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Studies

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"Determining the Impact of Information and
Communication Technology on Decent work in the
Asian and Pacific Region"

VIET NAM REPORT
(Final report of the second phase)

Institute of Labour Science and Social affairs (ILSSA)

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INTRODUCTION

The *doi moi* process (renovation) has been bringing about significant achievements in economic growth and employment generation to Vietnam. However, because of low level of development and high rate of population growth in the past decades with more than one million people entering into labour force annually. As a consequence it leads to high poverty rate (29% in 2002 - upon World Bank's poverty line), an urban unemployment rate of more than 6% and more than 25% of working time of rural labour force was not utilized.

The strategy for socio-economic development for the period 2001 - 2010 set the target to industrialize, modernize and shorten the gap with other countries in the region and in the world in which ICT development has been placed with ever-increasing emphasis. Getting aware of the importance role of ICT for the development, Directive 58/CT - TW on 17 December 2000 of Political Bureau of Vietnam's Communist Party confirmed that "*ICT is one of the most important motivations to the development*". However, proliferation of ICT effected differently on both the world of work and the decent work.

Over past years, it is obviously witnessed the impressive progress and effects of ICT to the whole economy, in which its impacts on decent work has been also recognized. Apart from positive impacts, ICT is now posing a lot of challenges in terms of labour and employment for Vietnam.

This study is implemented under the framework of network of National Institutes for Labour Studies in Asia and the Pacific. The overall objective of this study is to examine the impact of ICT on social and economic aspects of Viet Nam, as well as to explore the actual role of ICT in the Information era that set by The State and Government of Viet Nam. The specific objective of this study in this stage is to determine the impact if ICT on Decent Work in the country through investigating: (1) the proliferation of ICT; (2) the state of decent work in the country and (3) the impact of ICT on Decent work.

The report is made with information sources from researches on macro levels, national statistics, relevant studies and surveys and a small survey in 18 enterprises conducted by Institute of Labour Science and Social affairs, including 2 telecom

companies, 2 cement enterprises and 14 enterprises of textile and garment industry in Vietnam.

Since the ICT is a new emerging industry in Viet Nam, all ICT enterprises are small scale in term of capital, revenue and number of workers. Most of enterprises that produce ICT are in assembling of imported parts. Using ICT for management and production is still in low level. Telecom is known among leading in production ICT as well as using ICT and 2 telecom companies were selected for the survey. Cement production is known witnessed the process of restructuring and upgrading technology, 2 enterprises of cement production were selected for the study. Textile and garment is booming in recent years, which contributes about 15 % of export every year and absorbs as much as 1 million workers. ICT is known implementing at deferent level in Textile and garment industry and it affect differently on the employment and decent work as well, so 14 enterprises were selected for the study. See annex 2 for the result of the survey.

All selected enterprise were visited by ILSSA staff and interviewed directly. The content of the survey is:

- General characteristics of enterprises;
- Production and business: revenue, cost, benefits;
- Capital and Investment and the share for ICT: hardware, software, training for human resource
- Labour and employment (total number of workers, ICT workers, Wages, working conditions, working and leisure time, . . .)
- Issues of Labour relation in the enterprise (trade union, labour dispute, labour contract and collective bargaining, social protection, faire treatment, Health and safety)

The report is comprised of three parts:

Part I, Gives an overview of the development of Information and Communication Technology (ICT) in Viet Nam recently;

Part II, Gives an overview on Decent Work in Viet Nam ;

Part III, Analysis the Impact of ICT on Decent Work.

Based on the above overview and analysis, the report suggests some recommendations for policy implication on development of ICT and Decent work in Vietnam.

I. The proliferation of Information and Communication Technology in Vietnam.

At present, when the world is turning itself into a new era of knowledge-based economy, Information and Communication Technology (ICT) is needed as an effective tool for the development of all nations. It has been its broad utility and feasibility that ICT is paid great concern by relevant sectors and stakeholders. Furthermore, it was obviously proved by many studies on its rationale to the current context of economic globalization, it is much likely to say that unless some certain sectors apply ICT, they are prone to be left behind the progress of evolution after all. With 5 outstandingly attractive features, ICT is of great importance and significance to development plan of nation or corporate as follows:

- ICT is referred to be a dissemination channel of almost knowledge of human being, it equips developing countries to increase productivity and income in the forms of accessing to most modern technology all over the world;
- ICT gets over the problems of geographic distance. All information is connected with a reasonable price irrespective to wherever places are;
- ICT can be adaptable to many fields such as training (long-distance), medical treatment (long - distance diagnosis) and economic consultation (domestic producers on line with internal and external markets).
- ICT brings about huge benefits for users which are known as "scale effects" and "network effects". For instance, telephone network, Internet, the more users it has the more benefit it gains.
- ICT is a special tool with quality enriched via experience of users (i.e. software) and utilization value (i.e. exploited functions and utility).

In Vietnam, getting aware of the ICT importance, Directive 58/CT - TW on 17 December 2000 of Political Bureau of Vietnam's Communist Party confirmed that *"ICT is one of the most important motivations to the development"*. It also called for the promotion of ICT in the course of industrialization and modernization in the period 2001 - 2005 with the target of 1.5% of population subscribing internet; Information Technology (IT) reaching to growth rate of 20-25% per year and software

volume of USD 500 millions per year and 50,000 IT experts at different skill levels trained.

1.1 Vietnam hardware industry

Followed in 1993, Prime Minister promulgated the Resolution 49/TTg on 4th August 1993 regarding to the IT development in Vietnam by the year 2000 with an aim to lay initially firm foundation on information infrastructure in the society which was able to respond to essential demands on information in State management and socio-economic activities, at the same time to actively turn IT into one of spearhead industries.

Next on 7 April 1995, Prime Minister made the Decision 211/TTg approving the National Program on Information Technology with specific activities in order to boost up potentials and construct IT infrastructure, at the first inception phase it would be offering training for human resources to reach the contingent of 20,000 IT professional staff by the year 2000, of which a half would be as programmers, a quarter would be involving in system management and the rest would be other occupations, to develop IT industry including software, services and hardware industry as well as enhanced IT utilization.

In accordance with that, electronic industry and IT are placed at important role and given ever-increasing priority to invest and develop. It has been however newly initiated and small at size in comparison with other industries at investment aspect. For instance, by 1999, total investment in enterprises which producing office equipment, computers, radio, TV, communication devices (hardware) was only 6,842 billion VND - (i.e. 2.22% of the total investment in the industry as a whole and 3.37% of the total in processing industry).

Table 1. Investment on industrial production by industry (billion VND)

	1998	1999
1. Total investment of all Industry sector (bill. VND)	253,560	307,974
2. Processing industry only (bill. VND)	166,461	202,688
% of total	65.65	65.81
3. Of which:- production of office equipment, computer (bill. VND)	1925	2189

% of total	0.76	0.71
4. - production of radio, TV, communication devices (bill. VND)	7128	4653
% of total	2.81	1.51

Source: *Socio- economic situation in Vietnam 1991 - 2000 - General Statistics Office (GSO)*

The table 1 illustrates the limited investment in hardware industry, even though it is offered much preferential. After a period of high rate of growing, by the year 2000 it was even recorded with a dramatic downward. While it was 750% compared with 1998 in 1999 for office equipment and computer, it dropped to 76% in 2000 in compared with 1999 and lowered to 57% in 2001 against 2000.

Table 2: Development Index on industrial production (in 1994 price) by industry (previous year equal to 100%)

	1998	1999	2000	2001
1. Total for all industry sector	112.5	111.6	117.5	114.2
2. Of which, processing industry	112.1	110.8	118.2	115.2
- production of office equipment and computer	604.8	746.8	76.1	56.6
- production of radio, TV and communication devices	106.1	114.8	110.1	109.6

Source: - *Socio-economic situation in Vietnam 1991 - 2000, GSO*

- *Population, Economic and Social statistics in Vietnam 1975 - 2001*

According to the Vietnam's Association of Electronics Business, electronic industry and IT are characterized with small/medium size and assembly manner. At the moment, there are 20 trademark-based assembly enterprises on computers in Vietnam. Among the top over the fiscal year of July 2001 to July 2002, SAMSUNG VINA hardware producer got 5.1 million USD, the runner-up of CMS obtained 2.8 million USD, other were much smaller even.

Table 3: Top 5 computer manufacturing companies (July 2001 - July 2002)

Name of Company	Revenue of IT (mill. USD)
SAMSUNG VINA	5.1

CMS	2.8
ROBO	2.1
T&H	1.5
Sinh Lien	1.3

Besides, the spares and parts produced by domestic enterprises are making up small market share in competition with imported ones. It hence results in the high proportion on import out of product value and low value added. Furthermore, that cost of labor referred to be the comparative advantage of Vietnam accounts only for 2% of product value in associated with inappropriate tariff policy has increased the price and reduced the competitiveness of domestic products.

Table 4: Industrial production revenue by sub-industries (1994 price) Bill. VND

	1998	1999	2000	2001
1. Total (bill. VND)	151,223	168,749.4	198,326.1	226,406.2
2. Processing industry (Bill. VND)	120,666	133,702.4	158,097.9	182,101.4
% of total	79.79	79.23	79.72	80.43
3. - Production of office equipment, computer (Bill. VND)	228	1,702.7	1,295.2	733.4
% of total	0.19	1.27	0.82	0.40
4. - Production of radio, TV, communication devices (Bill. VND)	3,477.5	3,993.4	4,395.3	4,818.7
% of total	2.88	2.99	2.78	2.65

Source: - *Socio-economic situation in Vietnam 1991 - 2000, GSO*
- *Population, Economic and Social statistics in Vietnam 1975 - 2001*

Given the statistics, despite higher absolute value of total hardware product, its proportion in comparison with the whole industry sector and processing industry was remained at low level (about 3%) and even in downward, e.g. from 3.07% in 1998 to 3.05% in 2001.

Assuming to be a potential and future industry, hardware industry has not been yet provided with essential and enabling environment, such as;

a) Consistent legal system and well-organized logistic competency;

- b) Essential infrastructure of power, water, telecommunication, premises, transportation...;
- c) Cheap and basically-trained human resources;
- d) Set-up and soundly-performed domestic and oversea markets.

1.2 Vietnam software industry

Software industry is considered as a leading sector and favored on one hand to bring into full play the intellectual potentials and manpower resources in Vietnam, on the other hand to act as impetus to push up economic development in the information era. Such spirit was reconfirmed in Resolution 07/2000 NQ/CP on 5th June 2000 regarding to the construction and development of software industry in period of 2000 - 2005 which targeted to reach the turnover of 500 million USD by 2005.

Table 5: Plan for software Industry development in Vietnam 2001- 2005

Year	Turnover (million USD)
2001	70
2002	120
2003	250
2004	400
2005	500

Given this view point, on 20 November 2000 Prime Minister issued the Decision 128/2000/QD-TTg on policies and measures to encourage investment and development of software like tax, credit, land usage, copy right protection, and human resource training and so on.

Backing up by such supportive Decisions and Law on enterprise, many software parks and enterprises have been establishing, particularly in two big cities of Hanoi and Hochiminh city. By middle of 2003, there have been 370 services - software enterprises, an approximately 4 folds as it was in 1996. As far as the number is considered, 20-30 services- software enterprises were newly formed in 1996 - 1999 on average, it was up to 60-75 ones in 2000 - 2003.

Table 6: Number of services- software enterprises (1996-2003)

	1996	1997	1998	1999	2000	2001	2002	2003
No. of com. (by end term)	95	115	140	170	229	304	328	370
No. of com. increased during term	19	20	25	30	59	75	24	71
Workers engaged in software sector	1900	2300	2800	3400	4580	6080	6560	7400

Table 6 has figured out 7,400 experts working in software industry by mid 2003, in other words it averages 20 laborers per enterprise. This presents a situation in which Vietnamese software enterprises are featured with small size of labor. As far as turnover is taken into account, over fiscal year of July 2001 - July 2002, the highest figure was noted for FPT Company with total of 85 million USD, the second position was 16.9 million USD.

Table 7: Top 5 IT companies (7/2001 - 7/2002)

Name of Company	Revenue of IT (mill. USD)
FPT	85.0
VDC	16.9
CMS	9.2
IDC	5.1
Sinh Lien	3.8

Although, the number of software enterprises has burst, it does not mean to increase the total of software volume as an end. Specifically, it was 17-18% for the growth rate of software turnover in 2001 versus in 2000 in Hochiminh city extracted from a case study -- just a bit higher than industry sector as a whole. However, it was much lower than previous projection.

Another case study on 26 companies which merely operated in software production presented that 8.8 million USD of revenue was gained in 2001 with a contingent of 1,040 laborers, equivalently to 8,450 USD/person/year --i.e. increased by 30% against

2000. Report from Vietnam Association of Informatics revealed a higher rate of productivity in subcontract-based software companies which was about 13,000USD/person/year in 2002 --- increased by 18% against 2000 than non-subcontracted ones.

Additionally, according to the reports of 60 software trading companies in Hochiminh city in 2001, it had:

- Revenue: 950 billion VND, of which software made up 100 billion VND (10.5%);
- Human resources: 2420 people, of which 920 ones were involving in software production (38%).
- Average productivity in term of revenue: 85 million VND/person/year¹.

In reality, popularly it records a large number of enterprises which having registered to operate in software business and production to be beneficial of State policies, yet most of them are trading computers and communicating devices in stead. For example, in Hochiminh city, by October 2001 only 150 enterprises had real turnover in software business - production and IT services out of more than 950 companies registered in this field of operation.

In the effort to push up the development of ICT in general and software in particular, it is necessary to set up background conditions. Approaching to macro level, favorable factors of political stability, tax policy, wage and supportive schemes on software industry, low inflation, good educational and skilled level and so on which have great impacts on Vietnam software industry are obviously witnessed. However, Vietnam still has to encounter with challenges and constraints such as: property rights, effects of financial markets, quality of infrastructure, education opportunity, information sharing and speed of disseminating technology for people.

¹ 1 USD = 15.500 VND

Table 8: Macro factors significantly impact on Vietnam software industry

Macro factors	Situation	Assessed
1. Political		
Political stability	Very stable	+
Risk of army conflict	Lower than other nations	+
Legal framework for validity of contract	On-developing	Normal
Property rights	Lower than other nations	-
Favored trade partners	Approved Bilateral Trade Agreement with US putting Vietnam into more favorable position than other partners	+
Tariff	Preferential tax for software company	+
State law on wage	Minimum wage is much lower than the standard level offered in software industry	+
Time of work	Standard	Normal
Rights and benefit of employee	Abolished many things up to employee	
Pro-industry policy	Supported	+
2. Economic		
Economic system	Catching up with global system, on-progressing	Normal
State interfere into free market	Getting rid of centrally-planned mechanism, on-progressing	Normal
Exchange rate stability	Stable	Normal
Effects of financial markets	Young stock market, little risky investment	-
Infrastructure quality	Poor	-
Skill of labor force	Good at techniques and bad at management	+ -
Labor cost	Low	+
Economic growth rate	High	+
Unemployment rate	High	Normal
Interest rate and inflation	Stable	+
3. Social		
Demography	Young population and much expected to integrate and exchange economy globally (English is popular among the young)	+
Education tendency	High literature rate, education is highly assessed in culture	+
Education opportunity	Poor, schools and institutions are unable to catch up with necessary standards	-
Information sharing	Information is not shared but kept secret, leading to risk as and when decision is	-

	made	
4. Technological		
Technology development	Limited technology, take a short-cut in ahead of other countries	+
Technology dissemination speed	Poor dissemination mechanism consequently to non-argued decision made	-

Note: (+) good; (-) no good (in relation to competitive nations); (normal)

Source: "Seminar on International e-trade and policy for information infrastructure" co-organized by Ministry of Science and Technology and USAID and Kenan Institute on Asian studies in Hanoi, 12-13 November 2002

1.3. IT Market

Over past years of 1996 - 2000, total revenue of IT increased by 20-25% per year and taken a breakthrough in 2000 of over 36%. However, in 2001, the growth rate was decreased to 13.3%, and slightly increased to nearly 18% in 2002 and estimated to recover by 25% in 2003.

Table 9: Total IT revenue by in 1996 - 2003

Unit: Million USD

	1996	1997	1998	1999	2000	2001	2002	2003*
Revenue of IT	150	180	200	220	300	340	400	500

Source: US & Foreign Commercial Service and US Department of State (1996-2000); PC World Viet Nam 2001.

**Estimated by Dr. Le Truong Tung, Chairman of Hochiminh city Association of Informatics.*

In 2001, total IT revenue of Vietnam achieved 340 million USD, including USD 280 millions of hardware and USD 60 millions of software. According to estimation of General Office of Custom, as much as 80% computers sold in the domestic market were assembled locally in 2001 and up to nearly 90% in 2002. Nevertheless, hardware industry remains attracting more slowly investment sources than expected, besides, limited production and illegally-imported products have also set restraints to domestic production.

In 2001, the percentage of software -services out of total IT turnover was 17% - an increase by 4% in comparison with that in 2000, yet was far lower than common rate in the world of 49%. It is likely due to following reasons:

- Serious imbalance on investment in Information industry and software/services;
- Popularly violated property rights.

The latter was reconfirmed by assessment from Business Software Alliance (BSA, www.bsa.org, May 2002) with the rate of 94% in 2001 - a reduction of 3% compared with 2000, yet still among nations which having highest rate of property rights violation in the world.

Looking at another extent, Hochiminh city Association of Informatics worked out the weakness of IT development and its poor utilization leading to such narrow market in Viet Nam as follows:

- Software/services market applied to enterprises: 30.83%;
- Software/services market applied to state management: 21.42%;
- Software/services market applied to science - education: 5.43%;
- Software/services market applied to remaining areas (including export processing): 42.32%;

As such, with a view to develop ICT market, it is essential to promote the utilization of ICT in enterprises, state management and science and education fields.

1.4. Post and telecommunication.

As far as it has been known, ICT much depends on telecommunication infrastructure, thus, appropriate policy and price will equip developing it in terms of legal framework. Given such importance, the Government has paid great attention to Post and Telecommunication (POT) recently with the promulgation of important Decisions on (i) reducing monopoly and price and (ii) increasing competitiveness and services quality, as follows:

- Issue Decree 109/1997/ND-CP on 12 November 1997 of Government regarding to Post and Telecommunication specified provisions and terms on post and telecommunication and Internet.
- Develop Strategy on Post and Telecommunication development by 2010 and Orientation by 2020 on 18 October 2001 approved by Prime Minister. The objectives are included:
 - Set up and develop national information infrastructure with modern standard equally to regional level and coverage throughout the country with large flow, high speed, good quality and effective operation, it would be designed to (i) be open to all society to explore and share information under proposed national information highway, (ii) serve as foundation for utilizing and developing IT for the course of industrialization and modernization of the country.
 - Provide society and customers with modern and diversified POT with lower or equal price to regional nations; to adapt to social, economic and public security demand. Implement the universalisation of POT and internet services to all areas and parts nation wide with higher and higher quality. By the year 2010, target to have 15-28 telephone sets per 100 people.
- Plan on Internet development period of 2001 - 2005 on 8 February 2002 approved by Prime Minister with below objectives:
 - Speed up the publicity of Internet in all fields of economy, social culture and public security with good quality and lower or equal price to regional nations. By 2005, reach the level of 1.3 - 1.5 subscribers per 100 people and 4-5% population using Internet.
 - Develop Internet infrastructure to be favorable environment of application to all electronic services on trade, administration, post, telecommunication, banking finance, long-distance training, and health care... to serve for industrialization and modernization of the country.
 - Create competitive environment with many internet extension providers (IXP), internet services providers (ISP) and operational services providers (OSP).

- State law on Post and Telecommunication approved by Standing Committee of National Assembly on 25 May 2002.
- In 2002, Post and Telecommunication Ministry functioned to be in charge of State management on post, telecommunication, IT, electronics, Internet, . . .

The goal of POT industry is to spread network upon correspondent format to advance technology and science and coherent to effects, products business, services in areas and parts.

By 2000, all provinces and locations nationwide were installed electronic station, and connected through optical fiber and digitally techniques. The density of telephone was 4 sets per 100 people, as much as 22 times in 1991. In such big cities as Hanoi and Hochiminh city it was approximately 20 sets per 100 people; over 85% of communes nation wide had telephone; more than 82% of commune had daily newspaper; and 61.5% of communes had post offices.

In 2002, more than 1,260,000 subscribers had been set up, i.e. increased by 17.9% versus 2001, adding up the total of telephones in Vietnam telecommunication network to 5,567,140 - i.e. 7 sets/100 people.

According to the presentation of Minister of POT, Mr. Do Trung Ta at Forum on Vietnam readiness to World Trade Organization (WTO) in Hanoi, 4 June 2003, by May 2003, the number of telephone was more than 6 million, (7.35 sets/100 people); over 93% of communes had telephone (more 8% than it was in 2000) and nearly 70% of communes had post offices. The mobile phone network had more than 2 million subscribers.

It is expected that by the end of 2004, all communes in the country will have telephone station, 90% of communes had daily newspaper; Internet subscribers would increased by 59% versus 2002. Under such current rate, by 2005, Vietnam plans to reach 9 - 10 telephone sets/100 people; 1.5 million internet users.

Vietnam officially connected to internet by the end of 1997 and all relevant operation was directed by Decree 21/CP on 5 March 1997. However, Vietnam Internet has been booming recently as and when State permitted to extend the number of internet extension providers (IXP), internet services providers (ISP) and operational services

producers (OSP); thanks to that, it reduced connection price and increased penetration speed as well as improved supplementary services. Number of subscribers has been boosted up rapidly for last 2 years, by June 2002 internet ones was more than 174,000.

Table 10: Internet subscribers in Vietnam (September 2000 - February 2002)

Month	Total	% against previous period
9/2000	85.934	-
9/2001	154.171	179
6/2002	174.378	113

The most concerned matter by consumers at the moment (which also referred to the hindrance to the POT's future growth) is under-qualified quality and safety as well as costly services.

Generally, Vietnam is making great efforts to realize bilateral and international commitments on telecom with a view to narrow the gap with other regional nations.

1.5. ICT application in Viet Nam

Decision 95/2002/QD-TTg on 17 July 2002 of Prime Minister approved the master plan on IT application and development in Viet Nam by 2005. There were 6 orientations for IT application in Vietnam for the period 2001 - 2005 as follows:

- To apply IT into sectors which are more feasible to access to global integration and subject to key economic areas, including banking, finance, tax, custom, aviation, telecom, science technology information and foreign trade;
- To serve for the agriculture and rural development;
- To enhance the competitiveness of enterprises, especially in terms of management, marketing, e-commerce. To enable this, 3 following factors should be attached of importance: (a) effective marketing system; (b) convenient and accessible products and services distribution system; (c) high-quality products and services and marketable prices. As for small and medium size enterprises (SME), ICT facilitates them to maximize the efficiency of business operation; and enhance the competition in the long-time running and entering in world trade. As such, this

calls for great concern and support to build up ICT capacity for SMEs from State and society as a whole.

- ICT application in national security.
- ICT application in State management.
- Setting up e-information system.

It is no doubt that significant achievement of ICT application in production and lives has been gained progressively in Vietnam, yet it remains having disadvantages of slow application speed and quality causing the waste of money from ineffective and inefficient implications of ICT tools. The demanding application of ICT is a matter of course, however technology application including ICT requires 2 prerequisites:

- a) Adjusted regulations such as law, policy and operational mechanism to set an enabling legal environment for the technology application;
- b) Adaptable capacity of State agencies and enterprises in responding to new technology.

At the moment, both of these has not been completed and on progressing.

An example taken from the rate of internet users showed that Vietnam had a rate equally to 1/10 compared with China and 1/20 with Thailand and 1/40 with global level.

Table 11: Number of internet users in Vietnam, China, Thai land and over the world
(Unit: 1000 people)

Year	6/1998		6/1999		6/2000		6/2001	
	Amount	%	Amount	%	Amount	%	Amount	%
Vietnam	6	0.01	30	0.04	70	0.09	150	0.19
China	1.060	0.08	4.000	0.31	16,900	1.34	26.500	2.10
Thailand	280	0.46	600	0.99	1.000	1.65	2.210	3.64
Global	129.000	3.17	179.000	4.27	332.000	5.40	450.000	7.31

Source: PC WORLD Vietnam, October 2001

Only a minority enterprise opens web site to serve for business and production, even many enterprises (mainly SMEs) have not been conceived the importance and

rationale of ICT application. By end of 2001, Vietnam just had about 1,000 web-set enterprises out of 50,000 on-operating enterprises (about 2%).

It can be said that the ICT application at enterprises for business and production is much up to the knowledge and perception of the leaders.

The survey conducted by Office of National Steering Committee on Information and communication technology (ICT) at 217 enterprises in early 2004 has brought some interesting findings as follows:

+ *The ratio of enterprises engaging in ICT applications*

About 80-90% of State-owned enterprises and 30-40% of enterprises in other sectors have been applying ICT for management, business and production operation in some extent at different level.

Generally, enterprises are aware of the usefulness of ICT, but they also are confusing on how to applying IT for their business operations.

+ *Current status personnel and human resource for ICT*

About 60% of enterprises do not appoint managerial personnel to take the charge of ICT work. Meanwhile, the managerial personnel who are in charge of IT Management are not well trained on IT application in enterprises.

16% of enterprises have not built specific plan on IT application for enterprise's operation and 43% of enterprises does not setup a specialized section or group of IT.

+ *Current status on IT infrastructure in enterprises.*

85% of enterprises have been using computer network. The rest of enterprises which have not used computer network do not have need to use because of the simplicity in their management and operational nature or due to the financial constraints. 14% of using computer network enterprises are applying widen network (WAN). WAN are applied in enterprises to respond the requirements on management of specialized operational system such as enterprises in sectors of electricity, aviation, telecommunication, banking system...

Although the ratio of enterprises equipped with computer network is relatively high, the specific applications have not been intensively and broadly undertaken.

57% of enterprises use servers for ICT network; however the ICT applications for business operations are still in a simple and fragmented manner. This makes difficulties for maintenance, upgrading and management of the system.

+ *ICT applications used by enterprises:*

- *For Internal management of enterprises*

Almost all enterprises have used Office applications for the purposes documents composing, electronic excel, power points presentations, E-mail communication... In many cases, these applications are implemented in a separate and un-organized manner at deferent sectors of enterprises; there is a lack of standards and overall programming for the whole enterprise. Very few enterprises have an organized electronic documents archive system. Some other utilities have been implemented but not broadly such as developing time schedule, vehicle assignment, meeting room reservation...

The most prevalent and broadly used applications in enterprises are the software for financial management and accounting. About 88% of ICT-using enterprises have applied financial and accounting software. Other supportive applications for enterprise's business and operation have not been broadly used (less than 40% of firms have such application). The application of specialized software for production management or project administration is scarcely used (production management: 8% and project management :8%)

Most of supportive applications for firm's operation and management are not undertaken professionally. These applications are designed just to meet specific professional operational requirements, without attentions on improving the utility functions, the confidence, filing systems as a whole. These programs are designed on the basic of current enterprise's requirements rather than paying enough attention to the opportunities for further upgrading. So far not many of enterprises satisfied totally with current programs/software using for their daily work.

Table 12: Programs used in enterprises and their satisfaction

Program	Totally satisfied (%)	Moderate satisfied (%)	Not satisfied (%)
Financial management and accounting	15.6	72.5	11.9
Personnel management	12.2	75.5	12.2
Payroll management	11.1	73.3	15.6
Fixed assets management	15.6	75.0	9.4
Stock management	21.4	71.4	7.1
Purchase management	20.0	72.0	8.0
Sale management	14.5	65.2	20.3
Production management	20.0	73.3	6.7
Clients management	13.0	87.0	0.0
Projects management	21.4	78.6	0.0

Source: *The survey conducted by Office of National Steering Committee on Information and communication technology (ICT) in early 2004*

- Application of ICT in commercial transactions

The exploration and ICT applications for commercial transactions such as E-commerce is found in some extent, mainly in forms of making introduction and advertisement of enterprise or products on Web site; or using E-mail, seeking for information from Internet services. On-line transactions, products orders or on-line payment services are still very few. Enterprises have not built their own Web-site because the leaders of enterprises are not fully aware about the need and its utilities; other enterprises are doubt about the effectiveness and the returns from investment on Web-site.

According to the data delivered by VDC, less than 10% of Vietnam's firms have their own Web-site

+ Investments of enterprises on ICT applications

According to the survey's findings, the average investment of enterprises for ICT application ranges from 0.05% to 0.08% of the total revenue.

The enterprise's investment policy on ICT reveals many inconsistencies. Most of enterprises have paid the investment only for purchasing hardware and other primary services for their information system, without paying sufficient attention and investment on upgrading the information and database system and improving their applications (software). Therefore the benefits returned from investment are very limited. Investment on software applications is undertaken in fragmented and non-systematical manner. Software are designed and developed separately for a specific purposes, therefore they can not be integrated into a larger system. This hinders the functions and utilities of applied software system.

Investment of enterprises on human resources for ICT also presents as a problem. Very few enterprises have built up a specific plan on ICT staff training. The updating and improving qualifications for these staff are undertaken in a passive manner, due to the lack of a master plan for IT implementation.

In regard of investment project on ICT of enterprises, the expenditures on equipment of hardware often make up very high proportion of the fund (about 60% to 80%), the rest are designed for development of software, training and consultancy... Such investment structure is not appropriate, the ratio of investment for software and services (including training) is too low, that leading to the situation of absence of appropriate applications for management, production and business operation, lack of qualified staff to effectively operates and explores the invested ICT system.

In some General Corporations, the investment on ICT is not specifically decentralized to the affiliated firms. At head office, investment is paid mostly for offices segment. At subordinated firms, the investment is not undergone in a well-organized system, leading to a problem that different subordinated firms use different technologies and software, which serving for the same objectives.

40% of surveyed enterprises do not dare to undertake intensive investment on ICT because they do not have enough qualified personnel on ICT for exploitation and management; 20% of firms have financial difficulties; 17% of them declared that they do not find it necessary to invest on ICT; 10% suppose that they depend on their superior corporation; **3% of enterprises states that they hesitates that investment on**

ICT will make more retrenched labour. Other reasons including objective and subjective make up less than 10%. The findings show that principle reason for limited investment on ICT presents that enterprise does not have appropriate human resource for ICT applications

A sample survey conducted by Mekong Economics on SMEs revealed: 48% used it for e-mail, 33% for not yet obvious idea; only 19% for proper purpose of taking advantages of ICT.

II. Overview on Decent Work in Vietnam.

One of the challenges of the study is the understanding and operationalizing of the concept of Decent work. There is also a challenge of deriving decent work indicators and the constraints of available and comparable data sets. In this report, the analysis and assessment on decent work are undertaken according to the ILO concept on Decent Work: "Fostering humane and productive work in conditions of freedom, equity, security and dignity"².

2.1. Encouragement for basic rights at workplace

The Constitution of Socialist Republic of Vietnam confirmed working as a basic right and all citizens entitled to have job. It is specified in Labour Code at Article 5 "Every person shall have the right to work, to choose freely an employment and occupation, to learn a trade, and to improve his professional skills without any discrimination in respect of se, race, social class, beliefs or religion. Maltreatment of workers and the use of forced labor in whatever from are prohibited ".

a) Right to organize

Constitution 1992 of Vietnam (Art. 69) states "Citizens have right to freedom of speech, freedom of press, information, assembly, association, demonstration according to the National laws.

Labor Code 1995 (Art. 7, item 2) states " The workers have the right to form, joint and work for the trade union according to the Trade Union Law in order to protect their rights and lawful interests".

² International Labour Office, "Report of the Director General on the 87th International Labour Conference, Geneva, 1999.

Art. 12 states "The Trade Union joins the state agencies, the economic and social organizations in caring and protecting the rights and interests of the workers; in the inspection and supervision of the implementation of the provisions of labor legislation.

Art. 153. Within 6 months from the date of operation of the newly-set up enterprises, the Confederation of Labor at Provincial level should form the TU in the enterprises.

Art. 45. "The representatives of the parties to the collective bargaining shall be: (a) The Executive committee of the enterprise TU or a provisional TU Executive committee, on the side of the Labor Collective and (b) On the employer's side, the director of the enterprise or a person so authorized."

The Constitution of Socialist Republic of Vietnam and Law on Trade Union defined "Trade Union being the large social and political organization of Vietnamese working class and laborers (in general they are called as laborers) is set up in voluntary manner and as member of social political system of Vietnam".

In Vietnam, there is only one National Center that is Vietnam General Confederation of Labor (VGCL). VGCL is the umbrella organization for all trade unions in Vietnam. Vietnam TUs are organized in two structures: geographical and industrial. Each structure comprise of 4 levels:

- Central;
- Provincial;
- District, intermediate;
- Grassroots level.

Currently, VGCL has 18 National industrial Unions and 61 Provincial federations of Labor. There are 58,619 Trade unions at grassroots.

VGCL membership is nearly 4 millions workers (about 50% of wage workers), out which female members accounts for nearly 40% and the members in the non-state economic sectors are over 400,000 persons.

The Unionization density rate (UDR) is depending on sectors. In 2002, According to Vietnam general confederation of trade (VGCL), UDR in State sector was 85%; in

Joint ventures was 60% and in foreign owned and domestic private was 20%. At present, TU is formulated in about 40% of foreign invested enterprises and in about 70% private ones have not been organized yet. The main reasons for this situation are the lack of cooperation and even anti-union attitude from employers, the weakness in organizing capacity and skill of TU organizers, the poor efficiency of education activities on TU, low awareness and fear of losing jobs from workers, etc.

b) Rights to negotiations and collective bargaining

The Legal bases for collective bargaining in Vietnam are:

- Constitution of Vietnam 1992;
- Labour Code 2001;
- Law on Trade Union 1990
- Ordinance on State employees and officials, 1998;
- Documents on guidelines of implementation of laws

There are various ways to secure the right to Collective Bargaining and consultation. They are:

- Collective agreement
- Regulation on coordination of action between TU and management at different levels , from the central to local levels;
- Workers and staff's annual conferences in state offices and organizations;
- People's inspection in state offices and in enterprises;
- Other internal regulations issued by the management in compliance with the legislation (rewards, disciplines, labor rule and so on)

The principles of negotiating and signing Collective Agreement are:

- Voluntary;
- Equally

- Open
- In compliance with the law

According to the report of VGCL, by the end of 2002, Collective agreements were signed in:

- 80% of State- owned enterprises,
- 50% of foreign invested and
- 20% of non-state enterprises

The main reason why the rate of collective agreement signed is so low in foreign invested and non-state enterprises is the lack of trade unions formed in such enterprises. Moreover, even in enterprises, where the collective agreements have been signed, there are still problems of formality in the agreements and loose enforcement for their implementation.

c) No employment of child labor:

The Labour Code at Article 120 stated "the admission to work of children under 15 years of age shall be prohibited, except in certain categories of occupations and work as determined by the Ministry of Labor - Invalids and Social affairs." In case those children are employed, it must have the agreement and subject to under supervision of parents. Viet Nam ratified United Nations Convention on rights for children and Convention 182 on Prohibition and Urgent Actions to Eliminate Worst Forms of Child Labor.

At the moment, there has been no official data on child labour in Vietnam (provided correct definition of child labour is used). However, some studies based on sample survey or population census estimated number of child labor in Vietnam, for instance the Vietnam Living Standard Survey (VNLSS) in 1997 - 1998, it was estimated to be 1,645 million children³, a dramatic decrease against that of 4 million in 1992-1993.

A sample survey also revealed a majority of child labour involving in unskilled work (93%) and farming activity (97%). They mostly worked in household economy and

³ Study on child labour in Vietnam 1992- 1998, Publishing House of Labour and Social affairs, 2000

non-state small enterprises. The number of wage-paid children was making just a slight rate of 5,7%. Remarkably, it has no evidence of child labour in State-owned enterprises and export producing industries.

2.2 More extensively and intensively generated employment

Vietnamese Party and State always considers *employment creation as primary social policy* to place settle down placement for labour force, it facilitates all economic sectors to invest broadly into production and business. In addition, it should focus on "*promoting manpower for export*".

Over past years, annually Vietnam has placed a lot of jobs, reduced the unemployment rate in urban and increased time utilization in rural areas.

- Since 1991 to date, the number of new job placement has been growing steadily : it was 863 thousands people per year over 1991 - 1995, and 1.2 million people over 1996 - 2000 and 1.41 million over 2001 - 2002. In this regard, private sector had made significant contribution, i.e. more than 90% new placements generated by this sector. Manpower export which is planned to be important strategy in coming time is also playing greater role in offering employment.
- From another extent, development of vocational training system made a sufficient support to employment of high quality and productivity. The network of vocational training institutions has been planned and developed properly over past few years. By end of 2002, it contained 1,070 institutions nation wide, of which 204 were vocational training schools, 221 vocational centers, 141 universities and colleges with vocational curriculum and 504 other types⁴. The plan of 2003 was set to establish 4 new vocational training schools and to guarantee the presence of vocational schools in all cities and provinces nation wide. In some industrial parks, several vocational training institutions were formed such as Dung Quat, Vietnam - Singapore, Nghi son, Phu bai ... The scale of vocational enrollment and performance has been rapidly increasing recently. By 2002, the number of newly enrolled students was 1,005,000, of which 146,500 ones taking long-term course and 480,000 ones

⁴ Other vocational units include: Centers for Employment Services, Center for Orientation - General Technical Education, Center for Regular Education with vocational activity.

taking short-term course with certificate, the rest were taking vocational classes with certificates. Out of generated employment, the proportion of high - skilled and formally-educated work was on increase. The rate of vocationally trained workers saw an increase from 13.4% in 2000 to over 16% by end of 2002.

- The rate of urban unemployment was sharply downed from 10% in 1991 to 6.4% in 2000 and stayed at 6.01% in 2002, meanwhile, the rate of utilizing working time in rural areas was gradually upward from 72.1% in 1996 to about 74% in 2000 and 75% in 2002. With a largely of more 90% poor people living in rural areas, such increased rate would benefit in off-farming employment and result in course of hunger eradication and poverty reduction (HEPR).
- The labour structure has been shifting with a larger participation to industry and construction - i.e. 13.6% in 1991 to 15.1 in 2002; services: 13.8% in 1991 up to 24% in 2002. Consequently, labour engagement in agriculture, forestry and fishery was lowered with the rate at 72.6% in 1991 to 60.9% in 2002.

In short, the achievement in employment is primarily thanks to (i) the essential evolution of awareness and method of generating jobs; (ii) the sources mobilized targeting to development and job creation; (iii) the concerns from relevant Ministries, branches and localities at the initial stage of employment -focused plan in associated with national/local socio-economic targets.

However, on the debt side, it still has some weakness and shortcomings as mainly as follows:

- The awareness evolution on employment and labour is not consistently performed at levels and branches, especially in terms of strategy arrangement, plan and investment; the big imbalance on labour supply-demand; low attractiveness of labour and employment creation, especially in high productivity work and value added.
- The high rate of unemployment is still available particularly among the youth in big cities; the rate of utilizing time in rural areas is slowly upward. What worthy noting is the severe unemployment in locations where it has dramatic

- shifting of economic structure from agriculture to non-farming sector due to the rapid urbanization process.
- There has been an insufficiency of bold policies to support investment and mobilize resources and develop markets (including labour market) with a view to grow economy and create jobs.
 - In dealing with employment, there is much risk and unstable impacts owing to globalization and integration process such as: foreign investment, commodity export market, manpower export and competitiveness of Vietnamese business.
 - The uneven development among regions, urban and rural areas and industrial zones (e.g. Hanoi, Hochiminh city, Vung tau, Hai phong, Da nang, Can tho...) has led to the huge flow of spontaneous migration (e.g. in Hochiminh city, it normally has 70,000 immigrated labour, Hanoi: 20,000... for the purpose of getting high income (mostly for casual work). As a consequence, it causes big problems to urban administration and overloaded services of social infrastructure (i.e. transportation, health care, school, water ...), especially to social evils of drug, prostitution, street children ...

Development of labour market

Over past years, many policies and legislation have been issued in an effort to facilitate the development of labour market.

Basically, legal framework for the establishment and development of labour market has been issued. Two basic components for labor supply and demand relation in the labor market are rights of freedom in choosing employment and rights to select and recruit employee were identified in the Labour Code.

The Labour Code also defined clearly the conception on employment generation mechanism and removed old stereotype on occupation. It promotes the active and positive manner of job seekers and encourages employers to open more employment opportunities to workers.

Provision on substantial relations of labour market and other social relations in labour market like apprenticeship, labour contract, labour collective, wage -salary, labour

disciplines, occupational safety and health, labour security, trade union, state management on labour all have been amended in the Labour Code.

Many solutions, policies, programs and projects on labour markets were promulgated and deployed (e.g. training program on developing labour supply, especially skilled workers. For pushing up labour demand, the Government has issued relevant policies and laws focusing on supporting investment, production and business such as Law on Initiative Domestic Investment, Law on Foreign Investment, and Law on Enterprises and so on and having resulted in creating a productive and favorable environment to all economic sectors.

2.3 Broadening and improving social protection system for employees:

In Vietnam, the development of social protection system was paid great attention by the Party and the Government right at the time of forming Democratic Republic of Vietnam in 1945. Forwarding with the socio-economic growth, the system has been gradually improved. The overall direction is to attach economic development with progress and social equity under the context of open-door economy. That it continues expanding and perfecting social protection system for employee is vital content to deal with social problems of the country.

In that spirit, Vietnam has been undertaking following actions:

- Setting up mechanism to tie social protection policies with economic development policies in order to harmonize economic growth and progress and social equity.
- Setting up and consolidating legal system to institutionalize State policies, viewpoints and solutions on social protection (Labour Code, Law on Education, Law on Protection - Care and Education for Children, Ordinance on war-devoted people, Ordinance on the disabled and elders..).
- Improving social protection system, including Social Insurance, Health Insurance, Labour Market policies, social assistant policies and programs that consolidate social relief network for the poor and vulnerable groups.
- Formulating national target programs and funds (Program on employment, Program on Supporting extremely difficult communes, Program on clean water

and environment in rural areas, Program on Prevention and Control of social evils and Funds for Employment, Fund for hunger eradication and poverty reduction, etc.).

- Implementing integrated efforts with an aim to mobilize all resources, especially from local levels and community for social development. It is also an effort to integrate objectives of different target programs in order to maximize the effectiveness of all resources.

As a result, every year there are more than 1.2 - 1.3 million jobs created and unemployment rate was decreased gradually, from 9 - 10% in 1990 - 1992 to 5.8 % in 2004 .

The renovation of social protection policies and extension of the coverage of target groups in compulsory social insurance, in one hand, makes it more assessable to employees of all sectors (State, non-state, foreign-funded). On the other hand, it enhances the responsibility of employers for their workers. These activities help to keep living conditions of millions of employees as and when they have sickness, pregnancy, work accidents and retirements. Accordingly, the number of workers, involved in compulsory social insurance is adding to be about 6 million at the time being (i.e. 16% of labour force). In 2002, there about 22.11% of extremely difficult vulnerable people (the disabled, lonely elderly, orphan ...) are regularly provided allowances.

The State continues to provide financial support to redundant workers during the process of restructuring of State-owned enterprises. For instance, in 2002, there 41 enterprises asked for financial support to settle for 3,077 redundant workers, of which 34 enterprises were approved to access to the support of the State of a total of VND 29,261 billion.

However, there also have been number of existing problems and challenges for Vietnam Social protection system, such as:

- The increasing the gap between poor and rich groups. The results of VLSS in 1993, 1998 and 2002 showed that the gap between 20% poorest quintile and 20% richest once increased from 4.97 in 1993 to 5.49 in 1998 and up to 6.03 in 2002.

The difference rate of living standard between urban and rural areas at the moment is about 5 to 7 times.

- Every year, as many as 1 to 1.5 million people need emergent relief due to natural disasters, crop failures; annually, about 3.5 - 5% of households which have escaped from poverty falling back to the poverty.
- The coverage of social insurance scheme is still limited. The scheme has just covered 6 million workers (16% of labour force) and mainly working in SOEs, large-scale enterprises. Majority of rural workers, workers in non-state sector, self-employees and so on have not been included in the social insurance scheme. An Insurance scheme for Unemployment has not been developed (there are only ad hoc policies and programs implemented). Living standards of vulnerable and disadvantaged groups are still very low and they face many difficulties daily life.

2.4. Strengthening the tripartism consultation and social dialogue .

The issue of tripartism consultation and social dialogue is paid great concern in Vietnam, The State of Viet Nam put its targets to develop sound, harmonious and stable industrial relation. It, as a result, keeps in mind the basis of cooperation, equity, democracy and respectful rights and benefits thereof.

The tripartism and social dialogue is set up upon Labour Code, Law on Governmental Organization, Law on Trade Union and other related legislation documents.

Article 39 of Law on Governmental Organization in 1992 provided "Government coordinates with .. . Vietnam General Confederation of Labour (VGCL) ... in fulfilling its task", "Government invites ... Chairperson of Vietnam General Confederation of Labour ... to attend sessions on dealing with related issues; regularly informs... Vietnam General Confederation of Labour ... with socio-economic situation and other Governmental Policies". According to this Law, Government and VGCL jointly develop specific regulations on relation thereof.

It can be said that, Law on Governmental Organization in 1992 paved the legal layout to coordination and information line between Government and VGCL.

Law on Trade Union in 1990 specified the functions and responsibility of trade union in collaboration with State management agencies to protect rights and benefits of employees. Article 3 in Law on Trade Union in 1990 stated "State agencies, Head of units and organizations and trade union have to enhance the cooperative relation in all activities with a view to develop the country and take care of employees; in case of difference in opinion and views, they should have negotiation and conciliation provided in law". Article 4 stated "Trade Union represents for employee groups in participation with State to develop and implement socio-economic program, policy, economic management mechanism regarding to the rights and benefit of employees".

Chairperson of VGCL is entitled to attending Governmental Conference. Chairperson at all levels of VGCL is also eligible to participate in meeting of State agencies, units, relevant organizations on issues related to rights and benefits of employees".

In respect to grass-root trade union, Article 11 of Law on Trade Union in 1990 specified "Grass-root trade union represents employee group to sign collective agreements with directors of enterprises; supervises the signing and implementation of labour contract"; "trade union represents for employees to negotiate with head of agencies and organizations to settle down labour disputes"; "State agencies, heads of unit and organizations should discuss with same-level trade unions in prior to make decision on issues related to rights, responsibilities and benefits of employees" (Article 13).

In relation to employers, since 1998 Prime Minister has annual meeting with entrepreneurs. During these meetings, Prime Minister has a discussion and dialogue with them on issues related to business operation. Especially, on 27 May 1998, Government Office announced the statement of Prime Minister on getting comments of enterprises in process of developing corporate documents. The statement clearly informed "in regard to legal documents on enterprises it necessarily consults with enterprises with the assistance of Vietnam Chamber of Commerce and Industry, Corporate Association or directly from enterprises". At the moment, the representatives for employers are VGCL, Cooperative Alliance and other organizations.

III. Impact of ICT on Decent Work

In principle, ICT may and must bring positive chances to trade, economic development and employment opportunity. ICT could be used as a background for building and transferring knowledge in all aspects of a modern society. It helps firms including SMEs to participate actively in domestic and international trade, to develop their human resource and to improve the provision of public and individual services.

Recent studies showed that to some extent, enterprises can benefit from the implementation of ICT. For example, the survey of 217 enterprises⁵ showed that :

- 77% of enterprises informed that ICT help to increase productivity;
- 43% of them considered that ICT help to improve the quality of their products and services;
- 59% - considered that ICT help to improve the competitiveness and
- 6% informed that ICT bring other benefits.

However, in practice benefits and impact of ICT on decent work depend on the development of ICT industry itself in accordance with its scale and extent of application into other industries.

Moreover, the analysis of impact of ICT upon decent work depends very much on the availability and reliable data on key indicators of both concepts of ICT and Decent work. Due to the conceptual and methodological weakness, the data gathered for the analysis is still lack of consistence systematical and even they are unilateral in nature.

In addition, data for decent work for any period prior to the introduction of ICT, as required in the TOR, are not available. Therefore, the assessment of the impact of ICT on the decent work is done in the qualitative manner and for the current status and trend so far.

3.1. Impact of ICT on labour market

It is difficult to analyze and evaluate the impact of ICT on labour market in Vietnam because of the lack of available and necessary data. In the statistical yearbooks, the

⁵ The survey conducted by Office of National Steering Committee on Information and communication technology (ICT) in early 2004

number of workers engaging in electronic, computer and audio-visual equipment is included in processing industry, meanwhile; telecom is included in transport, storage and communication. It is difficult to extract out the number of laborers working in ICT industry or ICT workers involving in all national industries.

One should expect that changing in the industrial structure due to introduction of ICT will result in the changing in employment composition of the economy and changing in employment opportunity for everyone. On one hand, due to the widely application of ICT in the economy and society, employment opportunity for skilled workers will be increased. However, on the other hand, the demand for manual and unskilled workers will decrease and unemployment incidence may goes up.

In general, all new employment created by ICT request higher skill level and/or intensive qualification or workers might take a retraining and/or additional training course.

According to the report of Vietnam's Informatics Association, by February 2002, there are 23,000 people working in IT companies nation wide and about 5000 - 6000 people working in software. Thus, number of workers working in IT industry accounts for only 0.39% of the total number in all other industries which in turn constitute only 15.1% of the total labour force nation wide in 2002. The report also shows an increase of IT workers over recent years of about 2,500- 3,000 people annually (i.e. 11% - 13% per year), this rate is 4 times higher than that in all other industries and 5 times more than that in national economy as a whole.

Before the year 2000, number of workers in such industries as: transport, storage, information and communication increased by 4.0% annually. Although it was higher than that in all economic activities as a whole, it was rather low in respect of the demand for development in transportation, information and communication infrastructure. However, since 2001, the figure was speeded up at relatively high rate - over 24% in 2001 versus 2000 and 10% in 2002 against 2001. This is also the result of number of policies and solutions to promote investment for infrastructure and ICT network recently.

Table 13: Number of workers in Transportation, Storage, Information and Communication industries as of 1st July (1995-2002)

Years	1995	1996	1997	1998	1999	2000	2001	2002
Total (thous. per.)	761.2	792.5	825	859.1	893.9	929.2	1153.2	1271.5
Annual Growth rate (%)		4.1	4.1	4.1	4.1	3.9	24.1	10.3

Source: Statistical year book 2001 - 2002.

Despite a high rate of growth, the number of workers involved in ICT sector has been taking a small share in the total labour force. Except for ICT industry where almost all workers are working with ICT and ICT is widely applying to management, business and production, in other sectors of the economy, the impact of ICT on employment as well as its proportion of overall labour force is still very low.

In the textile and cement enterprises, *there have been none or few IT- specialized workers*, but some who have “knowledge of ICT”. Workers who have knowledge about IT are mostly accountants, managers in production - business, or personnel staff.

Beside professional qualification, they have been trained in computer skills such as: document processing, account, storage and material management software... in 2002, the number of workers "having ICT knowledge" accounted for only 2.5% of the total workers in these enterprises. However, from the perception point, these companies have recognized about the benefits of ICT in fact, for example: higher labour productivity (streamlining staff of accountant) and improved work quality (preciseness, timing).

Table 14: The proportion of ICT workers in textile and cement companies 2000 - 2002

	2000	2001	2002
Share of worker "having ICT knowledge" out of total workers in company (%)	2.48	2.45	2.47

ICT is posing not only positively but negatively impact on labour market as well. On one hand, it leads to the emergence of new occupations; on the other hand it threatens the risk of losing jobs and/or retraining to shift into other sorts of jobs. The finding of the survey described that:

- Among telecom companies, the application of ICT and extension of business request to have larger number of ICT workers in programming, net managing, client's serving and so on. However, it is difficult to recruit such types of workers for companies, because the labour market can not supply at the time being. There are evidences of a big gap between the quality of training provided by training institutions and requirements of the employers.
- Among cement and textile companies, the performance of advanced technology and new production lines will lead to the labour redundancy (the rate may be as high as 40% of total labour force in cement companies).

3.2. Training for ICT workers.

At present, there a number of training institutions and companies provide ICT training courses. This training system can be clasified into 4 types:

a. The formal training: Nowadays in Vietnam there are about 120 universities, colleges and vocational training schools which are responsible for ICT laborers training at different qualification levels: doctor, master, engineer and ICT skilled-worker, of which, about 75%-80% ICT laborers are trained in universities and colleges.

b. Popular training: This short term training course lasts for 3 months or more to grant learners with Certificate of level A, B, C on computer skills as Word, Excel, PhotoShop, AutoCAD...The learners might be students, pupils, workers and anyone who interest in.

c. Intensive training by international standards: This kind of training is responsible by some international institutions such as: APTECH. TATA, NIIT... the course will take 2 years. After graduating, trainees can be granted with International Certificate. Such kind of training institutions has contributed about 10% of ICT laborers in Vietnam.

d. Special training of some Corporation: Some Corporations Cisco, Microsoft etc offer such training courses for ICT engineers and graduates. The duration will be 1-2 years with special training in some fields.

Annually, about 4000 ICT graduates and engineers⁶ graduate from universities and colleges. However, just some of them can find jobs in ICT sector. The result of the survey that carried out by Ministry of Education and Training in 2002 on graduates of universities/colleges showed that 12.4% were unemployed, 45.3% were in state - owned agencies; 32.7% were in private enterprises, the remaining were working in other economic sectors and only 30% were in specialized ICT agencies. Another study revealed a rate of 20 -25% of ICT graduates working in ICT industry, 5% working as teachers or researchers of ICT, the remains (about 70%) working in all industries that called "applying ICT"⁷

Two reasons proposed to explain why the rate of university graduates working in ICT industry is so low are:

Firstly, the ICT is still a young and small industry, so it is difficult to attract a large number of ICT laborers.

Secondly, trained ICT workers are still not high qualified enough. According to the comments of all recruiters, almost 100% of graduates who were recruited must attend additional training courses in 3 -6 months, after that they may take up their job. A brief survey on number of ICT engineers who would like to work abroad showed that out of 200 candidates only 30 people met requirements and was recruited.⁸

The same situation can be seen in surveyed companies in regard to group of "IT using" labour. The whole ideas were referred to the fact that newly-recruited laborers must be helped at work or attend short term training course from 3 - 6 months, because what they had learnt from universities/institutions were only basic and simple knowledge of programming, web designing. Almost all ICT engineers were young and enthusiastic, but they did not have enough practical skill in IT and in foreign languages (English). In 2002, Telecom Service Company intended to recruit 200 ICT workers, in fact, there only 132 people were accepted.

According to some ICT specialists, the qualification of ICT laborers is too low due to many reasons, of which the most important are:

⁶ The number is larger if included others from popular training, higher training and special technology training

⁷ Dr. Nguyen Trong. PC World 3/2002

⁸ Dr. Nguyen Trong PC World 3/2002

- a. Lack of the forecasting on the type and level of qualification needed. At the moment, the plan for training of ICT human resource is made by Policy Making Institutions and Ministry of Education and Training. Besides, number of trainees is proposed by universities/insinuations upon their capacity, subjective prediction and experiences.
- b. Lack of reliable and practice -based independent evaluation system.
- c. Backward training curriculum, focusing mainly on theoretical issues and textbook and lack of practicing and problem solving
- d. Lack of the linkages with enterprises/companies and the signals of market demands.

In the surveyed enterprises, the picture of ICT training is too various:

- Among textile enterprises: In recent years, there has not any ICT training course for workers. The matters of utilization and exploitation of software mainly are dealt with by workers themselves. Their ICT qualification and practical capacities are at very low level.
- Among telecom enterprises: The task of training is paced with high priority. Annually, these enterprises organize programs in cooperation with foreign telecom companies to upgrade professional qualification for their staff; or send staff to take short term training courses abroad and/or within Vietnam. The expense for ICT training is increasing annually.

3.3. Salary/wages and income of workers.

Over the past years, the reform on salary/wages has been implemented in the way that reflect (1) results and effectiveness of business/production of firms/organizations and (2) supply-demand relation in labour market. Some leading industries which pioneering in advanced science, technologies and improved labour productivity are gaining advantages in paying wage and offering higher salary for skilled workers. Transportation, storage, information and communication are among industries that offer highest wages and they remain the position of paying high wage over many years, in 2001 the average income of these industries was 1.66 times higher than that in other industries.

**Table 15: Monthly Income of workers in State sector by industries
(At current price)**

Unit: Thousand VND

	1995	1998	1999	2000	2001
Total	478.2	697.1	728.7	849.6	889.6
Agriculture and forestry	366.3	514	563.9	680	643.1
Construction	499.3	806.7	794.5	860.8	908.6
Hotels and restaurants	580.2	645.7	766.9	856.1	763.6
Transport, storage and communications	879.1	1304.4	1258.1	1525.3	1478.2
Education and training	309.6	451.5	501.3	615.1	665.9
Finance, credit	807.1	1019.7	1141.5	1454.4	1413.1

Source: Statistical Yearbook 2001 - p. 484.

The finding of the survey also proved such situation. Observing income of university - graduated laborers in 3 successive years, it indicated the common trend for increasing income, however the gap in income among 3 groups of enterprises (i.e. telecom, textile and cement ones) was rather large. In 2002, income in Telecom Company was twofold as it was in cement companies and 2.5 times higher than that in textile enterprises.

Table 16: Monthly income of university graduates in some telecom, cement and textile enterprises.

Unit: Thousand VND/month

	2000	2001	2002
ITC engineers, ITC skilled workers in telecom companies	2.300	2.500	3.000
Engineers, university- graduated laborers in cement companies	1.000	1.300	1.500
Engineers, university graduated laborers in textile companies	1.000	1.000	1.200

Source: The survey at 18 companies in 2003

3.4. ICT and other labour issues.

The study on labour situation in enterprises which were in different level of application of ICT showed that the "digital device" is now enlarging the gap in terms

of labour and employment. In comparison with enterprises that are of low ICT using level, the enterprises with higher ICT using level take the following advantages:

- More adaptable to changing business environment to ensure better for employment. In practice, employees in these enterprises have more stable employment;
- More flexible to arrange working time and better improvement working conditions;
- More conception, discipline practices and labour techniques in associated with capacity of group working and co-operating;
- More practical and realistic to social dialogue with the presentation of Trade Union's role in negotiating collective agreement; higher rate of workers contributed social insurance, well-organized training/retraining courses and improved industrial relation.

CONCLUSION AND RECOMMENDATION

Viet Nam ICT is a new emerging industry. Understanding the role and the impact of ICT to the national Economy, the State of Viet Nam spends much effort towards ICT development. Thanks to that, the growth rate of ICT for past few years is quite high. Indeed, despite small scale, ICT is now having positive and strong impact on different aspects of national economy and society as a whole. In term of employment, the development of ICT industry and applying ICT in the economy created more jobs and attract more workers, especially medium and high skilled. However, ICT application into production and business process in different industries may effect differently, even adversely to the decent work. The more development opportunities to the "pioneering enterprises" are offered the more challenges to the "low-paced enterprises" is raised. "Digital Device" is known creating a gap in employment. ICT is facilitating to more employment opportunity, however it also pose the risk of job losing for many workers, unless one is properly prepared to adopt, especially in training/retraining to increase the skill ness and be ready for changing the job.

The study suggested that essential ways towards development of ICT and increase its application in enterprises is as the following:

- 1) Further improving and refining ICT-applied technology, addressing and responding the internal management demands of enterprises, especially promoting the usage of comprehensive integral management system for the entire enterprise.
- 2) Promoting the ICT applications serving for production and business operation, services supply, rapidly developing automation in various industries.
- 3) Improving the ICT applications of enterprise using Internet services as an important technology implication to address the question of commercial transactions and enterprise's integration into international commercial environment.
- 4) Development of human resource for ICT industry as well as for ICT application. More resource should be allocated for training and retraining.

In order to promote the development of ICT, to extend the application of ICT in the Economy and society and to increase positive impact of ICT on decent work, number of measures and policies should be implemented.

+ With regard to enterprise

- Enterprises should be more active in studying for better understanding on the role, functions and utilization of ICT for enterprises; building up a relevant plan on ICT application in conformity with long-term business strategy of enterprises; regularly conducting review on 3 dimensions of ICT application as firm management – production/business/services operation and creating opportunities for commercial transactions
- Assigning a leader to take the direct responsibility on ICT application, conducting training, improving qualification for their staff.
- Investing Sufficiently (in due time) on ICT applications in order to enforce the investment return, avoiding waste in investment, allocating an appropriate budget for development of software, services and training; allocating regular fund for improving and upgrading ICT applications in term of software, hardware and training human resource.

- Embarking a relevant policy on ICT staff training, providing more regular and broad training for the relevant staff of enterprise to respond the requirements of ICT applications; absorbing human resource with high qualification on ICT. Enterprises should use consultant services in selecting application orientations and assessment of applications benefits; using products and services of professional ICT suppliers.

- Actively participating in the activities of state agencies in development of policies for promotion of ICT applications

+ ***With regard to ICT products/services suppliers***

- The utmost important thing is the ensured quality of products/services; more attentions should be paid to the procedures for solution application for enterprises and maintenance and supportive services;

- Software producers should invest more for improvement of professional knowledge for experts involved in application software producing

- ICT related associations at central and local level should work together to develop a network of reliable and capable consulting agencies who should work independently from products suppliers; Associations should also conduct training programs on appropriate ICT applications for enterprises.

- Viet Nam Chamber of Commerce and Industry (VCCI), ICT related associations, science –technology information agencies should organize forums for sharing experiences in ICT applications in enterprises; assessment and recommendations of ICT products applied in enterprises.

- Actively participating in the activities of state agencies in development of policies for promotion of ICT applications

+ ***With regard to the State***

- Directing the development of a code system, standardize the enterprise information procedure that is related to requirement of state's management; rapidly initiating the building up and realization of the law on electronic transactions, legislation on ICT and related implementation guiding documents

- Reviewing and abolishing inappropriate regulations, creating enabling environment for ICT development, putting on current most privilege incentives for ICT applications development; building up a specific management mechanism for investment projects engaged in appropriate ICT applications which are relevant to the specialty of project, including project of ICT applications in enterprises; undertaking solutions to improve the quality and reduce the charges on telecom services, internet services; further study to setup supporting fund, investment fund for coping with the risks of ICT applications

- Undertaking studies for building up the methodology and approaches for assessment of ICT applications benefits, studies on methods for improving factual effectiveness and learning from international experiences; conducting CIO training for enterprises, sending CIO to train should be considered as compulsory requirement for all State – owned enterprises; rapidly initiating the completion of ICT applications used in state institutions (such as Custom offices, taxation agencies), synchronizing these applications to be comparable with the applications used in enterprises.

Further strengthening and improving the capacity of steering system discharging state management over the information technology, particularly in term of ICT applications. Ministry of Posts and Telecommunication shall closely collaborate with VCCI and other relating ministries, associations in deploying a support program on promotion of ICT application in enterprises. Provinces with large number of enterprises should initiate similar support program on ICT application in enterprises

Since the study on decent work and impact of ICT on decent work at the moment is coping with many constraints due to the insufficient data sources and information, it is very important to improve the system of indicators of decent work and to complete statistical data on ICT and decent work nationwide.

Annex 1:
Indicators of Decent Work in Viet Nam in some years

	2001	2002	2003
I. Employment opportunity			
Total labor force (000' person)	39489	40717	41313
Employed	37677	39289	39585
Employed by sector (%)	100	100	100
- Agriculture, forestry, fishery (%)	62.76	60.9	59.59
- Industry and Construction (%)	14.42	15.1	16.41
- Service (%)	22.82	24	24
Wage employment (%)			23.89
Labor force participation rates (%)	71.92	72.54	72.01
Unemployment rate in urban areas (%)	6.13	5.84	5.78
Unemployment rate in urban areas (%) of female	6.74		6.93

Source: MOLISA

	2000	2001	2002
II. Average Earning in selected occupation (000' VND)			
- Agriculture and forestry	665	724	796
- Aquaculture	661	647	722
- Mining and quarrying	1104	1383	1733
- Manufacturing	1002	1046	1145
- Electricity, gas and water supply	1682	1885	2055
- Construction	868	944	1064
- Trade, repair of motor vehicle	959	987	1104
- Hotel and restaurants	1236	1205	1360
- Transport, storage and communications	1447	1424	1685
- Finance intermediation	2505	1979	2216
- Science, technology activities	1911	649	3034
- Activities related to real estate business and consultancy	2002	1858	2832
- Heal and social work	2853	1760	2524
- Education and training	2686	1638	4695
- Culture and sport activities	1280	1210	1301
- Personal and public service activities	1126	1219	1135

Source: GSO

III. Decent hours	2001	2002	2003
Rate of utilizing working time in rural areas (%)	74.26	75.42	77.94
Underemployment rates (%)		7.9	6.69
- Underemployment rates of Female workers (%)			6.25
VI. Qualification			
Economically Active Population 15 years and over by level of qualification (%)	100	100	100
- Unskilled worker	82.95	80.3	79.01
- Worker with elementary, apprentice certificate		3.2	6.63
- Skilled worker without certificate	5.29	3.91	2.6
- Skilled worker with certificate		4.58	3.26
- Secondary vocational	11.76	3.86	4.07
- College, university and over		4.16	4.44

Source: MOLISA

V. Social protection	2001	2002	2003
Coverage of SI and Health Insurance (as a % of total number of enterprises)	23.1	21.8	20.8
- In SOEs	93.2	96.7	99.0
- In Private	9.0	10.5	10.7
- In Foreign invested enterprises	80.9	75.5	81.0
Food Poverty rate (%)	14.55	11.86	9.51
GINI coefficient			
VI. Social dialogue			
Union density rates (%)			
- In SOEs	NA	NA	85%
- In Private	NA	NA	20%
- In Foreign invested enterprises	NA	NA	60%
V. Number of strike	73	78	119
- In SOEs	12	6	3
- In Foreign Investment enterprises	40	49	81
- In Private enterprises	21	23	35
VI. Collective bargaining as a % of total number of enterprises)			
- SOEs	NA	80%	NA

- Private	NA	20%	NA
- Foreign invested enterprises	NA	50%	NA
VII. Safe work environment			
Number of dead case	362	449	469
Number of dead peoples	395	514	513
VIII. Child labour	NA	NA	NA

Annex 2

The survey on 18 enterprises within Project Framework

Under this study, a small scale survey was carried out in several enterprises. It illustrated big differences in investment and ICT application in management and business production among enterprises of various sectors. For instance, while ICT was taken great notices of in post and telecom enterprises, it was almost on the contrary in cement and textile enterprises, despite the fact that there have been a lot of projects and investment in production made recently. Even within a sector, large-scale enterprises are setting the path to promote ICT, whereas SMEs do not know much about ICT and as a consequence relevant investment and application in ICT have been poorly performed.

A. Port and telecommunication (POT) enterprises:

a) Telecom Services Companies:

IT is regarded as important tool in business operation of the company. Computers have been using as working devices for all operations of the company right from the year of establishment (1997): e.g. management of in and out, monitoring and supervision work, paper processing, accounting, material management, personnel administration, wage, production plan, marketing, client's services, national mobile phone network management and so on.

In governance work, company and subordinate centers apply local area network (LAN) to connect divisions and sections, it results much in prompt and precise direction and monitoring.

Internet is made best use via contacting with centers, post offices in 64 provinces nationwide as well as international telecom. A web has been set up to propagate telecom services.

The work of investing and renovating technology has been taken into great account to catch up with modern standard. The value of machinery and equipment (by original price) of telecom increased dramatically for past few years: In 2000:

1,177,000 million VND, in 2001: 1,868,000 million VND, in 2003: 3,464,000 million VND.

Cost of ICT makes a big share in the total production cost and on the tendency of upward annually. It was 70% in 2000 and 73% in 2001, then estimated to be 75% in 2003.

b) Post -Information - Telecom Stockholding Company :

Since 1990, company has been using computers to perform such management tasks as: documents, client contracts, administration, personnel, and wage. To date, it has opened more application of IT in production plan, production records, marketing, and business and so on.

45 Personal Computers (PC) has connected to LAN and internet. A website was formed to introduce and popularize images in domestic and overseas.

In production process, IT - telecom are applied in associated with computers to produce and assemble telecom devices.

Table 12: Value of machinery and equipment by years (original price)

	1989	2000	2001	2002
Total (1,000,000 VND)	2,8757	5,979	6,539	7,427
Of which, telecom devices (%)	90.00	97.99	99.37	99.40

Machinery and equipment are emphasized and improved upon the requirement of modern telecom technology. In 1989, while the total was 2,8757 million VND, it was up to 5,979 million VND in 2000 and 6,539 and 7,427 million VND in 2001 and 2002 respectively. Accordingly, the proportion of telecom devices also is on increase continuously, from 90% to 97.99% to 99.37% and 99.40% over respective years.

Cost for telecom as a result takes a large part in total production cost and continues going up yearly. It reconfirms the importance and efficiency of IT in production and business of the company. The rate was taken 65% in 2000 and 70 % in 2001 and 75% in 2003.

B. Cement production companies:

The IT - telecom application was actually commenced in 2000. At the moment, companies are at testing and experimental stages and building up software system in management and setting LAN for accounting system. Over past few years, companies have kept investing in telecom devices and information equipment.

The investment was focused much on computerized system to management and sales work. However, it was such at small level and slow speed to some extents. The proportion out of the total value of machinery and equipment was much lower than POT companies. Over 2000- 2002, it made up only 1 - 4% in this regard and the same rate was paid to ICT training.

In short, the investment into ICT equipment and application among these cement companies are somehow limited. It is hardly specialized software in personnel administration, business analysis, and statistics. The LAN is just serving for the accounting system of the whole company, the function of sharing information and monitoring are not made use at most.

At the moment, there has been absence of Internet and Website, then there would be no point to have sales and advertisement on net .

C. Textile companies:

Some application in management work such as production plan, supervision and monitoring and order management was seen as follows:

a) In some large-scale enterprises:

Recently, a breakthrough was reported in telecom application in business operation and automation process of production. The former implication was the fact that enterprises had set up internal telephone station, e-mail box, LAN and Website. The latter was the installation of automatic and semi-automatic systems for some of production stages. (E.g. dyeing system)

By and large, the investment level for telecom devices has been increasing rapidly, accordingly, the value proportion out of the total value has been also on increase every year, from 5% in 2000 to 10% in 2002. It proves more and more concern and attention given to utilization of IT - telecom in management and automation in production.

b) In some small -scale enterprises:

The application of IT in this group of enterprises is still at low level. At the time being, they have merely applied it into management in form of document processing, accounting software, personnel administration, and wage. LAN and internet are on process of setting up .

Difficulties faced by these enterprises in ICT application:

- Lack of capital to invest, purchase technology equipment and train human resources;
- Old style work form, due to traditional way of management, feeling hesitated to apply IT from some entrepreneurs;
- Under- qualified staff in technology and professional skill to respond with the requirement.
- Fear of unemployment since operation is automated.

Investment in ICT of this group of enterprises constitutes a little share in the total amount of investment.

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