# Determining the Impact of Information and Communication Technology on Decent Work in China

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Information tide has swept over the world since the 1990' s. Consequently, the information and communication technology (hereinafter abbreviated as ICT) has been confronted with unprecedented opportunities and challenges. And ICT in the modern society has scored breakthroughs one after another. Micro-electronics technology and software technology has enjoyed a accelerative development, the birth of third generation of mobile communication products, the accession of broad net, and the application of new technologies such as internet protocol (IP) has shown up a expansive prospect of ICT technology. The pervasion and integration of computer, telecommunication technology and media has speeded up the development of broad net multi-media communication technology. ICT has turned into the sector which shows the best syncretization of different technologies, and is of the greatest growth potential and fastest growth rate in global economy.

The development of ICT has not only quickened up the pace of economic growth and the reshuffling of industrial structure as well as facilitating a complete change of social life. It is also affecting the governments and enterprises in terms of management models, which becomes an important component in upgrading national competition. The ICT products have already come into the daily life of the general public, whose growth in producing and consumption has turned into a major engine in promoting economic development, social progress and the improvement of daily life. However, we have to notice and pay enough attention to the active and far-reaching impact of the rapid development of ICT on Decent work in the modern society.

## I. The Proliferation of ICT in China

In order to take the historic opportunity brought out by ICT to speed up the economic development, Chinese Government has promulgated a series of policies and

regulations to encourage the development of ICT since 1980' s. Since 1990' s, in the face of the opportunities and challenges resulted from global economy and information tide, Chinese Government has put forward out a development strategy in time. That is, to facilitate the development of industrialization by boosting and making full advantage of ICT, so as to realize a stride-leap development of productivity. Such strategy has exerted a significant role in the process of promoting national economy and social progress, and remarkable achievements have been chalked up with the implementation of the strategy.

The communication net in China has successfully realized the change from manual to automatic operation, from analogy to digital, from small capacity to big capacity, from single business to diversified business service delivery. By now, it boasts such communication tools such as optical fibres, digital micro-wave, satellite communications, mobile communications, program-control exchange, data and multi-media. The communication net covers both urban and rural areas through out China, and can be connected with other areas over the world. The most notable change in communication evolution is that the long-existed conflict between demand and supply of located phone and mobile phone has been initially settled. In 1989, there were only 4.39 million located phone users, while mobile phone just came into birth. To date, the located phone users amount to 421 million while mobile phone users total 207 million, both of them rank first in terms of total number, accounting for 18% and 19% of the world total respectively. The ownership rate of located phone has increased from 0.98 set / 100 people in 1989 to 30 sets / 100 people in 2002, while that for mobile phone reached 16.2 sets / 100 people. In terms of rural area, communication net reached 43.6% in 1989 to 85.3% of the villages in 2002.

Observing from the perspective of the evolution history of communications in China, it took 110 years in China from the first user of telephone in 1882 to 10 million located phone users in 1992, while it only took 6 years from l0 million to 100 million users in 1998. Following that, it amounted to 200 million in 2000, taking 2 years; amounted to 300 million in 2001, taking a little more than 1 year. The users of located phone increased in 2001 exceeded the total of that by 1997. Internet started in 1994 in China, with an average annual increase speed of 300%. Now, the users of internet

total 68 million, ranking 2nd in the world. In short, a public national communication net has initially been in shape in China, characterized by covering the whole nation, reaching the world, with fairly advanced technology and various business delivery. The total capacity of the net jumped the first among the world economies, and technology also stepped into the advanced economy list.

The comprehensive capability of the communication net in China has successfully realized the transform from small capacity to big capacity, from analogy to digital technique, from single business to various business service delivery. The investment structure of communication sector has also been diversified gradually. From 1997, the investment on communication fixed assets has exceeded 100 billion RMB Yuan each year. Since 2000, more than 200 billion RMB Yuan has been invested each year. The proportion of investment in such area to all investments from non-government channels has been increased from 1.3% in 1989 to 7.2% in 2001, which has played a significant role in expanding domestic demand and facilitating the increase of investment from the non-government channels.

In the passed 13 years, the capacity of communication net in China increased in geometric series. A checked pattern cable trunk net has come into being throughout China, with eight vertical and eight horizontal, covering each provincial capitals and cities. The length of cable trunks totals 1.97 million kilometers, 1000 times as much as that in 1989. The capacity of local telephone switch-board totals 212 million lines, 32 times as much as that in 1989. Mobile communication net, digital net and IP phone business has covered all the cities in China. International direct circuits and that via the third party are available in China to more than 200 economies throughout the world. Roaming business service to mobiles is available in between 90 odd economies. In addition, the international land optical fibre cables and underwater optical fibre cables have also been established and got through, such as those between China and Japan, Asia and Europe, China and the USA.

The technique and equipment for communication network has also shifted from

mainly relying on import to domestic production. In early 1980' s when reform and opening- up policy has been pursued in China, analogy switch and transmission technique was just mastered by the Chinese technicians, while digital communication, represented by program control and optical- fibre communication technique, has already been applied to make profits in some developed economies. In order to reverse the disadvantaged situation and to catch up with the advanced counterparts in the world as earlier as possible, a wise decision has been made by the Chinese Government. That is, to boldly introduce the advanced techniques and equipment from the developed countries, following the procedure of introduction, digestion, accepting and independently innovation. And the technical policy pursed could be divided into three levels, namely, importing directly, producing by joint ventures and develop it independently, while the three levels could boost each other. In brief, we tried every means to ensure making progress by science and technology and chose a higher starting-point in developing ICT and attempted to make a stride-leap in such sector. This decision has enabled China to have tided over the course in developing communication sector within 10 odd years, which will normally takes several decades. Phone exchange has jumped over cross- bar switch to program control one, while, long distance signal transmission jumped over co- axis cable to optical- fibre digital. That is to say we have realized a stride-leap development.

At present, China has almost stepped into the advanced economy list in terms of technology and equipment in communication net. The local switch board, long distance transmission and mobile communication are all achieved via digital signals. Meanwhile, the above-mentioned policy has powerfully driven the development of domestic manufacture of telecommunication equipment. In recent years, China had obtained many breakthroughs in program-control switch and optical-fibre communication, and has developed quite a few equipment which can match with the world fashion, including digital mobile communication and dense wave division multiplex (DWDM) optical communication system. To date, among the switchboards used by national public communication net,85% of which were made in China, while by the end of " the 8 th five- year plan"(1991-1995), such proportion is around 55%. But the switch boards equipped during the " the 9 th five- year plan"(1996-2000) were all domestically made. More than 50% of all the newly installed optical communication equipment was made in China. And more and more mobile products

are also made in China. At present, around 20% of the mobile customers are using domestic products. And domestic products also win a fairly large share in the internet equipment market.

While ICT enjoys a quick development in China, the added value created by communication and electronics sector also increases by a large margin, whose proportion in GDP raised from 1.4% in 1989 to 4.2% in 2002. The value of communication fixed assets soared up from 24.5 billion RMB Yuan in 1989 to more than 1 trillion nowadays, with 47-fold increase. Business income by communication now amounts to 415 billion RMB Yuan,40 times as much as that in 1989. The proportion of communication business income in GDP has jumped from 0.66% in 1989 to the existing 4.9%. The size of electronic and information equipment manufacturing also expanded rapidly, and turned into the biggest sector in manufacturing industry and export field in China. The output of program-controlled switch-boards, mobile phones, colored televisions and tape-recorders has ranked first in the world, showing a remarkable self-innovation capability. By the end of 2001, the total output of electronics sector amounts to 1.3 trillion RMB Yuan. The ratio of such income in the total industrial output of the whole nation raised from less than 5% in 1989 to the present 10%. Its sales income also totals 890 billion RMB Yuan, 16.7 times as much as that in 1989. The profits totals 75 billion RMB Yuan, 13.4 times as much as that in 1989. Export value amounts to 65 billion USD, 12.6 times as that as in 1989.

According to the statistics published by the China Internet Information Center in July 2003, by June 30, 2003, there are 25.72 million sets of computers accessing the internet, 5.15 million of which using specialized line, 17.39 million of which dialing to access the internet, 3.18 million by other means. The users total 68 million.

China's broadcasting and television net also witnessed a fast development. To date, the cabled T.V. customers exceed 95 million, with an annual increase of 5 million households. Thus, China has become the biggest country of cabled T.V users all over the world. Now, broadcasting and television in China has covered 52% of the areas in China, with an household using rate of 27%, while the household using rate of telephone remain 11%.

## II. The Development Situation of Information Construction in China

Information construction in China also scored great achievements and has played a significant role in boosting the modernization construction, the development of national economy and social progress in China, which can be seen manly in the following aspects:

**I) Application of information technique: With years of development, information technique has been widely used in industry, agriculture, transportations, national defense, medical and health care, culture, education, social life and family life.**

**1. Information in different economic sectors: It mainly refers to the information construction in different sectors of the national economy.** In the passed years, information construction in China has chalked up historical achievements in the sectors such as finance and banking, transportations, railroad, energy and agriculture, which has laid a good foundation for industrialization.

(1) Information construction in finance and banking sectors: The banking sector in China has initially established a convenient, safe, efficient, and well-regulated electronics service delivery system. By now, the operation of banking business is done by computers, information transmission through network, payment and settlement operated electronically and with an extensive application of office software. In terms of stocks and securities, all the transactions in the business departments throughout China are done electronically. Regarding the insurance industry, the data between the head offices and the branches are transmitted via WAN, with each sub-branches setting up their own LANs.

(2) Information construction in transportation sector: The application system for the major business in the area of transportations has been developed, and the internet system has been established. Such systems as intelligence transportation system, geographic information system, ticket selling network system and the charging system

have been developed one after another.

(3) Information construction in energy sector: Petrochemical, coal-mining and power supply industries in China have also developed their own network system with very quick development.

(4) Information construction in agriculture sector: Chinese Ministry of Agriculture has set up its own LAN, and the network of wholesale price of vegetables in big and medium-sized cities in China is open. In addition, a national network of the demand and supply information of agricultural products and produce in China has been developed.

(5) Information construction in iron and steel industry: Currently, a comprehensive statistics system for iron and steel industry has covered 130 enterprises and administrative departments. Some of the enterprises has set up their own intranets, which has integrated the technology control, information management and decision-making supporting system, and also set up the internal sales and marketing system.

2. Information construction within enterprises and e-commerce: From the overall development prospective of information construction at enterprise level, we see that it has already obtained obvious progress, with an even further and wider development tendency. The 4th questionnaire survey, which was on the information construction and application level of the very important State-owned enterprises, 520 key national enterprises, 120 pilot enterprise groups and some important enterprises at local level has indicates the following improvements: First, more attention has been given to such issue and a great majority of enterprises have made various preparations to this issue and 83.3% of which have set up a vice president or vice general manager position responsible for information administration, 89.7% of which established an specific body to manage such issue. Second, the infrastructure for information construction at enterprise level has been improved, and with a better application environment. Within the enterprise being surveyed, the average situation is that every 100 employees own the 7 computers. But for the managers, such rate is as high as 77%. In many enterprises, each manager has one computer. For most enterprises,

network has already spread to various level within the enterprise as they have established their own intranet, external network and website. Third, information construction has brought obvious benefits to enterprises. Through information construction, 77.5% of the enterprises have reduced their cost, 67% shortened the production circle and working hour, 64.6% increased the sales income of products, 66.3% increased the turnover rate of circulating capital, 36.7% upgraded their capacities in delivering the products on time. Averagely speaking, every one Yuan RMB investment in information construction by the enterprise will bring a return of 1.64 Yuan RMB and 77.9% of the enterprise managers are satisfied with the effect of information construction. Forth, it shows that the budget in information construction of the surveyed enterprises has been increased. Of these enterprises, the total input in information construction accounts for 0.75% of each enterprise' s total assets.

The widely application of Internet has pushed the development of e-commerce. By 2002, there are 3804 e-commerce websites in China and the transaction volume amounts to 180.9 billion Yuan RMB.

**3. Information in public services:**

(1) Information construction in residential communities: A so-called serve the public program has been carried out in the big and medium-sized cities in China. In other words, developing an information platform and establish a call center for the community, on the basis of information source and the specialized management function on social affairs of the communities. By now, information techniques have been used in helping the residential communities in cities like Shanghai, Beijing, Dalian and Qingdao.

(2) Information construction in education undertaking: Now, China Education and Research Network (CERNET) has already established 36 main stations at provincial level, covering more than 160 cities. More than 900 universities and research institutions and 1 million sets of host computers have connected with CERNET, about 8 million people have accessed the net. Meanwhile, China has also started to develop the education information resources, and has established the Chinese Higher Education Documentation System with a participation of more than 60 universities and also initiated the digital library plan for higher education institutions.

**II) The features of ICT Development in China**

In brief, the development history of ICT in China indicates the flowing six features.

1. A big leap in the understanding of information technology

Both the economic personnel and the decision makers are now able to unite information technology with national competition, structure adjustment and system innovation. However, their understanding was used to be limited to the technical level, a constraint and stereotype they could not jumped out of.

2. An increasingly clear development approach

Information technology should focus on reforming the traditional industry, rather than developing an excellent new sector. With the industry restructuring and disappear of foaming network economy, network economy began to integrate with mainstream economy, and to increasingly combine with the revamping of traditional economy.

3. Competition mechanism has been gradually introduced into infrastructure construction and basic communication service delivery. And the non-governmental capitals could be gradually invested in the information infrastructure construction. Meanwhile, international practice has been applied to basic telecommunication service delivery at an even faster speed, with its price beginning to be flexible as some other commodities.

4. Information administration in government organizations has made great progress.

In addition to improving the network construction of government organizations, information could be available and shared by the general public at a larger extent, which could play a very important role in changing the structure reshuffling of information industry, promoting the governmental administration service more and transparent, and increasing the participation of the general public.

5. More attention has been paid to the actual effects of information technology and service delivery. It is approaching toward a development way which combines economic benefit and social benefit. E-commerce model has been integrated with market demand.

6. Wide attention has been drawn by personalities from various circles to topics relating to information technology, such as social issues, economy and security events. Discussion on digital gap has been increasingly furthered.

Regardless of the above-mentioned achievements and advantages, there still existed quite a few problems needing urgent settlement for the ICT in China. For instance, reform of administration system has not been in good place, there still exist monopolization. There exists a very outstanding structural conflict for electronic and information sector, which indicates that basic software and integrate circuit products severely rely on import, while the electronic and information products with our own intellectual property rights are rare. We are seriously in short of high level ICT professionals and innovation system does not exist in the real sense, so innovation capability earnestly needs building. The development and application of information sources lags behind, with a low level of information sharing. There exist much hidden troubles for network and information security. The application of IT remains at a relatively narrow scope and superficial level. The integration of information technology and industrialization could be even better. For these reasons, we must keep a clear head and realize that it is a major strategic task to expedite the construction of ICT in promoting economic development and social progress in China.

**Information Indicators in Some Countries and Regions**

| | Number of computer-owing in every 1000 people (set) | | Number of host computers for accessing internet in every 10 thousand people (set) | | Number of phone set owing in every 1000 people (set) | | Number of internet users in every 10 thousand people (set) | |
|---|---|---|---|---|---|---|---|---|
| | 2000 | 2001 | 2000 | 2001 | 2000 | 2001 | 2000 | 2001 |
| World | 78.31 | 84.2 | 177.93 | 232.66 | 163.13 | 171.9 | 605.01 | 820.82 |
| Australia | 464.58 | 517.1 | 843.52 | 1183.4 | 524.6 | 520.2 | 3440.73 | 3723.05 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Austria | 276.46 | 279.5 | 595.01 | 400.51 | 466.8 | 468.1 | 2589.32 | 3194.1 |
| Belgium | 344.45 | 344.5 | 295.44 | 341.98 | 498 | 493 | 2269.09 | 2799.26 |
| Canada | 390.24 | 390.2 | 768.78 | 931.9 | 676.5 | 655.1 | 4130.08 | 4352.73 |
| China | 15.9 | 19.3 | 0.54 | 0.69 | 111.8 | 138.1 | 178.22 | 260 |
| Denmark | 431.52 | 431.5 | 626.6 | 1045.38 | 719.5 | 723.3 | 3654.42 | 4471.77 |
| Finland | 396.06 | 423.5 | 1022.53 | 1707.25 | 550.2 | 547.6 | 3722.23 | 4302.83 |
| France | 304.29 | 337 | 190.59 | 132.94 | 579.2 | 573.5 | 1443.32 | 2637.72 |
| Germany | 336.01 | 336 | 248.05 | 294.58 | 610.5 | 634.8 | 2921.49 | 3642.54 |
| Hong Kong | 350.56 | 384.6 | 340.13 | 573.52 | 583.1 | 580.8 | 3827.13 | 4586.14 |
| India | 4.54 | 5.8 | 0.35 | ---- | 32 | 33.8 | 49.22 | 68.16 |
| Israel | 253.6 | 245.9 | 284.52 | 220.77 | 481.8 | 476.3 | 2037.47 | 2304.86 |
| Italy | 179.76 | 194.8 | 177.97 | 117.28 | 473.8 | 470.6 | 2288.09 | 2757.76 |
| Japan | 315.16 | 348.7 | 365.66 | 559.03 | 585.7 | 596.9 | 3710.89 | 4547.1 |
| Korea | 237.95 | 251.4 | 84.1 | 92.14 | 463.6 | 476 | 4027.5 | 5106.83 |
| Netherlands | 394.07 | 428.5 | 1015.55 | 1634.77 | 617.9 | 621.1 | 2449.9 | 3291.72 |
| New Zealand | 360.24 | 385.6 | 900.87 | 1049.59 | 499.8 | 471.4 | 2166.65 | 2806.98 |
| Russia | 42.88 | 49.7 | 22.22 | 24.14 | 218.2 | 243.3 | 212.98 | 293 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Singapore | 483.11 | 508.3 | 437.56 | 479.18 | 484.4 | 471.7 | 2986.56 | 3630.91 |
| Spain | 142.86 | 168.2 | 113.53 | 133.24 | 421.2 | 431.1 | 1365.21 | 1827.45 |
| Sweden | 506.73 | 561.2 | 670.79 | 825.14 | 682 | 739.1 | 4564.21 | 5162.74 |
| Switzerland | 499.72 | 499.7 | 364.39 | 730.74 | 726.6 | 717.9 | 2972.14 | 4040.17 |
| UK | 337.82 | 366.2 | 280.75 | 371.37 | 588.5 | 577.8 | 3013.11 | 3995.01 |
| USA | 585.18 | 622.5 | 2928.32 | 3714.01 | 699.7 | 664.5 | 4506.96 | 4995.1 |

1.Source: 《 China Information Yearbook 2002 》

2. World refers to the average level all over the world

ICT is the biggest sector in China in terms of development speed, which could exert a great impact in expediting the pace of economic development, promoting economic structure adjustment and social reform and well as daily life of the general public. ICT has reached every kind of enterprises, service sector and administrative departments, and has brought the general public great changes in their daily life and work, and also produced direct impacts to decent work.

**In the current account of Balance of Payment**

**Recently provided by China to WTO, it shows the follows:**

| | |
|---|---|
| In the current A/C of BOP | +$17405.270 million |
| Service | $5931.013 million |
| Of which: | |
| Transportations | -$6689.077 million |
| Communication service | -$54.857 million |
| Construction | -$16.815 million |
| Insurance | -$2483.686 million |
| Costs for patent use and certifications | -$1827.963 million |

This table reflects that the service sectors in China did not develop well enough, however, such disadvantage could be made up by expanding information and communication technique as well as e-commerce. The export of digital product serves as a very good example.

In short, the accession of WTO and the rise of e-commerce may turn a new leaf for Chinese enterprises in the international market. The key lies in how could the Chinese Government smartly make use of this opportunity, reasonably mobilize the domestic and international resources, and how could the Chinese enterprises quickly adopt the modern management system. All these opportunities are brought out by communication techniques.

## Ⅲ. Decent Work and its Statistical Indicators

Decent work (hereafter abbreviated as DW) is a universal principle put forward by International Labor Organization. Its basic meaning refers to the opportunity of promoting the laborers to obtain productive DW under the condition of liberty, equity, stability and respect his/her human dignity. In detail, it covers the following six contents. First, work opportunity refer to that each person has an intention and demand to work, of course, such work includes not only positions in formal sectors, but also includes self-employment in informal sectors, household work and salaried employment. Second, liberty refers to that each person could choose job at his/her own will, rather than being obliged to accept an unacceptable one. Third, productiveness means the labors can not only have adequate earning to support their family by obtaining the job, but also can make contributions to increasing the competition and promoting the sustainable development for the companies and the nation. Forth, equity refers to worker will not suffer from discriminations in job seeking and in working place and can enjoy equal treatment and benefit, and they are able to balance the relationship between work and family life. Fifth, stability refers to workers need protection in enjoying a healthy life and employment, as well as entitlement to pensions when retired. Sixth, respect human dignity refers to workers

could enjoy esteem by others and can participating in the corporate decisions and freely join in the organizations beneficial for themselves.

On the basis of the above--mentioned explanations to DW, International Labor Office has worked out a set of major indicators after substantive studies, which could be used to measure the DW in developing economies, transitional economies and the developed economies. These indictors are:

1. Employment opportunity: It includes labor participation rate, the ratio between employees and total population, unemployment rate, unemployment rate of the young people, the ratio between the salaried non-agricultural employees and the total non-agricultural employees, the ratio between the non-agricultural female employees and the total non-agricultural employees and so on.

2. Unacceptable work: Choosing job willingly and freely is one of the indicators for DW. There specified two forms of unwilling employment :That is forced labor and child labor. The measuring indicators include the ratio of children (by age) in the salaried employees and the ration of children (by age) in dangerous work conditions.

3. Adequate earnings and productive work: It refers to the ratio of inadequate earnings workers, which refers to the ratio of the employees whose income less than 50% of the moderate wages or less than the minimum wages to the total employees. The average income of some representative industries or sectors could also be used as indicators.

4. Decent hours: It includes the ratio of overtime workers in the total employees (by employment forms) and the ratio of the underemployed whose working hours are less than the minimum and are seeking for more within the maximum in the total employees.

5. Stability and security or work: This is very important components of DW, but such measuring indicator if of great flexibility. It includes the ratio of those employees worked less than one year in the total employees (by age and employment forms) and the ratio of casual labors in the total employees.

6. Fair treatment: Such indicator mainly reflects the status of both male and female worker in employment. It includes the ratios of non-agricultural employees in the sectors which mainly use male workers and the ratio of that in the sectors which mainly used female workers; the ratio of female employees in the management and administration areas; the ratio of female workers in the non-agricultural salaried employees; the ratio of wages between male employees and females (several occupations could be selected) and some other ratios between males and females.

7. Safe work: The indicators includes: the ratio of the dead due to accidents in every 100 thousand employees; the ratio of labor supervisors in every 100 thousand employees; the percentage of workers covered by work-related injury compensation insurance; the ratio of overtime workers in the total employees (by employment forms).

8. Social protection: The measuring indicators concerning social protection specified in DW mainly reflect the coverage of social protection on the employees and total population and the benefit level. It includes: the percentage of public social protection expenditure in GDP, which could be divided into the percentage of the total social protection expenditure in GDP, the percentage of health insurance costs in GDP and that of pension costs in GDP; the percentage of expenditure to ensure basic living allowance and basic income in GDP; the percentage of beneficiaries enjoying the basic living allowance guaranty in the totals poverty population; the percentage of old-age pensioners over 65 years in the total population; the percentage of old-age pension contributors in the economic active population; the percentage of average monthly old-age pension to the moderate/minimum monthly income; the percentage of employees covered by work-related injury compensation insurance.

9. Balancing work and workplace relations: It includes the ratio of those female workers who have to care for children at compulsory education age to the total female workers aged between 20 to 49; and the ratio of overtime workers in the total employees (by employment forms).

10. Social dialogue and workplace relations: Such indicators specified by DW are also

important in measuring workers' aspirations and participation, and reflecting the direct communication channels between the employees and the employers and some other ways used by the workers themselves. It includes: the density of trade union; the coverage of collective bargaining organized by trade union; the number of strike workers in every 1000 workers.

11. Socio-Economic factors: Socio-economic context and the socio-economic factors and conditions affecting the sustainable development of DW must be taken into account in measuring DW. The indicators include: the output of each employee; inflation rate; literacy rate and high school education rate of adults; employment structure by economic sectors (agriculture, industry and service sector); income inequality indicator (the ratio of the highest 10% of income earners or consumption group to those people of the lowest 10%); poverty population (the number of population whose daily living costs less than one or two US dollars); employment in informal sector (the percentage of non-agricultural employees or urban employees in the total employees).

The strategic target of DW set up by ILO shows that economic development and social progress are in the same significant position, in particular, laborers' rights and interests have drawn their special attention. Such strategy actually confirms with the guidelines pursued by the Chinese Government in the course of reform and open-up. China had made some achievements in promoting DW and is keeping on making unremitting efforts. To further put DW into practice in China, the government organizations, enterprises and trade unions shall make joint efforts in creating a better legal and social environment. At the present stage, the priority in studying and implementing DW strategy in China is to improve employment and social security system. The passed experience has indicated that the fast development of economy, science and technology will not necessarily and automatically create employment opportunities. However, employment remains an essential tool to maintain life and to meet the basic needs of the individuals, which is a crucial factor to personal choice, family happiness and social stability. Therefore, with the fast development of economy, science and technology, much attention should be paid in actively developing the labor-intensive industries & sectors and small & medium-sized enterprises (SME), so as to create more employment opportunities. What is more, an

improved social security system could serves as a fundamental guaranty in ensuring individuals a minimums living allowance and in maintaining social stability.

## Ⅳ. The Relationship between ICT and Economy, Management and Social Changes

Due to the quick development and extensive application of ICT, the society is experiencing a historical tide of ICT revolution all over the world. Being involved in almost every aspect of human life, ICT is promoting the changing and development of economy, management and the society.

### I) Information and economic reform

ICT has a two-fold function in promoting economic development. And it is an important approach in pushing economy striding forward. Such function in pushing forward economic development and social changes can be seen mainly in enhancing work efficiency, improving economic performance and promoting economic re-structuring and optimization.

1. Increase work efficiency and improve economic performance

The key indicator for measuring the space of technique reform is how fast will the cost for products and service be decreased by the application of such new technique. The expansion and application of ICT is the core in information industry. The extensive application of ICT can not only increase the technology content of the traditional industries, change the work method, improve work efficiency, increase the varieties of products, improve products' quantity, lower energy consumption and reduce pollution, but also can allocate and integrate the technique innovation resources to a maximum extent, and upgrade the capacity of technique innovation.

2. Promote economic restructuring and optimization

Pushing forward the information construction, on one hand, may create an even wider and vast market for the development of information industry, thus gradually increase

the weight of information industry in national economy, so as to promote the development of other new hi-tech sectors which boasts of quick growth speed, favorable market prospect, and those of important function to the national economy, and so as to cultivate more growth points to economy; On the other hand, the wide application of ICT may promote the restructuring and optimization of the traditional industries. Moreover, thanks to the quick rise of ICT, the tertiary industry could be benefited and promoted. For this reason, strongly pushing forward the information industry will further promote the adjustment of economic structure and optimization, and boost the economic growth shifting from an extensive to intensive one, thus obviously improve the overall development level of national economy.

**II) ICT and Management Reform**

The extensive application of ICT by social organizations has enabled the social organizations to face an unprecedented challenge in management. The main implications are as follows:

1. Information becomes an importance component of management

The application of information technique obviously changed the management targets. In carrying out management activities to personnel, properties and articles, more attention has to be given to information management, an important content of management. Actually, information management is a process to collect, sort out, save, spread and apply information. In other words, it is process enabling such information from dispersion to the centralization, from disorder to order, from saving to spreading and application.

2. Administrator / Manager's role and definition changed

Now, the administrators have to accept and deal with large quantity of information form various channels everyday, such as e-mail, news and background materials. At the same time, they are also delivering the many kinds of information, such as instructions, documents In short, they stay at a crucial position within their own organizations in terms of information delivery. While in the process of information management, they are playing a dual role of both supervisor and transmitter. In the process of information construction, it becomes significant for the administrator to know how to make good use of information technique to carry out his management

activities.

**III) ICT and Social Reform**

ICT has not only brought out fundamental changes in the filed of economy, but also have great impacts on politics, technology, military and daily life, causing the changes of social patterns. Such impacts are mainly follows:

1. City mode is confronted with challenge

Urbanization symbolizes industrial civilization, being characterized by the increasingly concentration of population and economic function. With the development of information techniques and the improvement of transportations, the dispersion tendency of city began to pop out, and the city center and radiation function become larger and larger. With the involvement of information technique to daily life, network has exerted some impact to the traditional life style. People start to do shopping, ask for medical and health care service, study, organize meetings via internet, and also enjoy service offered by the government and enterprise through the network. As a result, the small and medium-sized cities become more and more preferable for the public.

2. Life long learning becomes possible and necessary

With the development of network and plenty of education resources are easily available on the internet, life long learning becomes possible. Meanwhile, due to the development of economy, technology and social progress, people are requested to constantly renew their knowledge, so as to meet the demands of changing society As a result, longing for knowledge and life long study become a vogue of the society.

3. Occupation structure is changing

Due to the extensive application of ICT, the number of employees whose occupations are related to information increased quickly, thus caused the changes of occupational structure. The difference between the *blue collar* and *white collar* becomes smaller and smaller. The so-called *gray collar* come into birth, who are exclusively engaged in data management, as they always face the screens of the computer terminals.

4. Recreations rely more and more on network

Recreations such as reading news, watching TV, playing games, chatting, even some athletics activities could be completed on the network, or resorting to the network. Network, computer and various information terminals become one of the major recreational activities or spending leisure time.

5. Electronic residential communities may become a new tendency

Residential community, with family being the core, is one of the fundamental units of the society. While in the network world, all the things existing in the realistic society can also be available, therefore, residents can organize a conjecture community, forgetting about the visible obstacles of time and space, and complete all the activities of the daily life. Electronics community may become an indispensable part of information construction.

## V. The Impact of ICT Use and Production on Decent Work in China

Analyzing from the perspective of labor and social security, the impact of the ICT use and production may involve many aspects. However, the practice of DW is in conformity with the development objectives of labor and social security undertaking, which Chinese Government is pushing forward.

Since the reform and open- up policy was pursued in 1980' s, the national economy in China has witnessed a rapid development, all the public undertakings enjoyed a comprehensive progress, and people' s living standard has also been greatly increased. The labor and social security undertaking in China has experienced a great leap meanwhile economy registered a fast growth. Chinese Government has reasonably adjusted employment structure and made great efforts to increase the total employment and develop a market-orientated employment mechanism. Efforts have also been made in maintaining a stable and harmonious labor relationship, reforming wage- distribution system, and in gradually improving labor standard system so as to facilitate the development of a new type of labor relation. Measures have been taken in reforming and improving social security system so as to cover most of the urban employees and retiree. In short, after years of efforts, the labor and social security system has been initially set up in China which is accommodated to the socialist

market economy with Chinese features.

However, China is still confronted with quite a few big challenges in economic development and social progress. Now, she is staying at a historic stage in improving socialist market economy and also making a strategic readjustment on economic structure. It remains a significant task for the Government to keep on the coordinated and steady development of national economy, as well as take active social policy to enable all the laborers to impartially share the achievements owing to economic progress. At present, China is under great employment pressure. And the social security system needs further improvement due to a fairly low level of coverage and benefit. In particular, the poverty group and socially vulnerable group need a more effective social protection. Meanwhile, the protecting laborers' rights and interest has also been placed at a prominent position. So we have to take timely and effective measures and to make long-lasting efforts to settle these problems.

The priorities concerning labor and social security in China are mainly as follows: Try to provide adequate employment posts to the workers and ensure the quality of employment; improve social security system and increase the social protection level; enforce the protection to laborers' basic rights and interests; gradually set up and improve social dialogue mechanism. Of these priorities, employment and social security are the most pressing, in particular, employment. Therefore, the general objectives and action plan of DW in China shall take employment promotion and social security system improvement as its core, as remains an important component in developing and improving labor and social security system.

The evolution of ICT has not only offered socio-economic development with many challenges and opportunities, but also produced impacts on the socio-economy and daily life of the public. The active impact on DW seems to be more direct. Especially, it has expanded the employment channels, increased employment opportunities, facilitated the improvement of laborers' quality, improved the working conditions and has developed a stable and harmonious labor relation.

**1. The Dual Impact on Employment**

The development of ICT had produced dual impacts on employment. Taking a general

overview of the economic development history over r the world, we may find out that technology renovation is a process which continually breeds and produces new sectors as well as revamps and eliminates backward sectors. Observing from the changing of structure of the three major industries in developed countries, we may see that the primary industry and the secondary industry have obviously witnessed a decline of percentage, while the tertiary industry increasingly gone up. The development of the technical service sector, represented by ICT, will surely increase the ratio of tertiary industry and expedite economic development model shifting from mainly relying on material production to that on information generating and service delivery.

The changing of industrial structure will result in the conversion of employment structure. The immediate subsequence of such change is that the number of employees in the tertiary sector will rise sharply. Of course, such employees have to meet higher technical requirements. Due to the introduction and application of advanced technology by ICT, the demand of manual laborers and non-skilled workers will continually decrease. The development of ICT may also result in changes of productive work and life style. Unemployment risk may endanger the physical laborers and non-skilled workers and structural unemployment becomes inevitable. In other words, we may come across a peculiar phenomenon in our social life in the development course of ICT. That is, on one hand, the unemployed increase, while on the other hand, many posts remain vacant due to shortage of competent job-seekers; on one hand, a war scrambling for high level professionals spreads all over the world, on the other hand, lots of employees have to leave their previous posts and join in the team of social relief beneficiaries.

In the meantime, due to the widely application of ICT into every area of social life, many employment opportunities will be created. As a result, it is true that manual laborers and non-skilled workers will be in less demand, but new posts with higher technical requirements will be continually increased. If such employees can keep pace with the technical progress, and enrich themselves at an earlier time to meet the demands of newly created posts by use of ICT, the problem of structural unemployment would be properly settled. In the long run, the use and production of ICT is beneficial for increasing employment opportunities.

Another great impact of use and production of ICT is it will promote the employment capacity building, The building of such capacity request the employees to upgrade their knowledge by learning or training, The evolution of ICT has expedited the pressure to education and training institutions, which are not only expected to bring up more excellent personnel, but also to shoulder the burden of cultivating the labor force with high-tech quality so as to comprehensively increase the scientific, technical and cultural qualities of all Chinese nationals. In addition, the evolution of ICT also results in the changes of training mode and methodology. Network and analogy technique have already been widely used in education and training areas. Due to the flexible education and training methods, people can have much more opportunities for education and training. Therefore, the employment capability of the workers will naturally be strengthened.

**Box 5.1 Changes of employment forms brought by ICT in P. R. China**

With the rise of knowledge economy and the wide application of ICT, electronic and website technology are widely used in the big and medium-sized cities in China. SOHO, namely small office and home office, mushroomed in big cities. In other words, working at home is not strange any more. In particular, it is easy to achieve the ends by means of internet for those work like advertisement, sales, intermediary. Therefore, those employment forms like long distance employment, independent / individual employment and family-based employment are enjoying great room for development. ICT has resulted the changes of employment forms and flexible forms of employment have developed quickly in China. Statistics shows that the self-employed and employees in the private companies in urban China in 2003 were 42 million, accounting for 17% of the total urban employees. A sample survey made by the Chinese Ministry of Labour and Social Security in 2002 shows that, around 30% of the organized labors in the cities are irregular staff, accounting for 24% of the total urban employees. These two parts mean that flexible employees accounted for 42% of the total employee in urban China. By the end of 2003, the urban employees in China amounted to 256 million. Therefore, the flexible employees were more than 100 million.

How much does the white-collared and grey-collared employees account for the flexible employees, it is hard for us to get the exact figure. However, it is affirmed that they use ICT very often during working time, and the value created by ICT cannot be underestimated.

**2. Promoting the Protection of Workers' Basic Rights and Interests**

Chinese Government has attached great importance to the protection of workers' rights and interests. Many laws and regulations have been enacted to enforce the protection of workers basic rights and interests.

In the passed decades when ICT in China was less developed, due to the huge population and great regional difference, information and communication (hereafter abbreviated as IC) sharing rate per capita was very low. IC was far from the real demands of the public, therefore, the communication products like telephone were considered as luxury goods. The conflict between demand and supply has resulted many problems. One on hand, the rights of the ICT customers could not be guaranteed, and they could not enjoy the services which should be provided. On the other hand, the severe shortage of ICT supply could not enable the public to meet their reasonable demands. In particular, ICT was monopolized in operation, so the operators were in a privileged status. What was even worse, customers often suffered from infringement of interests and rights due to lack of effective supervision.

Since the reform and open- up policy was pursued in 1980' s, the ICT in China has witnessed considerable and rapid progress. ICT sharing rate per capita has been materially increased. Such progress has provided the possibility of further strengthening the protection of workers' rights and interests. First, the conflict between demand and supply of ICT products and service delivery was resolved. People have sufficiently enjoyed the convenience and quickness brought out by ICT. ICT has turned into very common consumables to the public. In terms of technical service delivery, infringement cases have been reduced by a large margin. And the customers could enjoy a much better protection. Secondly, the evolution of ICT has

furnished the workers with a more smooth communication channels to protect their own rights and interests. They could resort to various methods to express their intention, desire and complaints. The departments and industries managing or operating ICT turn to be more transparent than ever. Employees in ICT sector are normally requested to have good command of high-tech or skill, so child labors are hard to see. In addition, due to the fairly high added value of ICT bringing to the enterprises, workers' income normally can be ensured and they can also enjoy fair treatment both in income and in some other social benefits.

**3. Improving the Social Protection for Workers**

The widely application of ICT will greatly improve the workers' safety and health conditions and social protection level. The supply of labor force exceeds that of demand in China, as a result, some laborers would like to be under the risk of work danger and hazards than loosing the job they have already sought. In quite a few factories, in particular, the township enterprises and small-sized joint ventures, investment in work safety and health is considered as an increase of costs. When finding out such ignorance of work safety and health, the Chinese Government has taken measures accordingly, such as formulating laws and regulations, including *Work Safety Law*, and *Law on Occupational Deceases Prevention*, as well as set a certain period of time to raise the awareness of the public to safety and health, called *Safety and Health Month / Week.* All these activities and actions have laid a good foundation for promoting the safety and health culture in China. It is seems to be a relatively hard job to promote and publicize such culture in China, as it needs the participation of employers, employees and the trade union. However, with the importance attached to the occupational safety and health, in particular, with the economic development, people have an increasing requirement on safety and health, such culture will be gradually accepted by more and more enterprises, as it is not only helpful in protecting the workers, but also useful in improving the productivity, reducing costs and enhancing competitiveness of the enterprises. The application of ICT has changed many kinds of physical work into brainwork. Adverse or dangerous working environments or conditions have been improved. Overtime work and workplace accidents have been greatly reduced.

Increase the social protection level for the workers may involve another aspects, that

is, to develop and improve social security system. With the further development of Chinese socio-economic undertaking, the social security system has been initially set up and will be improved gradually in China, which confirms to the domestic situation and can meet the demands of socialist market economy. The development of ICT will surely boost the improvement of social protection level for the general workers. The economic performance of those enterprises and organizations with good application of ICT will be increased enormously, and their social protection levels will be raised accordingly.

**Box 5.2 Opportunities and challenges to social protection brought by ICT in China**

Currently, China is furthering the reform of social security system. In this process, ICT has greatly boosted the development of social security undertaking in China. For instance, one of the main objectives of the so-called *Golden Insurance Project*, which is just started in China, is to make all the computers in the social insurance administration agencies throughout China connected by means of ICT. By doing so, the social security information of each participant could be shared via network. Wherever the participant work, such information is easily available and related benefits transferred.

However, ICT also bring out some negative impacts. To protect the workers' rights, the contribution to social insurance schemes is mandatory in China and the Chinese Government decided to gradually extent the coverage of this system to the flexible employees. But those flexible employees in the circle of ICT, if without long-term perspective, tend to evade their contributions, although they can afford the payment. Also, their work is so flexible sometime that it is really very difficult to follow them. Thus pops out the difficulty in how to ensure the coverage of the social insurance schemes to these flexible employees.

**4. Facilitating Social Dialogue**

We may measure the function of ICT in facilitating social dialogue from the following three aspect: First, to see if there is a complete set of laws and regulations; secondly, to see if there is perfect tripartite mechanism and system of social dialogue; third, to see the positions and roles of trade union at central level and local level and that of the

corporate organizations have been enforced and ensured. Government shall shoulder the major responsibility in promoting DW, and take measures such as increasing financial investment, granting supporting policies and strengthening the intensity of law execution, to provide more protections to the employees. Gradually improving the national labor legislation is also one of government's responsibilities. From the perspective of enterprises, we should consider the *production regulations* practiced by many multi-national corporations and the emphasis on their social responsibilities as positive. However, we should also notice that trade union could not be excluded from labor relation coordination at enterprise level, as we may know workers appeal to not only material benefit, but also rights, including human dignity and value. In terms of trade unions, they are also expected to take their responsibilities. As a whole, the key to settling the problems resulted from protection of the workers' rights and interests lie in ensuring the equal dialogue between the labor and the management. For this purpose, it is a must to strengthen the function of trade union by setting down a practical system, so that trade union could really act on behalf of the workers to protect their rights and interests.

**Box 5.3 Social dialogue: ensure a stable and harmonious labor relation**

Chinese Government is making efforts in developing a harmonious labour relation and taking various measures to settle labour disputes. To ensure the stability of the society, specific offices have been established by the localities. One of the major missions of such office is to settle labour disputes. The application of ICT has facilitated the timely and effective settlement of such disputes. Also, the communications and network techniques have enabled the governments at different levels to know the incurrence and development of such disputes, so as to work out the solutions as early as possible. Owing to the principle of early finding and early settlement applied, the settlement rate of labour disputes has be increased greatly in China.

In addition, tripartite mechanism has been started in labour disputes settlement and collective bargaining. Meetings, functioning as social dialogues, will be held regularly with the participants from the labour and social security department, enterprises confederation, and the trade union. Further more, a hot line with the number of 12333 has been set up by the labour and social security departments, to provide policy

consultations to the workers and also to collect the complaints and reports concerning the breach of labour law and regulations, so as to correct such infringements in time.

## Ⅵ. Taking Active Measure and Promoting the Realization of Decent Work in China

The impacts of ICT use and production on DW involve many aspects. We shall carefully analyze and study those impacts and take relevant measures to promote its smooth development. The key for China in realizing DW is to improve those employment environments and working conditions for the workers in disadvantaged positions. Measure would be as follows:

### 1. Working out Socia-economic Policies Favorable for Increasing Employment Opportunities and Adopting Flexible Forms of Employment to Promote Employment

Expanding employment, reducing unemployment and improving social security system are some of the important administration functions for government organizations at each level. In this regard, the principle called *first to live second to develop* must be adhered to. Great efforts should be made in develop the tertiary industry, in particular, residential community management and household service, education, and various information and consultation service. In developing the intelligence, technique and capital-intensive enterprise, attention should be also given to labor-intensive enterprises, especially, preferential policy given to those small and medium-sized enterprises needing not much investment, with quick effect and large employment elasticity, so as to promote employment. Extensive efforts should be made in developing no-public economy and inform sector to promote the reemployment of the unemployed, and in supporting and encouraging the start-up of cooperative, partner or stock companies. Shanghai Municipality has set up a good example in reducing urban poverty, promoting employment and socia-economic development by means of developing flexible forms of employment. The practice in Shanghai has aroused great attention from ILO, and be named as *Shanghai Model* by the ILO and expanded to other countries all over the world.

Since 1990's, there are more than 1 million workers in Shanghai being laid-off from SOEs due to restructuring or system transition. How to enable these workers stepping out of poverty situation? Social relief is obviously far from enough due to its low level, while the government budget is not so generous that enables them being better-off. Therefore, the Shanghai Municipal Government turn their attention to the one of the informal sector of residential community service, which is of great employment potential, and requests fairly low level of skills. By developing more than 10 thousand informal labor organizations, and working out a complete system to support the development of such organizations, those laid-off workers have been re-employed in a formal way. It is the first practice in the world to put the flexible forms of employment under the formal management, and initiatively achieve the ends of reducing urban poverty and decent work.

**2. Helping the Flexible Forms of Employee Solve the Problems in Policy, Credit, Social Service and Working Conditions**

The support to flexible forms of employment in Shanghai proved the attention given by the Shanghai Municipal Government in developing DW. In terms of taxation policy, the above-mentioned labor organizations could be exempted from taxation for three years and are not necessarily requested to register in the industrial and commercial departments. In terms of financial assistance, they can get guaranty provided by *Employment Promotion Fund of Shanghai Municipality* when applying for small loan. For those laid-offs in a very difficulty re-employment situation, some public posts will be assigned to them. This is a very specific situation and these posts are bought by the government, mainly are cleaning, gardening, maintenance of the public facilities of the residential communities.

Regulating the actions of both the government and the society in employment promotion by legislation. Identifying an active employment guideline, adhering to the preconditions of promoting the social-economic development, carrying out the employment policy entitled as *seeking employment with the guidance of the government, job reference offered by the intermediaries, employment according to one's won willing and with a combination of self-employment.* In brief, trying to develop a fair market-oriented employment system, mechanism and environment.

Regulating the employment practice of the enterprises and public institution according to laws and regulations. The gender discrimination in recruitment, freely dismissal, child labor and young workers are strictly prohibited. Protecting the laborers' rights and interests, and stopping those enterprises against employing worker working under adverse conditions. Pushing the enterprises to improve the working conditions.

Efforts should be made in fostering and regulating intermediaries providing labor services, and extending employment and re-employment service agencies to street committees, residential communities and townships. Try to enable the labour information resources available at the internet, to provide professional management service, and to develop a unified, efficient and well-regulated labor market management and service system. It is a must to maintain the sustainability of flexible forms of employment if intend to keep such employment formal and decent. In addition, assistance should be provided to the laid-offs in improving their skills and quality. The government at each level should set aside some funds to set up a no-profit-making re-employment training system, enabling the laid-offs skills for re-employment when getting in-time training free of charge.

**3. Developing and Improving Social Security System**

Setting up a social security system accommodated with the employment system. First, developing a unified social security system for both urban and rural areas. Such unification will be the direction of social insurance development, and also a symbol of sound social security system. Second, such system should provide social benefit for the insured in any special case like unemployment, old age, sick, injury, maternity, disability, and so on. Lastly, strengthening the construction of social insurance administration agencies so as to promoting the management and service delivery by public service providers and intellectually.

Promoting the flexible forms of employment to be decent. Such decent does not just show at the increase of income, but more at the recognition of the society, and the fair opportunity for training and social security benefit as those employees at formal sectors. Let's take Shanghai practice as an instance, the first thing the Shanghai Municipal Government did was extend the social insurance coverage to such employees. Meanwhile, considering the weaker ability of these employees in paying contribution, preferential policy was given to them. In detail, their contributory base is the minimum wages of the urban area of the city in the current year, 14.5% lower than that of the formal sector employees. By doing so, their contribution pressure has been reduced greatly, but they could get the same benefit as formal sector employees in case of illness, unemployment and retirement. In addition, the municipal government has funded for the informal employees for a tailor-made occupation engagement insurance. So they could get compensation from the insurance company in case of accident. With such active and supporting measure, the informal labor organizations in Shanghai mushroomed. By June 2002, there were 13 thousand such organizations. Currently, there remain around 10 thousand with more than 140 thousand employees, as 3 thousand organizations were closed or changed the nature.

**4. Paying More Attention to the Employment of Women and the Disabled and Resolving the Unemployment Issue Resulted from Restructuring**

The disabled has always been part of the vulnerable groups concerned by the society. Comparing to the healthy ones, they stay at a disadvantaged position in many aspects. They have to face some possible prejudice, get over the psychological barriers and look squarely at the possible discrimination. They may suffer much more difficulties than our imagination in education, seeking employment and starting-up business.

Those women aged from 40 to 50 remain the same disadvantaged positions as the disabled. Since 1990s', 55% of the 1 million laid-offs from the traditional SOEs in Shanghai are women. Statistics shows that quite a few of those female laid-offs are

less skilled and less competitive in seeking employment in the formal sectors. Without concern to them, they will be fairly large poverty group in the city.

For the above reasons, the Central Government shall actively adjust the labor market policy and enlarge the input in such market. For the disabled and unemployed females, take different measure accordingly. That is, providing specialized re-employment training and occupational guidance for those with stronger competitiveness, while specific guaranty measures have to be offered to those with poor competitiveness.

At the same time, with the continuous development of Chinese economy and increasing of GDP per capita, big demand is coming from service sector. Such posts in service sectors do not have much higher requirement on the skills and age of the job seekers, so they are very suitable for the females and disabled. On the contrary, the job opportunities created by the formal sectors could not meet the demand of the economic development. In conclusion, we shall take active and effective measure in promoting the sustainable, fast and sound development of Chinese economy, further adjust the economic structure and employment structure, develop employment service and strive to realize decent work in China.

## VII. Policy recommendations

The development of ICT is unbalanced in China among different regions, and its involvement to the daily work and life of the general public also varies. In brief, ICT in eastern China enjoys a better development, the younger generation have a better command of ICT than the old one, male workers are more skilled in ICT than females, and the white-collared employees master is well than the blue-collars. Such gaps must be reduced so that ICT could become popular and be used in all fields of the social-economy.

1. Strengthen the development and information construction in the labour market. As we all know the labour market in China remains immature, and it is significant to apply ICT into labour market. Once the labor market in China is integrated nationwide, these information like job vacancies, job seekers and enrollment are eaily available. However, all these resort to ICT. Currently, we are trying to gradually integrate the labor markets nationwide by means of ICT, so that the labor market can play its fundamental role in reallocating labour resources.

2. Strengthen vocational training and reduce the digital divide. Comparing to the traditional economy, ICT emphasize more on the role of human resources. In the development process of ICT, the structure of labour demand changed. That is, less physical labors needed, while more mental labors increasingly demanded. Therefore, it is easy to find in the labour market that the unemployed are increasing on one hand, on the other hand, many job vacancies are still waiting for competent job seekers. The war of headhunting, which becomes more and more serious all over the world, coexisted with plenty of job-leavers joining into the team of social assistance beneficiaries.

Such structural changes of labour force bring a big challenge to education and learning. As a result, learning and education shall not only direct the demand of training more excellent professionals, but also shoulder the responsibility in increasing the overall quality of all the Chinese citizens. Learning and education in the modern society shall not be tied to the traditional education approaches. More concerns shall be given to the way of learning while working and the philosophy of lifelong learning to all citizens. Therefore, the new education philosophy, aiming at lifelong learning, may includes the following three aspects: First of all, qualified graduates should be trained; secondly, vocational training should be conducted continuously to the employees; third, help the unemployed to master the necessary skills for their re-employment. With the development of ICT, the learning and training in the informal way may become more and more popular than the traditional one. In

addition, apart from the individual, organizations may also have to learn how to study and carry out the training programs.

3. Formulate laws and improve laws and regulations concerned to regulate the development of ICT. The impacts resulted from the development of ICT maybe either active or negative. Currently, it is not rare that crimes committed via network happen all over the world. We may say, an indecent work is finished under the guise of a very decent technique. In this sense, we have to attach importance to the impact of the development of ICT to decent work, meanwhile, efforts should be made to speed up the formulation and implementation of laws and regulations, to work out the service norms and standards of ICT, ensuring that ICT could promote the development of decent work.

Source：1. *Information and E-commerce*, published by Peoples' Publishing House

2. *On Decent Work*, by Ms. WAN Zhouyan and Ms. LIN Daidai

3. China Labour and Social Security News