Policy Brief

25 years CUTS International 1983-2008

Hanoi Resource Centre

10/2007

IT Trade, Technology Transfer and their Relationship with Economic Development in the GMS

Ground Realities and Future Options

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Introduction

For any country to achieve economic development in this digitalised world, information technology (IT) needs to be infused in the working of the economy. Communication technology now-a-days is considered to be essential in doing business as it is an important tool in reaching customers, aside from assisting with providing information and news around the world. It is important in the sense that distance is no longer an obstacle in conducting business deals.

In the industrialised countries, technological advances have vastly improved the quality, reliability and versatility of Information and Communication Technology (ICT) and its applications to economic and social development. On the contrary, many developing countries still lack essential ICT facilities.

The same can be said for the countries in the Greater Mekong Sub-region (GMS). Even though certain initiatives have been made to bridge the digital divide, but IT has not penetrated in the working of the economy. Within the Asia-Pacific region, many countries, including developing countries, have been quick to adopt new technology. However, the GMS countries have not been doing that well.

There is a strong co-relation between cross-border IT trade and economic development. The movement of IT knowledge across borders facilitates transfer of technology and integrates the region and promotes economic development. This technology can be used in important sectors such as agriculture, education and health, which can lead to socio-economic development.

The process of transferring technology is much more complex than assumed in the past. It involves not only a commercial transaction of tangible goods such as machinery and equipment, but also the transfer of knowledge and skills to operate it. Besides other elements, the important components of the transfer process are intellectual property rights (IPRs) and investment.

The relationship between transfer of technology and trade is neither automatic nor cost-free. Successful technology transfer involving partners from developed and developing countries requires financing. But above all, it requires home *and* host country policy measures to stimulate the transfer and local adaptation of technology.

Improving access by developing countries to existing and new technologies as well as promoting the development of their technological capabilities remains an important component of establishing a balanced and equitable system in the regulation of knowledge-based global markets. The least developed countries (LDCs), in particular, remain in a dire situation.

IT is essential for the industrialisation process in developing countries, which is dominated by the presence of small and medium-sized enterprises (SMEs). IT is important for SMEs because it allows them to participate in the global economy and open new opportunities for conducting business. One of the main handicaps of SMEs is related to technology and information where substantial economies of scale give advantages to larger firms.

The penetration of IT in an economy requires the development of strong information infrastructure and calls for mobilisation of different stakeholders involved like the government, business, individual users of telecommunication and information service providers etc.

The Story So Far.....

The governments as well as the private sector in the region along with inter-governmental organisations such as the United Nations

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SDC
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Economic and Social Commission for Asia and the Pacific (UNESCAP) and the Asian Development Bank (ADB) have made conscious efforts to introduce IT in the GMS countries.

However, while ICT goods have become major trading items in global markets, the trade of ICT goods in GMS is still insignificant. In 2001, exports of ICT goods from GMS amounted to only US$377mn or about 0.046 percent of global ICT exports. The small value of trade in ICT goods in the GMS countries reflects the sub-region's limited production activity as well as low usage of ICT services[1].

According to a need assessment study undertaken by the UNESCAP in 2002, there is significant variation among the GMS countries with respect to IT investment and penetration. These countries also vary significantly in terms of IT infrastructure, availability of skilled manpower and the innovation system. Thailand is a substantive producer in some of the IT sub-sectors, with a world market share of about one percent. Thailand's IT infrastructure has reached an intermediate level, albeit substantially lower than in neighbouring Malaysia and Asia's Newly Industrialising (NIE) countries[2]. In Vietnam, the size of the IT sector and the level of IT infrastructure are lower, but fast growing. In Cambodia, Myanmar and Lao PDR, the IT sector is almost negligible and IT infrastructure is very low.

The most relevant international trade agreement related to telecommunication services for GMS countries is the Association of Southeast Asian Nations (ASEAN) Framework Agreement on Services (AFAS). AFAS was born out of the ASEAN Bangkok Summit in 1995, where a decision was made that ASEAN would launch negotiations on trade in seven service sectors, namely, banking, tourism, air transport, maritime transport, telecommunications, construction and professional services.

As part of the e-ASEAN Framework Agreement, some GMS countries – Vietnam, Myanmar, Laos, Cambodia and Thailand – take a holistic approach to achieving digital readiness and acts as a binding mechanism for actions in six areas. These six elements are: connectivity, local content, a seamless environment for electronic commerce, a common marketplace for ICT goods and services, human resource development and e-governance. ASEAN governments also commit to facilitate the flow of ICT goods and services in the region and promote investments in the sector. Duties and non-tariff barriers (NTBs) on intra-ASEAN trade in ICT products will be eliminated in three tranches. Liberalisation for most goods has been completed over a three-year period beginning January 01, 2003. Cambodia, Laos, Myanmar, and Vietnam will undertake the same measures beginning on January 01, 2008. Moreover, ASEAN will conclude mutual recognition arrangements covering ICT products.[3]

Individual GMS countries have also taken up initiatives to promote the integration of ICT in the economy. For instance, to quicken the economic development in Yunnan, in 2004, Yunnan Provincial Economic Committee, by adopting the policy of "the government supports, business enterprise operates", entrusted the experienced Yunnan Information Telecommunication Net (YNINFO) to build up and run the SMEs Public E-business Service Platform: "SMEs of China Yunnan Online" for the purpose of providing SMEs with the best all-around services[4].

Similarly in 2005, the Union of Myanmar Federation of Chambers of Commerce and Industry (UMFCCI) implemented a pilot project, which aimed at enhancing the e-business development of SMEs. One major development of the ICT Industry in Myanmar is the establishment of the Myanmar ICT Park in Yangon developed by a consortium consisting of 50 local companies in 2002.

The Agency for SME Development (ASMED) is the central government agency responsible for coordinating policy formulation and implementation for the development of SMEs in Vietnam. SMEs constitute 80 percent of the businesses in Vietnam. An ICT Consulting Sector was set up in April 2007, with the aim of supporting local companies seeking IT solutions.

IT is at a nascent stage in Lao PDR and e-business and e-commerce are not developed. This is mainly because the number of corporate internet users is still low to justify investment in e-business operation. Also, SMEs do not face a very conducive environment for development due to lack of technical staff, business development services and high transaction costs and risks.

The National Information Technology Committee (NITC) was established in Thailand in 1987, to oversee the policy aspect of IT development and deployment. At present, it has 18 sub-committees steering various IT developments, including three that directly affect the electronic commerce development: the Electronic Data Interchange (EDI) sub-committee; six IT law sub-committees; and the Electronic Commerce Task Force[5].

The Government has renewed its commitment to invest in IT with an ambitious goal to make Thailand a leading country in ICT in Southeast Asia. As part of its ICT programme, e-commerce trends in Thailand are bright in the coming years, since the Government is playing a vital role in developing an environment to facilitate e-commerce by identifying and creating key building blocks and enhancing electronic trading or transactions among businesses. In 2004, the Government invested heavily in e-commerce in order to encourage both government agencies and the private sector – especially SMEs – to use e-commerce to increase their efficiency and capabilities. The 'last mile-high speed' idea and the 'one tambon (village), one product' programme are some examples.

The Thai Government recognises the enormous potential of electronic commerce to expand business opportunities, reduce costs, increase efficiency, improve the quality of life, and facilitate the greater participation of small businesses in global commerce. The E-Commerce Policy Framework proposed by the

Table 1: Key ICT Indicators (2003)					
Countries/ Areas	**Population (in million)**	**Main telephone lines per 100 inhabitants**	**Mobile telephone subscribers per 100 inhabitants**	**Total teledensity per 100 inhabitants**	**Internet users per 10,000 inhabitants**
Cambodia	13.79	0.26	2.76	3.02	21.76
Lao PDR	5.53	1.12	1	2.12	27.11
Myanmar	48.98	0.61	0.03	0.64	2.07
Vietnam	81.25	4.84	2.02	6.86	184.62
Thailand	61.89	10.51	26.04	36.54	775.61
China	1.33 billion	40.98	20.6	-	6.12 (per 100 users)
Source: ITU					

National Electronics and Computer Technology Centre (NECTEC) was approved by the Council of Economic Ministers as the e-commerce development guidelines for all government agencies in 2000.

In November 2004, the six GMS countries signed an agreement on building the Information Superhighway together. China Telecom organised the first meeting on the project implementation in January 2005 and made a preliminary plan.

According to the plan, in the first phase of the programme, i.e. during 2005-2008, the six GMS countries, namely Cambodia, China, Laos, Myanmar, Thailand and Vietnam, will build a point-to-point optical transmission system among themselves to lay a sound infrastructure foundation for smooth telecommunication connections in the region in future.

When the point-to-point transmission system reaches a certain penetration rate, the GMS countries will put in place the ring networks during the second phase of the programme, i.e. from 2009-2010, which will support greater transmission capacity and remove telecommunication barriers in the region.

The third phase will witness the launch of a wide range of international communication services including e-commerce, e-government, and e-education, e-health, based on the network platform built in the previous phases.

The GMS Information Superhighway will provide a broadband platform connecting the six GMS countries where basic services including voice, data and internet access services could be provided.

Challenges & Options

Electronic commerce (e-commerce) has become the main theme of discussions in major international forums. Taxation, telecommunication infrastructure, information security, and legal policy are among the most controversial factors affecting the success of electronic commerce. Most economies are tackling these issues and trying to develop national frameworks. With all the necessary technical and policy infrastructures set up, one root element to be addressed among users to promote the widespread use of electronic commerce is trust.

Besides trust, the use of IT and technology transfer faces a number of impediments in these countries. Firstly, there is lack of regulatory framework to ensure the smooth functioning of transactions. Secondly, infrastructure in these countries is not developed with basic communication instruments like telephone and internet lacking.

Similarly, the human resource is not skilled and there is lack of awareness to use IT tools. Besides these issues, since e-commerce is not common, there are security concerns also about giving personal details online. For instance, in Yunnan in 2001, only 8.5 percent of all businesses used e-commerce, while in Vietnam in 2003, only seven percent use IT in business or connect to the internet.

There are other constraints also, such as weaknesses in the legal, judicial and administrative systems, poor infrastructure, lack of access to technology and financial capital.

Options For GMS Countries

- to develop human resource that is e-commerce savvy;
- to develop policies and a regulatory framework for promoting intra-regional trade in IT. Besides human skill, it is essential to have trade and investment policies that promote trade in IT goods;
- to have a dispute settlement mechanism (DSM) for solving e-business and trade issues; and
- to raise public awareness and development of ICT infrastructure.

The information infrastructure should become more universal and less expensive. In addition, security, privacy protection and trust must be enhanced such that consumers will have more trust and confidence, and be willing to try different products and services online.

None of the GMS countries have made any significant progress towards the enactment of cyber laws for the recognition of electronic transactions, contracts and documents or for the prevention of electronic crimes. It is, therefore, proposed to arrange technical assistance under the project from appropriate international agencies and other countries of the region where cyber laws are in place. Greater trade in IT products and IT services attract greater foreign direct investment (FDI) into the IT sector of GMS countries.

The availability of affordable ICT equipment and services is of vital importance for enabling GMS countries to bridge the digital divide. Given the low manufacturing base for ICT products in most GMS countries at present and the high cost of laying broadband telecom infrastructure, GMS countries necessarily have to look towards imports and FDI for the development of their IT infrastructures. Similarly, a review of existing policies towards foreign service suppliers may facilitate cheaper access to IT services in GMS countries.

Conclusion

The development and prosperity of the GMS will be a function of how well it can meet the business challenges of the 21st century. Overcoming the challenges requires the countries to address the critical needs for the business sector and economy, and adopt the available 'tools' to lift them into the realm of newly industrialised states. Cross-border trade in IT and the development of an integrated network for transfer of technology within the GMS countries will play a major role in ensuring that these countries move ahead on the road to technology development?

While on paper a plethora of agreements have been signed, not much progress is evidenced.

The application of IT could very well be the decisive factor in whether the GMS becomes the emerging economic frontier that many people believe is possible or whether most of its members will remain among the poorest countries in Asia. The transfer of technology is another important variable in the development equation. At present, the level of technology in most of the GMS countries is generally archaic with only small pockets of modern technology. The GMS countries must provide the conditions that will encourage technology transfer from abroad as they continually strive to create a semblance of a domestic technology base.

With respect to trade in ICT goods, the GMS countries have competitive wages, a surplus of employable people and an improving investment environment. These factors should enable them to capture some investment from transnational companies (TNCs) in East Asian countries that are shifting their labour-intensive manufacturing operations overseas. To reduce risks, most GMS countries could aim at attracting investment in electrical and electronics product segments, the technologies of which have matured and are slow in changing. Alternatively, they could enter into ICT service industries involving simple and labour-intensive operations, e.g., data entry. For countries that are at a higher level of readiness such as Vietnam, producing higher value-added items, software and animation would be a natural step.

In order to bridge this digital divide, a concerted effort must be made to provide the GMS countries with the means to develop a level of information technologies appropriate to their level of development so that they can benefit from the opportunities brought about by advanced technology. In this sense, establishing an enabling environment for IT development in the GMS, well-designed and comprehensive IT development strategies for the GMS must be formulated and implemented with particular focuses on IT readiness, legal/regulatory framework, promotion of international trade through e-commerce, IT-enabled trade and investment policy formulation, telecommunications and other infrastructure development, institutional capacity building, human resources development, rural and social development, e-governance and the enhanced role of the private sector.

Endnotes

1 www.unescap.org/tid/publication/t&ipub2336.pdf
2 www.unescap.org/tid/projects/gmsti_chap1.pdf
3 www.aseansec.org/5309.htm
4 The Present Situation and Future Development of E-Business for SMEs in Yunnan, China, http://ww.unescap.org/icstd/applications/projects/e-business-GMS/srw/China/gms2. ppt#299, 2, BY
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Comments on this paper, received from Yin Xingmin, China Centre for Economic Studies; Hank Lim, Singapore Institute of International Affairs; and Alice Pham, Director, Consumer Unity & Trust Society, Hanoi are gratefully acknowledged and suitably incorporated.

This Policy Brief has been published by CUTS Hanoi Resource Centre, 81 Chua Lang Street, Dong Da District, Hanoi, Vietnam, Tel: +84 (0)98 63 10 179, Email: hanoi@cuts.org, Web Site: www.cuts-international.org and printed by Jaipur Printers Pvt. Ltd., M.I. Road, Jaipur 302 001, India.