

**UNCTAD Expert Meeting
In Support of the Implementation and Follow-Up of WSIS:
USING ICTs TO ACHIEVE GROWTH AND DEVELOPMENT**

Jointly organized by UNCTAD, OECD and ILO

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**China's Informatization Strategy and its Impact
on Trade in ICT Goods and ICT Services**

by

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The views expressed are those of the author and do not necessarily reflect the views of the United Nations

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China's Informatization Strategy

- The tenth 5-year Plan set the strategy of using informatization as the engine for industrialization to achieve a leapfrog in productivity.
- Breaking a new path of industrialization characterized with high ST value-added, high economic efficiency, low consumption of materials, low environmental pollution, achieving sustainable development.
- Accelerate ICT infrastructure and services for the rural areas such as public service, distance education and TV broadcast, and telecom service for every village nationwide.
- Informatization Leading Group set up in the State Council for Implementation of the Strategy.

Policy documents formulated

- Informatization work programme in the tenth 5-year programme.
- Directives on the construction of E-government.
- Action programme for the development of the software industry.
- Guidelines for accelerating the development of e-commerce.
- Guidelines for the work of information security.
- Informatization Development Strategy 2006-2020

Plan of action under the Informatization Strategy 2006-2020

- Nation-wide education and training on ICT in primary and middle school, increase fiscal input and mobilise social funds on education.
- Promote e-commerce with large enterprises as leaders, enable SMEs to join in the e-commerce value chain, accelerate the building of trust, certification, standards, payment, logistical systems, improve business settlement system in line with international practices.
- E-government – complete the construction of e-government infrastructure, unify the practices of transparent administration, set standard rule for electronic application of financial and budgetary resources, infrastructure construction and systemic performance assessment.
- Development of media and network information resources such as science and technology, education, publication, broadcast and TV, art and literature, education, social security, agriculture-related information (to provide the population with digitalised information).
- To close the digital divide – government support to under-privileged regions and population group including free of charge or low cost internet access to under-developed rural areas.
- Innovation of key information technology – integrated circuit, system software, key application software, develop digital mobile, digital TV, new generation of network technology.

China Informatization Development Report 2006

- The State Council Informatization Office issued this report to summarise progress in informatization in the following field:
- Economic field
- Social field
- E-government
- Resource exploitation
- The information industry and technology
- Infrastructure
- Information security
- Information environment

State of the ICT Infrastructure

- Teledensity: 57.2% (fixed 350.43 mn or 27%, mobile 343.43 mn or 30.2%).
- Fibre optic length 4.05 mn KM, became the main means of transmission.
- Six basic telecom operators: China-Mobile, China-Telecom, China-Netcom, China-Unicom, China-Satcom and China-railcom.
- Stable advance to application of new generation of network (NGN) and 3G- TD-SCDMA.
- Telephone connection reached 97% of villages in the rural areas.
- Internet users 111 million (of which 64.7 million using broad band).
- Host computers: 49.5 million.
- Huge ICT demand to match with fast economic growth and and increase of consumption of information services.

ICT Impact

- ICT is widely used to transform the traditional industries i.e. coal mining, steel, petrochemical, electricity, building materials.
- Shenhua Coal Mine Group, a pioneer in automation and informatization, reported productivity tripled in 2005.
- Bao Steel: by using ICT, hot rolled plates delivery time shortened from 50 days to 12 days.
- Petrochemical industry: E-commerce application saved procurement cost by RMB 2.5 billion in 2005.
- Informatization in banking accelerating – preparation for full implementation of banking service commitments by end of 2006.
- Education. 4.2 million people registered for online high education in 2005, annual increase of 1 million since 2003.
- Agriculture: Agricultural and rural economy monitoring system, agricultural produce and input market monitoring system and agricultural market and application of agricultural science and technology system.

Trade in ICT Goods

- The computer sector –driving force for industrial growth with total sales of RMB1064.4 bn, (+21.7%).
- Export \$268.17 bn (+29.2%) accounting for 35.2% of national total export.
- Import \$220.56 bn (+21.9%) accounting for 33.4% of national total import.
- ICT is the No.1 pillar of China's import/export trade – 34.4% of total trade in goods.
- Lenovo after taking over the PC business from IBM, become world third largest personal computer supplier.
- TCL after acquiring Thomson color TV business and Alcatel Mobile business became the world largest color TV supplier and a global mobile phone supplier for Europe, South America, Southeast Asia and China.
- Telecom network equipment producers ZTE and Huawei become important exporters.

BOP Statistics: Trade in Services 2005, in 1000 US\$

Items	Balance	Credit	Debit
Service total	-9,391,392	74,404,098	83,795,490
1. Transportation	-13,021,024	15,426,523	28,447,547
2. Travel	7,536,930	29,296,000	21,759,070
3. Communication Serv.	-118,173	485,231	603,404
4. Construction Service	973,567	2,592,949	1,619,382
5. Insurance Service	-6,650,142	549,418	7,199,559
6. Financial Service	-14,244	145,231	159,476
7. Compu/info-service	217,676	1,840,184	1,622,509
8. Royalty/license fee	-5,163,852	157,402	5,321,254
9. Consulting services	-861,408	5,322,132	6,183,540
10. Ad. /pub.opinion pol.	360,521	1,075,729	715,208
11. Audio-visual	-20,096	133,859	153,954
12. Other Business Ser.	7,497,029	16,884,780	9,387,752
13, Gov.Service N.I.E	-128,175	494,661	622,836

Source: based on China State Administration of Foreign Exchange - Annual Report 2005

Trade in Commercial Services 2003/2004
(Billion dollars)

	China	India	Ireland
Total export of commercial services	62.1 (2004)	39.6 (2004)	45.9 (2004)
Of which: Computer & information service	1.6 (2003)	7.059 (2003)	7.49 (2003)
Total import of commercial services	71.6 (2004)	40.9 (2004)	58.4 (2004)
Of which: Computer & information services	1.3 (2003)	0.465 (2003)	0.36 (2003)

Source: based on WTO International Trade
Statistics 2005, WTO World Trade Report 2005

Service Outsourcing

- The informatization programme has made remarkable success in trade in ICT goods, but very limited progress in trade in ICT services.
- However, China is seen as having huge potentials of growth in receiving service outsourcing because of its remarkable success in ICT manufacturing, large size of skilled work force, low labour cost, advanced ICT infrastructures, favourable FDI environment, the presence of some 450 of the top 500 multinational enterprises.
- China has lagged far behind India in receiving the offshore outsourcing of service in spite of far more advanced ICT infrastructure and more advanced manufacturing industry.
- The Chinese industry has only recently realised the potentials and the importance of taking advantage of offshore outsourcing of service from industrialised countries.
- Chinese industry supported by the government is making strenuous effort to catch up with India.
- Indian companies such as Tata and Infosys are investing in China as a spring board to expand into the Japanese and Korean markets.

China-India ICT Capacity Comparative Table

	China	India
Teledensity	57 per 100 persons (2005)	11.43 per 100 persons (2005)
Total subscribers	750 million (2005)	123.85 million (2005)
Bandwidth	43 GBps (2005)	1 GBps (2005)
Broad band connection	64,300,000 (2005)	300,000 (2005)
Internet subscribers	103 million (2005)	6 million (2005)
Host Computers	45.6 million (2005)	10 million (2005)
IT workforce	2,386,000 (2005)	830,000 (2005)
Export of IT and related services	US\$1.98 bn (2004)	US\$17.2 bn (2005)

Source: Compiled by EUCTP experts from multiple sources.

Striking Contrast

- China has far more advanced ICT infrastructure than India.
- Lagged far behind India in service exports.
- The phenomenon may be explained by emphasis on meeting the domestic demand for service by the manufacturing industry, less emphasis on export of services.
- The service sector lagged behind manufacturing.
- Service account for 40% of GDP, not commensurate with China's position as third largest trading country and forth largest economy. Not sustainable.
- Urgent task to change the growth model and accelerate the development of the service sector.

China's Strength and Weakness

strength	weakness
Attractive economic environment: 9% GDP growth and large domestic market	Lack of English language skill and knowledge of western business savvy
Large human resource pool –1.6 million young professionals, 160,000 qualified young engineers with annual increase of 50,000. Computer science graduates could reach 200,000 annually	Lack of business executives with global vision and managing skill to lead technical teams to undertake large scale outsourcing assignments.
Low labour cost – Monthly pay for software engineer \$500 in Shanghai, \$700 in India, \$4,000 in US. Combined with low overhead cost, outsourcing could save cost up to 60%.	Inadequate enforcement of IPR protection law.
More much advanced infrastructures: Teledensity, Internet subscribers, bandwidth, computers online, IT spending 5 times higher than India.	Uncertainty arising from transition toward a market economy system. Excess administrative interference in business activities affects strategic decision of outsourcing companies.
Leverage on manufacturing capacity and foreign investment enterprises: Around 450 of the top 500 MNEs set foot in China	Regulatory system unclear for level playing field in supply of services particularly in computer and information services
Government support for software development and rapid progress in hardware development.	Few enterprises acquire CMM certificate (high level international quality certification) prerequisite for outsourcing jobs.

Intiative to tap the potentials of Service Outsourcing

- The setting up of 15 software industrial parks in different provinces and cities to attract foreign investment in software production.
- Efforts being made to accelerate the opening up and improvement of telecommunication services.
- The 11th 5-year Development Programme gives priority to development of services.
- Increase investment in education in the field of ICT industry.
- Drafting telecom law to encourage competition and attracting foreign investment in telecom services.

The Thousand-hundred-ten Programme

- What does it mean?
- Identify 10 cities with international competitiveness for undertaking offshore service outsourcing.
- Attract 100 multinational enterprises to take China as the destination of offshore service outsourcing.
- Create environment to assist at least 1000 enterprises to acquire international qualifications to undertake offshore outsourcing with the goal of redoubling the export of service by 2010.

Measures to achieve the Goal

- Create a special fund for specialised training of 300,000 – 400,000 university students with operational skill within 5 years.
- Scope of training: qualification & certification, international standard, IPRS.
- Provide incentive including financial support to encourage enterprises to obtain international certification with the target of 700 enterprises obtaining CMM/CMMI3 certification, 300 enterprises obtaining CMM/CMMI5 certification.
- MOFCOM will collaborate with the State Development Bank to provide credit and loans to qualified enterprises to engage in outsourcing; collaborate with China Export Credit Corporation to provide credit insurance and guarantee services.
- MOFCOM and MII join hands to identify and support base cities for outsourcing through policy guidance in macroeconomic policy, programme designing, human resource training, attracting foreign investment and create special fund to support the infrastructure of the base cities.

Measures (continue)

- MOFCOM lead in the construction of outsourcing public service website to provide information to enterprises, universities/colleges, students, research institutions and provide a platform for business transaction.
- Preferential support for base cities in the central and west regions (including discounted loans).
- Establish IPRs Complaint Centers in base cities to take prompt actions against all kinds of IPR violations, and formulate rules on protection of outsourcing-related commercial secrets.

Witkey-a fast evolving on-shore outsourcing model for small business

- About 40 registered websites provide platform for outsourcing transaction.
- Outsourcer put out a tender announcement at one of the websites and pay into the website's account full amount of the fees for the service prescribed.
- Fees ranges between RMB 20 and 200,000.
- A variety of services requested including giving a nice name for a new born baby or a pet, designing a logo for a company or application software.
- Normally there several dozens of bidders.
- The outsourcer choose the best one.
- The Website keeps 20% of the paid fees for it's service and the successful bidder take 80%, there are variations of method of payment.
- It is supported by an official website <http://www.vikecn.com> with a set of rules to ensure transparency and security.
- A dynamic business model evolving into more complex business transactions. An attractive business model for young professionals.
- Major problem: IPR infringement.