160. Its focus should be on provisions establishing an obligation to interconnect on fair and reasonable basis and cost-based pricing.

2. In order to design a more detailed interconnection regime, to give clearer guidelines on the issues, this document should address the following aspects:

    technical standards for interconnection

improving the transparency and equity of existing interconnection arrangements
defining the responsibilities of parties within the time frame;
costing methodology with adoption of a long run incremental cost approach;
terms and conditions of access;
procedures and criteria for dispute settlement, possible fines for damages and sanctions for failure to comply with the rules
unbundling network facilities as a separated company from the incumbent.

3. VNPT should facilitate improvements in the interconnection regime by:

Developing a standard interconnection reference agreement, which can be served as a basis for fairer interconnection arrangements,
Working out an interconnection investment plan with participation of MPT and other interconnecting firms,
Separating the supply of network services from the supply of customer services within the Posts and Telecommunications Business Group.

Functional Separation and Unbundling: The operation of government owned businesses is much more transparent if the functions of policy, regulation, business management and ownership are in separate organizations. Each of these has a separate set of interests to take care of, policy focus on the public interest, the welfare of consumers. A bundled company, both a retail business and the controller and operator of the network and gateways, has commercial incentives to deny retail competitors access to the wholesale use of the networks. This is a strong anti-competitive factor.

1. To ensure a stable foundation for competition in telecommunications, functional separation of the sector should be completed with Policy (MPT), Regulation (Inter-ministerial Committee), Business Management (Telecom Group) and Ownership (Ministry of Finance) having responsibility for their respective functions,

2. As soon as possible Postal activities should be separated from telecommunications enterprises, and the postal services enterprise should be developed into an internationally competitive logistics enterprise,

3. The Postal enterprises should have the commercial independence to extend into financial services like payment and savings, or any other logistics or customer orientated business that makes use of its widespread network of post offices.

4. Non telecom businesses (guest houses, construction and so forth) should be separated from the incumbent VNPT and where appropriate sold to private owners.

Secure Property Rights: Unless there is better security of tenure for private investors, than that available through the BCC framework, private investment will not be available to the extent required. Protection of intellectual property rights (IPR) is the most serious problem for companies that produce software products.

1. In order to create a better climate for competition in the telecommunications sector the government should phase out the BCC framework and existing BCCs should be converted into joint-venture companies (JV).

2. In addition to allowing existing telecom BCCs to convert into JVs, the government should allow new telecom JVs to be established.

3. Intellectual property rights must be improved as the low level of protection is a major impediment to the establishment of a computer software industry.

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Appendix 1: Limitations on Commitments

Table A1. Level of commitments by sector and mode of supply

2.C Telecommunication Services	No. Listed	Cross border			Consumption abroad			Commercial presence		
		In per cent of listed sub-sectors								
MARKET ACCESS		**Full**	**Partial**	**None**	**Full**	**Partial**	**None**	**Full**	**Partial**	**None**
a Voice Telephone Services	65	12	78	9	31	58	11	11	88	2
b. Packet-Switched Data Transmission Services	59	19	75	7	42	51	7	10	90	0
c. Circuit-Switched Data Transmission Services	60	18	73	8	42	50	8	10	88	2
d. Telex Services	59	20	75	5	47	45	7	11	89	0
e. Telegraph Services	43	19	72	9	49	42	9	9	91	0
f. Facsimile Services	55	18	75	7	44	49	7	11	87	2
g. Private Leased Circuit Services	55	16	80	4	42	55	4	11	89	0
h. Electronic Mail	52	35	60	6	46	42	12	17	79	4
i. Voice Mail	48	35	58	6	44	48	8	17	81	2
j. On-line Information and Data Base Retrieval	54	31	61	7	44	43	13	17	78	6
k. Electronic Data Interchange (EDI)	45	36	58	7	51	42	7	20	76	4
l. Enhanced/Value-Added Facsimile Services	43	37	56	7	49	40	12	21	74	5
m. Code and Protocol Conversion	42	31	60	10	48	48	5	19	79	2
n. On-line Information and/or data processing	40	33	55	13	50	35	15	18	80	3
o. Other, Terrestrial-based Mobile	61	8	79	13	30	61	10	13	87	0
o. Other, Satellite-based Mobile	23	9	87	4	28	68	4	8	92	0
o. Other, other	42	5	86	10	10	81	10	2	93	5
NATIONAL TREATMENT		**Full**	**Partial**	**None**	**Full**	**Partial**	**None**	**Full**	**Partial**	**None**
a. Voice Telephone Services	65	23	65	12	26	63	11	17	77	6
b Packet-Switched Data Transmission Services	59	37	53	10	39	54	7	34	63	3
c. Circuit-Switched Data Transmission Services	60	37	52	12	40	50	10	30	65	5
d. Telex Services	59	40	55	5	44	47	9	31	65	4
e. Telegraph Services	43	40	51	9	42	47	12	33	65	2
f. Facsimile Services	55	40	55	5	44	49	7	31	64	5
g. Private Leased Circuit Services	55	36	56	7	40	55	5	27	65	7
h. Electronic Mail	52	50	44	6	44	40	15	48	46	6
i Voice Mail	48	46	48	6	46	42	13	42	54	4
j. On-line Information and Data Base Retrieval	54	52	41	7	48	35	17	48	44	7
k. Electronic Data Interchange (EDI)	45	56	38	7	53	36	11	49	42	9
l. Enhanced/Value-Added Facsimile Services	43	56	37	7	51	33	16	51	42	7
m. Code and Protocol Conversion	42	50	40	10	50	40	10	48	45	7

n. On-line Information and/or data processing	40	55	33	13	53	28	20	55	38	8
o. Other, Terrestrial-based Mobile	61	21	66	13	25	64	11	20	74	7
o. Other, Satellite-based Mobile	23	19	74	8	21	74	6	15	79	6
o. Other, other	42	7	83	10	10	80	10	7	88	5

Source: Extracted from Telecommunication Services, Background Note by the Secretariat, WTO

Legend: FULL = No limitations listed, Partial = Limitations listed None = No commitments taken on this mode

Table A2. Market access, types of limitations by sector and mode of supply listed,

2.C Telecommunication services	**Mode**	**Market access limitations**					
		a	**c**	**d**	**e**	**f**	**g**
a. Voice Telephone Services	CB	5			4	1	11
	CA	1			4	1	8
	CP	38	1		22	23	38
b. Packet-Switched Data Transmission Services	CB	5			4	1	8
	CA	2			4	1	6
	CP	24	1		22	17	32
c. Circuit-Switched Data Transmission Services	CB	3			4	2	8
	CA	2			4	1	6
	CP	23	1		19	18	31
d. Telex Services	CB	2			3	2	7
	CA	1			3	1	5
	CP	22	1		20	17	27
e. Telegraph Services	CB	2			3	1	6
	CA	1			3	1	5
	CP	18	1		18	13	24
f. Facsimile Services	CB	2			2	2	7
	CA	1			2	1	4
	CP	16	1		17	15	28
g. Private Leased Circuit Services	CB	2			4	2	8
	CA	1			4	1	6
	CP	20	1		18	16	31
h. Electronic Mail	CB	3					7
	CA	1					1
	CP	14	1		8	7	19
i. Voice Mail	CB	3					4
	CA	1					1
	CP	13	1		7	8	16
j. On-line Information and Data Base Retrieval	CB	3					5
	CA	1					2
	CP	12	1		8	9	18

k. Electronic Data Interchange (EDI)	CB	2					4
	CA	1					1
	CP	9	1		4	5	14
l. Enhanced/Value-Added Facsimile Services	CB	2					4
	CA						1
	CP	10	1		5	6	16
m. Code and Protocol Conversion	CB	2					3
	CA	1					1
	CP	9	1		3	5	13
n. On-line Information and/or data processing	CB	3					5
	CA	1					1
	CP	10	1		6	4	13
o. Other - Terrestrial-based Mobile	CB	4			4	2	11
	CA	1			4	1	8
	CP	30	1		20	21	33
- Satellite-based Mobile	CB	2			4	2	9
	CA	1			4	1	6
	CP	24	1		20	18	31

Legend: CB - Cross border supply CA – Consumption abroad CP - Commercial presence	a) Number of suppliers c) Number of operations e) Types of legal entity	e) Types of legal entity f) Participation of foreign capital g) Other measures

Source: Extracted from Telecommunication Services, Background Note by the Secretariat, WTO

Table A3. National treatment, types of measures by sector and mode of supply

2.C. Telecommunication Services	**Mode**	**National treatment limitations**						
		a	**d**	**e**	**f**	**g**	**h**	**l**
a. Voice Telephone Services	CB	1	6	4			4	4
	CA		6	4			4	4
	CP	1	12	5	3	1	5	5
b. Packet-Switched Data Transmission Services	CB	1	6	4			4	4
	CA		6	4			4	4
	CP	1	10	5	2	1	5	5
c. Circuit-Switched Data Transmission Services	CB	1	7	4			4	4
	CA		6	4			4	4
	CP	1	11	5	2	1	5	5
d. Telex Services	CB	1	7	4			4	4
	CA		6	4			4	4
	CP	1	13	4	1	1	5	5
e. Telegraph Services	CB	1	6	4			4	4
	CA		6	4			4	4

	CP	1	11	4	1	1	5	5
f. Facsimile Services	CB	1	7	4			4	4
	CA		6	4			4	4
	CP	1	12	4	1	1	4	5
g. Private Leased Circuit Services	CB	1	7	4			4	4
	CA		6	4			4	4
	CP	1	10	4	1	1	4	5
h. Electronic Mail	CB		1		1			
	CA		1		1			
	CP		4		1			1
i. Voice Mail	CB		1		1			
	CA		1		1			
	CP		5		1			1
j. On-line Information and Data Base Retrieval	CB		1		1			
	CA		1		1			
	CP		5		1			
k. Electronic Data Interchange (EDI)	CB		1		1			
	CA		1		1			
	CP		4		1			
l. Enhanced/Value-Added Facsimile Services	CB		1		1			
	CA		1		1			
	CP		4		1			1
m. Code and Protocol Conversion	CB				1			
	CA				1			
	CP		3		1			
n. On-line Information and/or data processing	CB				1			
	CA				1			
	CP		2		1			
o. Other - Terrestrial-based Mobile	CB	1	7	4			4	4
	CA		6	4			4	4
	CP	1	12	5	3	1	6	4
- Satellite-based Mobile	CB	1	7	4			4	4
	CA		6	4			4	4
	CP	1	9	4	1	1	5	4

Legend:
CB – Cross border supply
CA – Consumption abroad
CP – Commercial presence

a) Tax measures
d) Nationality requirements
e) Residency requirements
f) Licensing, standards, qualifications

g) Registration requirements
h) Authorization requirements
l) Ownership of property/land

Source: Extracted from Telecommunication Services, Background Note by the Secretariat, WTO

Appendix 2: Examples of Structural Separation

Recent reports indicate that major firms such as BT, AT&T and Korea Telecom are facing major problems with their businesses. In general, they have mountains of underused wires and fiber. They are losing business as potential customers, blocked from their networks, in order to protect existing service businesses from competition, find ways to avoid using the network completely.

To overcome this problem, many companies, including PCCW in Hong Kong and BT, have set up wholesale divisions. Separating the control of the network (wholesale) and service operations (retail) avoids the appearance of a conflict of interest when offering wholesale services to competitors.

A parallel trend, sharing facilities is also gathering pace in telecommunications with the advent of 3G. The cost of new network rollout has encouraged many large competitors to share infrastructure. In Australia a new 3G network will be shared by Vodafone Australia and SingTel-owned Optus. The two carriers recently decided to join forces to rollout their own 3G network in order to reduce infrastructure costs. Hutchison and Telstra also have a 3G network-sharing agreement in Australia, which expected to be operational by mid-2005.

The question arises, if 3-G costs can be reduced by sharing infrastructure why can that not occur with fixed line, CDMA and GSM technologies. For a country like Vietnam, with relatively low teledensity, competition is important but competitiveness also depends on keeping the real costs down and making the best possible use of infrastructure. Voluntary facilities-sharing has been commonplace in many infrastructure industries for a long time. Public roads and oil sector facilities sharing are the two most obvious examples.

The regulatory benefits of wholesaling telecommunications, by structural separation of the potentially competitive and primarily monopoly elements in of regulated industries, has been discussed at length in an OECD Report[51]. The report was designed to investigate the structural separation of the uncompetitive aspects of former utilities from the competitive aspects as a means of simplifying and increasing the effectiveness of regulation. It demonstrated that structural separation of the unlikely to be reproduced network from the competitive service provision brought regulatory simplicity and many economic benefits.

In addition, by removing the relatively low risk wires business from the relatively risky services business, value is released. The wires business will increase in value to a multiple of about 10 times earnings. A Services business will only be worth three to five times earning. If the two are combined, the value will be no more than five times earnings.

[51] *Structural Separation in Regulated Industries*, OECD, Committee on Competition Law and Policy, 10 April 2001.

Most advice to the Government of Vietnam has assumed that networks and services will be bundled operation. These recommendations are based on an assumption that there is a sufficiently large market in Vietnam to ensure competition and make a competitive network rollout viable. With Vietnam's huge large land area and widely scattered rural population, it is quite clear that this assumption is questionable. There may be benefits in a closer analysis of the benefits of structural separation.

Appendix 3: Costs and Benefits of Structural Separation

Issue	Bundled with limited access for competitors	Structural Separation and Open Access
Policy		
ability to cross subsidize infrastructure from services,	the traditional argument in favor of bundling; in fact until competition was present service was very poor	reduces the ability to cross subsidize but all costs are made transparent, reducing the ability to rent seek (monopoly profit)
synergy between infrastructure and service provision	Synergy is not defined, if they exist they may be outweighed by operational compromises in a large entity	Contractual relationship can make the respective needs more explicit
Non-discriminatory access	Economic incentives work against access. Most national sector polices, and the WTO, advocate non-discriminatory access. Very difficult to ensure and almost impossible to prove an intention to deny.	Structural separation is based on the concept of creating an economic incentive to provide non-discriminatory access.
Incentives		
incentive to reduce costs	Incentive to reduce costs only comes with full network and service competition. Before that time the near monopoly incumbent can charge what it can persuade the regulator to allow.	(1) Service operators will face competition and have to reduce costs, (2) Network operators will also need to reduce costs or lose business, plus face complaints from large powerful customers
incentive to implement government policy	The overriding incentive on a bundled entity is to make life difficult for competitors using its infrastructure; all manner of technical and practical difficulties can be cited	Overriding incentive is on the owner of infrastructure to maximize the use of wires, thereby speeding up access to all potential customers
incentive to make economic use of infrastructure	A bundled incumbent has an incentive to block access to competitors and charge them for the ensuing increase in unit costs	The facilities owner has every incentive to maximize the use of the facilities that it owns
Valuation	Infrastructure businesses typically have a p/e ratio of 10-1. Risky businesses may have a ratio of 3 or 5 to 1. If the two are bundled together the risks associated with the risky service orientated	Structural separation isolates the risk to the service orientated business. This releases value in the infrastructure business. This can increase the p/e ratio from 5-1 to 10-1.

Issue	Bundled with limited access for competitors	Structural Separation and Open Access
	business destroy value in the infrastructure business	
Regulation		
regulatory policy	In developing countries regulatory tradition is weak, capacity limited and the concept poorly understood	By changing the incentives facing respective parties the need for regulation is substantially reduced and largely confined to making sure there is no cross ownership
regulatory costs	Depending on how extensive the regulatory structures put in place are, regulatory costs can be very high,	Regulatory costs are minimized as operators face economic incentives to comply with most regulatory policies
competing networks	A competing network needs to aim at nationwide coverage providing an enormous up front cost to any new network.	competing networks, both national and local, are compatible with the model; as all networks must be open access this will reduce unnecessary duplication of facilities and allow the efficient to overtake the inefficient
Practical Issues		
Implementation,	no problem with setting up new services, regulation a major problem with the inability of regulators to accurately determine costs of regulated entities	some transaction costs, but ongoing benefit of reduced regulatory costs
regional integration with VNPT	A very short-term benefit at a long term cost.	Changing the position is a short-term cost for major long term benefits
difficulties in implementation	If there is no change there is no cost.	Incumbent has an economic incentive to maximize the difficulties of change; once the decision to change is made, the incentives change
service to rural areas	Incumbents usually offer poor or non-existent service in rural areas. With competition most countries see rural services initiated as a way of keeping competitors out.	With economical use of main infrastructure capital will be freed up to extend networks into unserved areas; with competing networks there will be an economic incentive to be first into each area.

Appendix 4: Further Recommendations

Behavioral Regulation	
DISCUSSION	**RECOMMENDATIONS**
Vertically integrated, or, bundled telecommunications companies have been the norm. Most major telecom companies evolved from vertically integrated government monopolies. Competition, under this approach is dependent upon similarly vertically integrated competitors building out competitive parallel networks as a means to ensure competitors have access to customers. The usual prescription to overcome the problem of monopolistic practices by the owner of a network, is the creation of regulations to mandate the incumbent grants access on reasonable terms. The regulator is trying to control the behavior of the company. It is trying to force it to work contrary to the incentives it faces. This form of regulation is called, behavioral regulation. Most new entrant companies complain a bundled entity is blocking access to customers. As a bundled network facing a new entrant bundled network it has a strong incentive to do so. Blocking of this kind would defeat the Government of Vietnam's objectives of competition in retail services, non-discriminatory access and expansion particularly to rural areas (new entrant cannot build into rural areas without a secure revenue base).	1. Behavioral regulation should focus on the regulation anti-competitive conduct that creates barriers to competition such as monopolistic network charges and relax regulation on competitive services, 2. Initially there should be a requirement for all licensed operators to account separately for these two parts of the business 3. As the sector becomes more competitive, behavioral regulation should focus on issues of access to infrastructure for competitors, non-discrimination between state and private enterprises and interconnection.

Open Access	
DISCUSSION	**RECOMMENDATIONS**
Structural separation makes an open access telecommunications regime possible. Open Access makes the sector more competitive by transferring control and operations of all government-owned telecommunications transmission infrastructure into one or more specialized network companies (NETCOs) with a mandate to maximize the carriage of traffic. It requires that existing (and future) private network entities similarly separate into NETCOs and SERVCOs and operate under the same rules. Any network owning company should operate as an "open access network" offering non- discriminatory access to its transmission and local loop assets to all licensed telecommunication service companies, including radio and TV services. It would require a strict prohibition on a NETCO offering any telecommunication retail customer services. The GoV could consider tendering to the private sector an operations management contract for the new VNPT NETCO. Any contractor with a financial or other interest in a current telecommunications service in Vietnam should be excluded. In the case of the existing government owned VNPT services, they could be reorganized into a telecommunication retail service company (SERVCO) with its existing control of network operations and assets removed to one or more NETCOs. Such an option will be more acceptable to VNPT, and at the same time it creates competitive access to the	1. In order to maximize the use of scarce capital resources, keep real costs low and competitive and speed up the expansion of service to rural areas, the GOV should consider moving to an "open access" network system open to all licensed telecom service providers. 2. This should be achieved by ensuring that essential network facilities are open access and do not compete for customers with other service providers, service providers will be the only customers. 3. In an Open Access system existing (and future) partly private network entities should separate accounting and eventually management and organization into network owning company (NETCO)s and service providing company (SERVCO)s. 4. Any NETCO should operate as an "open access network" offering non-discriminatory access to its transmission and local loop assets to all licensed telecommunication service companies, including radio and TV services. 5. There should be a strict prohibition on a NETCO offering any telecommunication retail customer services. The GoV could consider tendering to the private sector an operations management contract for the new VNPT NETCO. 6. Any contractor with a financial or other interest in a current telecommunications service in Vietnam should be excluded from owning a NETCO, 7. Similarly SERVCOs should be prohibited from owning network assets

network. The GoV could encourage the establishment of multiple private, state or cooperative telecommunication service companies.	and focus on providing telecommunications services across established networks. 8. GOV should take immediate measures to ensure that essential facilities are open: Carry through the proposed separation of VNPT into a group of companies. Issue a circular to distinguish the essential facility, the essential "network" and the rights and obligations of their ownership. Enforce the regulation on mandatory facilities sharing, Issue regulations on mandatory roaming within country; with operators abroad: main markets (up to tourism and imports-exports value), Require the incumbent to publish the terms and conditions under which it will share its infrastructure

Emergency Access	
DISCUSSION	**RECOMMENDATIONS**
Competition has been inhibited by concerns over national security and in responses to national emergencies. Also there are potentially anti-competitive aspects to the provision of emergency numbers. There is not yet in place a comprehensive plan to ensure national access to telecommunications services in a national emergency, Closer cooperation with the private companies will be required to make this more effective. There is need to obtain a better balance between the tasks of national security and universal / public services, and public access.	1. GOV should note that there are potentially anti-competitive aspects of emergency numbers if the incumbent gains a monopoly of the management of the service, 2. MPT should convene a working party representative of all telecommunications providers to discuss the most cost effective way to ensure national coverage for emergency numbers and services.

New Technology	
DISCUSSION	**RECOMMENDATIONS**
Unless Vietnam speeds up the introduction of new technologies, it will continue to be left behind by neighboring countries. There is a lack of recognition of the role of the private sector in technology transfer and this needs to be acknowledged, New Technologies will require large, ongoing sources of finance for investment in infrastructure and the only possible source of this investment is the private sector	1. To ensure continuing competitiveness of the telecommunications sector, Vietnam must speed up the introduction of new technologies, 2. The private sector will continue to be a leading provider of technology transfer, 3. New Technologies will require large, ongoing sources of finance for investment in infrastructure, 4. The only possible source of this investment is the private sector and the government should encourage private investment sector initiatives.

Distance Learning and E-Commerce	
DISCUSSION	**RECOMMENDATIONS**
The level of readiness for distance learning and e-commerce in Vietnam is higher than may be anticipated and provides an adequate basis for rapid advancement. Vietnam has many facilitators who can assist with further development of ICT in distance learning and e-commerce. High motivation of students and teachers is the main strength of distance learning, learning English is especially noteworthy. The large rural community is an opportunity for e-commerce. Hanoi and HCM City Open Universities, have demonstrated the effectiveness of distance learning.	1. Policy should recognize that distance learning is both a product of increased competitiveness and a tool to attain it, 2. Policy should aim to reinforce the efforts underway and private initiatives and joint ventures should be encouraged. 3. An effective e-commerce strategy should take account of the special needs of rural communities, 4. The GOV should aim to create favorable conditions for e-commerce such as an appropriate legal framework, taxation, infrastructure, standardization and network security, 5. A GOV e-commerce strategy should take note of issues such as developing

Videotaped and live programs are broadcast consistently through VTV2 and a direct link to Hanoi TV. E-commerce is largely underdeveloped and is awaiting an appropriate legal framework and appropriate commercial security. The distance educational agenda would be best focused on improving the quality of the educational infrastructure in Vietnam, creating interesting educational content; superior learning environments in government institutions and exploring the better use of the extensive network of IT training opportunities throughout the country.	appropriate technology and training.

Development Strategy	
DISCUSSION	**RECOMMENDATIONS**
The framework of a development strategy can now be outlined. The private sector is aware of the barriers to services that can be supplied across borders thanks to ICT. There will need to be cooperation between the government and the private sector to eliminate these barriers and promote trade to Vietnam's advantage. Vietnamese mobilizing their own cash to purchasing the latest ICT equipment and software abroad is a positive benefit to Vietnam and should not be discouraged. In general, it is impossible to enforce bans on this kind of trade and efforts to discourage it only impose costs on Vietnamese businesses and individuals. Making it easy to do business is an important facet of an IT development strategy. Enabling the roaming of foreign telephone calls in Vietnam has been very successful. Extending this to local consumers could also bring large benefits. ITC personnel are very mobile and barriers to inward and outward movement of that any remaining restrictions on the movement into Vietnam of IT professionals and transfers abroad of Vietnamese for IT training and work experience be removed. The exact number of services suppliers can not be published, so clearly identify the schedule of liberalization, Participation of foreign capital: To amend the regulations on sales of equity of local firms to foreign investor, to relax the 30 percent cap.	**Mode 1 Cross Border Supply** The GOV should encourage the private sector to identify barriers to services that can be supplied across borders thanks to ICT. The private sector should have the role of identification and investment in these businesses, the government should have the role of removing the barriers to the trade. **Mode 2: Cross Border Purchase** GOV should recognize that Vietnamese purchasing the latest ICT equipment and software abroad is a positive benefit to the country and should be encouraged. Rules should be changed to remove bans on cross border trade as efforts to discourage it impose costs on Vietnamese businesses and individuals, The GOV should require mandatory facility should be available to all, including between Vietnamese suppliers and roaming should be made mandatory. **Mode 3: Natural person movement** GOV should remove any remaining restrictions on the movement into Vietnam of IT professionals or transfers abroad of Vietnamese for IT training and work experience. **Mode 4: Commercial Presence** The GOV should publish a schedule of sector liberalization, GOV should amend the regulations on sales of equity of local firms to foreign investor, to relax the 30 percent cap, **Mode 5: Commercial Presence** The GOV should publish a schedule of sector liberalization, GOV should amend the regulations on sales of equity of local firms to foreign investor, to relax the 30 percent cap, Licensing decisions the main tool of

	effective disputes settlement should be the proposed inter-ministry committee on regulatory and licensing matters.