ASIAN DEVELOPMENT BANK INSTITUTE

JAPAN MINISTRY OF ECONOMY, TRADE AND INDUSTRY

Promoting e-Business and Commerce in Developing Countries:

Report of the Regional Workshop

Tokyo, 1 – 7 September 2004

ADB INSTITUTE

METI 経済産業省 Ministry of Economy, Trade and Industry

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Published by Asian Development Bank Institute, 2004
ISBN: 4-89974-005-0

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This report is available on the ADBI website for free downloading (www.adbi.org).

PREFACE

The Asian Development Bank Institute (ADBI) conducted a regional workshop on Promoting e-Business and Commerce in Developing Countries on 1-7 September 2004 in Tokyo. The Workshop was sponsored by the Governments of Japan and the Republic of Korea, the United Nations Conference for Trade and Development (UNCTAD) and the private sector: the e-Commerce Council of Japan (ECOM), International Business Machines (IBM) Corporation and Microsoft Corporation. There were 23 participants, who were decision makers in government ministries of commerce, economics, finance, and planning from 19 countries. There were also 20 speakers and resource persons from Japan, Republic of Korea, ECOM, IBM, Microsoft, and UNCTAD.

The objectives of the Workshop were to: (i) review diverse business models and trends in electronic business and commerce practices, (ii) examine conducive policies, legal framework and technological infrastructure for promoting e-Business and commerce; and (iii) draft action plans to promote e-Business and commerce in the countries represented.

The presentations were organized into three parts: (a) macro-analysis of components facing e-Business and commerce in countries; (b) micro-analysis of these components, and (c) case studies. A forum was held during the Workshop to discuss ongoing applications of e-Business projects in developing countries. A series of hands-on sessions were provided to develop electronic stores based on templates prepared by ADBI. A major output of the Workshop was a series of 17 draft action plans for promoting e-Business by the participants for their respective countries. Also, 23 e-stores were also developed together with several lecture CD-ROMs.

ADBI is committed to continue the process of integrating e-Business and commerce in the Asia-Pacific region with all forms of knowledge sharing and awareness campaigns. In 2005, an international conference on electronic procurement is scheduled to continue the e-Business series of conferences in collaboration with the Government of Singapore and the private sector. In 2006, a regional workshop on developing small and medium-sized enterprises is planned. An international workshop on e-banking for the poor will be conducted in 2007. ADBI will explore the possibility of partnering with other intergovernmen

tal organizations in developing and implementing capacity-building programmes to assist policy makers in developing effective legislation on computer-related crimes consistent with international standards. It will also maintain partnership with the private sector aimed at fostering a healthy e-Business environment.

Taking this opportunity, I would like to extend my thanks to the participants of the Workshop who devoted their time fully and enthusiastically. I also thank our speakers for their excellent presentations and Mr. Jeoung-Keun Lee for organizing the Workshop.

Peter McCawley
Dean, ADB Institute

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Summary of the Workshop

SUMMARY OF THE WORKSHOP

A. Organization

The Workshop was organized by the Asian Development Bank Institute (ADBI) with the support of Microsoft Corporation, International Business Machines (IBM) and the Electronic Commerce Promotion Council of Japan (ECOM) in recognition of the fact that many governments in the Asian and Pacific region were in the process of introducing e-Business and commerce practices in their countries.

B. Objectives of the Workshop

Workshop organizer, Mr. Jeoung-Keun Lee introduced the Workshop and noted that the speakers were experts in the field of e-Commerce, and would be able to share much with the participants about recent trends, models and practices.

Mr. Lee explained that the Workshop would review diverse business models and trends in e-Business practices, examine conducive policies, legal framework and technological infrastructure for promoting e-Business and draft action plans (project proposals) to promote e-Business Programmes.

The six-day programme involved:

Day One:	Sharing of country experiences
Day Two:	Development of e-stores
Day Three:	Identifying important policies and strategies to promote e-Business and commerce
Day Four:	Highlighting experiences from several case studies
Day Five:	Discussion of online security and evaluation
Day Six:	Presentation of action plans

The final output of the Workshop was an action plan, developed by each representative, which would then be able to be submitted to governments, donors or even the private sector for funding. Previous workshops have so far developed 32 proposals worth US$800 million. Each proposal was required to have a budget ranging from a minimum of US$20 million and a maximum of US$1 billion.

C. Opening of the Workshop

The Workshop was opened on September 1, 2004. In his welcoming remarks, Mr. Tomohiro Innami from the Ministry of Economy, Trade

and Industry, Japan, said ICT was indispensable in Japan. It had become extremely accessible, but on the other hand, the security risks online had become enormous. He explained some of Japan's recent ICT initiatives, including e-Japan I and e-Japan II and the Asian IT Initiative which he said would benefit both Japan and countries sending their nationals to Japan for training. He concluded by thanking the ADBI for organizing the Workshop and wished the participants well.

In his opening remarks, Mr. Peter McCawley, Dean, ADBI, said there were three digital divides–the first divide was between rich countries and developing countries that have problems of access. The second was an emerging divide between developing countries as China and India moved quickly to embrace IT while many others had not, and lastly, a divide within developing countries, between urban and rural citizens. Mr. McCawley said that addressing these divides, and finding ways to use IT to tackle the problems of development was the broadest challenge we all faced. He said this Workshop was designed to be a practical step in addressing these divides. He thanked the sponsors for supporting the Workshop.

D. Attendance

A total of 23 participants from 19 countries attended the Workshop. Workshop participants introduced their neighbours to the Workshop. The participants were decision makers in government ministries of commerce, economics, finance, and planning, and executive officers of private companies in developing countries in the region.

E. Election of Officers

Mr. Fernando P. Cala II from the Philippines was nominated and elected as chairperson for the Workshop.

Ms. Wijenayake M. Balachandra from Sri Lanka was elected vice-chairperson.

F. Recommendations

- The Workshop recognized the enormous potential to leverage ICT and new computing paradigms to drive electronic commerce and stimulate the broader economy. To promote the development of e-Commerce in the Asia-Pacific region and to exchange best practices and lessons learned, the Workshop recommended that ADBI organize a regional workshop in this area on an annual basis—or possibly a series of in-depth workshops focusing on particular aspects of e-Commerce.

- Workshop participants recognized that despite the promise of ICT in facilitating economic growth and efficiency through e-Business solutions, the Internet as a means of communicating and transacting business is seriously threatened by computer criminals. Hackers and virus propagators continue to endanger the security and privacy of computer users around the world. The Workshop also noted the growing problem of "spam," which now represents over 60 per cent of all email traffic worldwide, and is increasingly associated with "phishing" and other online fraud schemes and/or tied to the dissemination of malicious code.

- The Workshop acknowledged the important work that has been done in other multilateral fora—including the Council of Europe (CoE), the Asia Pacific Economic Cooperation group (APEC), and the United Nations—to address computer-related crime. This includes the CoE's work in elaborating the CyberCrime Convention, which sets forth baseline obligations upon signatories to criminalize a range of computer-related offences and has become the international standard in this area. It also includes the work of the UNESCAP that developed a three-phase regional technical assistance project for e-Commerce and regulatory system development in Asia and the Pacific, following a conference in July 2004 in Bangkok.

- Taking into account the work that has been done by these and other groups, the Workshop participants agreed that urgent action is required by governments to establish the legislative infrastructure and to allocate the appropriate level of resources to facilitate the effective investigation and prosecution of computer-related crime. It was also agreed that intergovernmental and public/private sector cooperation is a critical component of an effective response to computer crime.

- Given the resource challenges faced by many developing countries or economies in transition, Workshop participants asked that ADBI explore the possibility of facilitating capacity building programmes with a view toward:

    - Assisting policy makers in developing effective legislation on computer-related crime consistent with international standards;

    - Ensuring that prosecutors and judicial officials have a common understanding of laws in this area; and

  - Working with law enforcement and justice officials to set up or increase the capacity of specialized units dedicated to cybercrime investigations and prosecutions. This could include the provision of needed equipment or the delivery of relevant training for officials.

- The Workshop also agreed that, in light of the scope of this challenge, ADBI should explore the possibility of partnering with other inter-governmental organizations in developing and implementing capacity-building programmes along the lines described above.

- The Workshop acknowledged with appreciation the contribution of private sector participants and recommended that continued partnership be maintained in future activities aimed at fostering a healthy e-Commerce environment, including industry involvement in the possible projects discussed in these recommendations.

Proceedings of the Workshop

PROCEEDINGS OF THE WORKSHOP

A. Current Status and Trends of e-Business

Mr. Jung Uck Seo, Chairman, Korea Foundation for International Cooperation of Science & Technology

"Korea can never attain a high standard of living. There are virtually no Koreans with the technical training and experience required to take advantage of Korea's resources and effect an improvement over its present rice-economy status. If U.S. forces withdrew and stopped sending in the supplies, it would be reduced to a bull cart economy, and some nine million non-food producers would face starvation."

Deputy Military Governor of the U.S. Forces in Korea in 1948

This prognosis by an American general in Korea in 1948 was far from optimistic. The situation looked even bleaker in the summer of 1950 when the Korean War broke out. Cities and villages became battlefronts and most buildings were destroyed by bombardments from both sides. Those who survived had little hope for a decent standard of living. But the general quoted above would have been surprised to see how Korea has developed to today become not a bull cart, but a knowledge society.

The days of 'bull cart economy' are long gone. Korea still produces rice, but no longer depends on it for its survival. Today, Korea produces cars and buses of every type, and every citizen enjoys cell-phone and Internet access at anytime, anywhere. Korea now has very high literacy, telephone penetration and Internet usage and research complexes and knowledge industries dot the countryside where there was once nothing but rice paddies with plough-pulling oxen.

So how did this happen, and what can other countries in the region learn from South Korea's growth from a bull cart economy to one of the most technologically advanced countries in the world?

1950 – 2004

The development of knowledge and skills, and building on the pervasive influence of modern technologies has brought about a fundamental reshaping of the Korean economy. What is underway now is a transformation of Korea's education, culture, business and society. Korea is now in the process of e-Transformation.

To take part in e-Transformation, the number one priority for countries should be energy. Energy in the form of electricity is the engine

of development. States must develop an electrical power infrastructure first and ensure they have basic, affordable electric energy before pursuing e-Transformation.

e-Readiness

The Economist Intelligence Unit (EIU) publishes an annual e-Readiness survey of the world's 60 largest economies. The survey is a measure of the e-Business environment and a collection of factors that indicate how amenable a market is to Internet-based opportunities. It allows governments to gauge the success of their technology initiatives against those of other countries and provides guidelines for companies searching for promising investment locations for online operations.

Categories of e-Readiness:

- Connectivity and technological infrastructure (25 per cent);
- Business environment (20 per cent);
- Consumer and business adoption (20 per cent);
- Social and culture infrastructure (15 per cent);
- Legal and policy environment (15 per cent);
- Supporting e-Services (5 per cent).

Connectivity and infrastructure:

Connectivity measures the access that individuals and business have to basic fixed and mobile telephony services, personal computers and the Internet. Affordability, quality and reliability of service also figure as determinants of connectivity.

Business environment:

In evaluating the general business climate, the EIU screens 70 indicators covering criteria such as strength of the economy, political stability, the regulatory environment, taxation, and openness to trade and investment. The resulting business environment rankings measure the expected attractiveness of the general business environment over the next five years. Calculated regularly as part of the EIU country forecasts, these rankings have long offered investors an invaluable comparative index for 60 major economies.

Consumer and business adoption:

The e-Readiness rankings assess how prevalent e-Business practices are in each country. To what extent is the Internet used to overhaul and automate traditional business processes? And how are companies helped in

this effort by the development of logistics and online payment systems, the availability of finance and state investment in ICT.

Social and cultural infrastructure:

Literacy and some degree of education are preconditions to being able to navigate the Web. The rankings also consider a population's e-Literacy, its experience using the Internet and its receptivity to it, and the technical skills of the workforce. Because Internet business involves risk-taking, the rankings assess the national proclivity to business innovation and entrepreneurship.

Legal and policy environment:

A country's overall legal framework and its specific laws governing Internet use are both vital to e-Business development. How easy is it to register a new business and how strong is protection of private property, including intellectual property? Governments that support, both through policy and capital allocation, the development of ICT infrastructure receives high scores. Those more concerned with censoring content score lower.

Supporting e-Services:

No business or industry can function efficiently without intermediaries and ancillary services to support it. For e-Business, these include consulting and ICT services, and back-office solutions. The rankings also take into account whether there are consistent, industry-wide technology standards for platforms and programming languages.

Many countries reap benefits from being at least partially e-Ready without the components that support digital services.

In past years, countries that have all these enablers working in tandem score highest. But having one or more of the basics in place can go a long way, as a country leverages what e-assets it has to generate competitive advantage. For example, India and Brazil have booming IT-enabled services markets. India's software services industry is worth 3 per cent of GDP in spite of ranking low in overall e-Readiness (46th among 64 countries).

A combination of back-office facilities and competent, cost-competitive workers has given rise to thriving IT businesses. Seen in this light, the "digital divide" is not so much a chasm between haves and have-nots, as a distinction between developed markets. A country can seize opportunities in specific technology niches with their comparative advantage. In either case, e-Readiness can deliver real benefits to industry, government and individuals.

Potential of e-Business

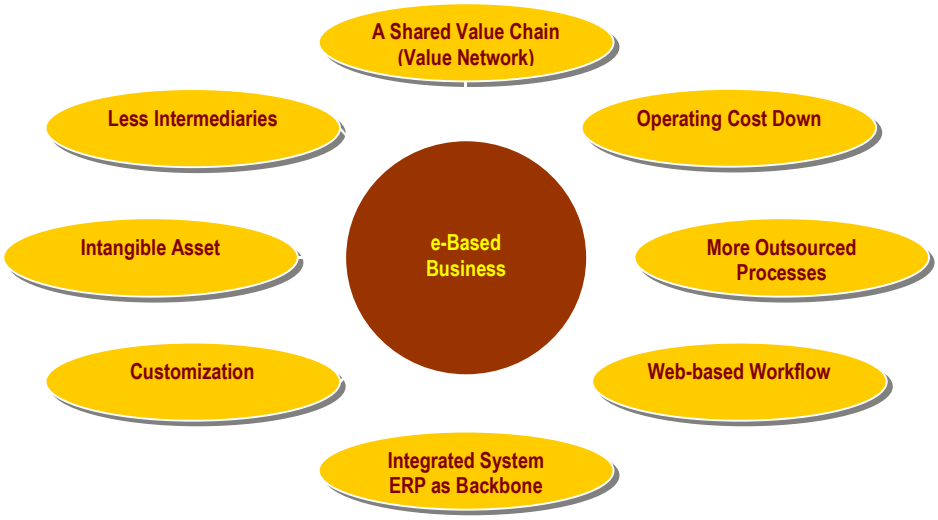

Figure 1. Why e-Business?

e-Business is a shift from bricks and mortar to 'clicks' and mortar. The buzz words of e-Business are:

e-Business – the process of conducting business on the Internet;

e-Commerce – the process of selling and buying goods and services on the Internet;

Public Key Infrastructure – a system for securely exchanging information within a company, group or worldwide that includes a method for publishing the public keys used in public key cryptography and for tracking expired keys;

Public Key Cryptography – a method of coding in which encryption and decryption are done with public and private keys, allowing users who don't know one another to send secure or verifiable messages;

Platform for Privacy Preferences – a project of the worldwide web consortium that will give consumers a way to learn about and react to the way web sites may be using personal information;

Digital Certificate – a digital document issued by a certification authority that contains the holder's name, serial number, public key and the document's expiration date. Digital certificates are used in public key infrastructure to send and receive secure, encrypted messages.

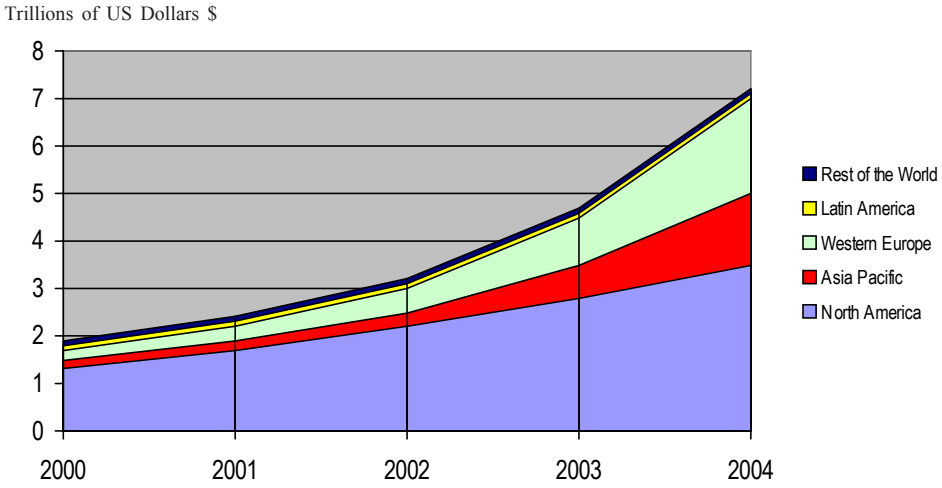

Table 1. e-Commerce Spending Trends

Forrester Research, an independent research firm, estimates that by 2004 worldwide e-Commerce will exceed US$6.7 trillion. e-Business will effect every industry and countries that ignore it will be left behind.

The benefits of e-Commerce are that it extends market reach for businesses around the world, it boosts consumer convenience and choice, increases new business opportunities and enhances competition and reduces prices. It also creates new market efficiencies and streamlines operations and reduces associated costs.

Currently, domestic markets in Asia are small, export-oriented, and highly dependent on overseas suppliers. Small business on the other hand is strongly and vertically-tied, small in number and with a low informatization level, along with having a weakness in infrastructure and low awareness of e-Business and its potentials. Therefore, to benefit from the potential of e-Business, the e-Business environment in Asia needs to make some improvements, including improving its collaboration with overseas buyers and suppliers. It also needs to minimize government restrictions or deregulate and streamline procedures and make them more transparent. It will also require private sector leadership and stronger business practices along with the participation of small and medium-sized businesses (SMEs), and the establishment of a channel for private sectors among the nations.

Opportunities in the Internet Economy

Most of the existing traditional business systems will soon become redundant; therefore the speedy adaptation to IT-oriented changes can give new opportunities to smaller companies to gain the initiative in their

industries. Borderless global markets will allow competitive local companies to reach and to get more markets in an effective and efficient way. SMEs can create a strong virtual organization with IT, which can empower them to compete with traditional big companies. However, at present many SMEs do not have the human resources necessary to compete with bigger companies.

Threats in the Internet Economy

Companies that do not adapt their products, processes, and organization to e-Business will fall behind from the industry's mainstream, and will lose customers and partners. Other threats include the pressure from the borderless global markets that may force local companies to compete face-to-face with world-class companies. Further, less of a threat and more of a reality, is that the gap between the digitally-rich and digitally-poor companies is getting wider and wider. The changes brought by the ICT revolution will be completed within a short period of time. It is quick reactions now that will determine whether companies and countries win or lose from this revolution.

c-Commerce Equation

Otherwise known as collaborative commerce, c-Commerce is a new business equation that is redefining the way we work in today's global marketplace. It is the set of electronically-enabled collaborative interactions between an enterprise, its suppliers, trading partners, customers and employees that optimizes supply and distribution channels in order to capitalize upon the global economy and use new technology efficiently. c-Commerce leverages the Web to create and maintain an interactive business community of employees, trading partners, suppliers and customers. This real-time Internet connectivity enables data, intellectual capital, human resources and processes that were once considered internal to be shared, and used, by the collaborative community at large.

c-Commerce means collaborative commerce, but it can also be cultural commerce, involving more human factors. The original "e-Commerce" concept has evolved into a term used to describe the buying and selling of goods and services over the Internet. It is transactional in nature and seldom involves processes outside of order placement, order fulfilment and payment-related functions. c-Commerce, by comparison, goes well beyond online marketing and sales. It involves the dynamic, Web-enabled exchange of information and ideas between trading partners, and within enterprises, to improve product design and development, supply chain operations and manufacturing processes. The c-Commerce premise enables every member of these virtual communities to take advantage of each other's core competencies, intellectual capital and business processes.

Shared databases, open systems, and high inter-enterprise visibility and cooperation ensure that each member of the c-Commerce network provides greater value to its customers.

Enterprises that embrace c-Commerce can expect streamlined business processes, new cost efficiencies, greater customer satisfaction and loyalty, and exponentially expanded revenue potential. Although each member of the collaborative community continues to perform a specific set of tasks and functions, the sharing of information and knowledge achieved though c-Commerce will result in significant competitive advantages for all concerned.

Built on its e-Commerce predecessor, fully established by 1995, the first signs of large-scale c-Commerce adoption began to emerge in 2000. Although still in its early stages, c-Commerce is being used today in a growing number of product design, manufacturing, supply chain and sales and market applications. Research shows that the c-Commerce model will be rapidly adopted by organizations equipped with the infrastructure, applications and business leadership qualities that support collaborative practices. By 2005, an average of eight of the top ten revenue generating enterprises in each industry with a Standard Industry Classification (SIC) code will have deployed inter-enterprise c-Commerce initiatives.

Organizations that fail to prepare for the shift to c-Commerce will face extreme business disadvantages. As a growing number of enterprises use the Internet to exploit the benefits of shared knowledge, processes and resources, those organizations that do not will become less efficient, less innovative, less agile and less profitable than their collaboratively empowered competitors. All organizations, regardless of their specific line of business, will benefit directly from applying c-Commerce principles throughout their enterprise. Cost-efficiencies, enhanced market visibility, streamlined processes, improved customer relationships, and for those that adopt c-Commerce quicker than competitors, increased revenue resulting from c-Commerce programmes will apply to all business entities that embrace the c-Commerce idea.

e-Business in Korea

The e-Business environment in Korea is based on well-developed infrastructure. Broadband with fibre optics is widely available and a nationwide high-speed information network will be in place by 2005. There are 11.6 million subscribers to Broadband Internet Services (as of June 2004) or nearly a quarter of the population. Nearly three quarters (73 per cent; 33.7 million subscribers) of the population has mobile Internet access (June 2004), and 67 per cent of the population subscribes to third generation (3G) mobile access (June 2004).

It is clear from the above figures that Korea has wide penetration of e-Technology, with the greatest number of broadband Internet users and highest penetration in the world, but it is still behind in e-Commerce and e-Business. One reason for this is the human factor. Technology is not pulling the market anymore—services are now doing this. So it is important not to over emphasize technology. Human resource development must come first, along with energy infrastructure.

e-Business barriers in Korea include lack of collaboration among corporations, limited e-Business resources for SMEs, unsound business practices, lack of innovation and underdeveloped e-Business enablers, e.g. standardization, such as e-Payment.

Korea has been successful in the past through hard work, but in the future better, smarter practices are needed and e-Business and information technology are the enablers for this.

B. e-Commerce Web Sites: Findability, Usability, Credibility

Ms. Penelope Price, Senior Communication Specialist and Webmaster
ADBI

Findability, usability and credibility are the keys to Web sites. *Findability* is ensuring that customers who want your product will find your site from among the millions of other e-Commerce sites. *Usability* is a measure of how easy is it to find information about your product, compare prices, and complete an online transaction. *Credibility* is why a potential customer should give a site their money—what guarantees are there that the product will arrive and that it will match their expectations. Trust is paramount.

Design

When measuring the effectiveness of these three key components in a web site, it is important to look at cultural differences that may influence design. Initial studies into web site design were conducted in the United States because the initial web activity was in English, and predominantly based in America. However, a recent and important survey[1] conducted in June 2004 examined global user expectations about the location of e-Commerce web objects, examining what users in different countries expect online, what they do online and whether there is any variation. The survey found that there was very little difference in expectations.

[1] http://psychology.wichita.edu/surl/usabilitynews/62/web_object_international.htm

Web site users like consistency in page layout and design. There should be uniform placement of essential content e.g. Backline (top-left) and web sites should be easy to use. Graphic designers are essential in ensuring that government sites remain focused on the primarily objective of servicing the needs of users. Any advertisements should be at the top of the page. Advertising, particularly flashing ads, is guaranteed to turn away users. Internal links should be located at the left side of the page. External links should be located at the left and right sides of the page and the shopping cart link should be located at the top-right of the page. The "help" link should be located in the top-right corner of the page.

It is important to conduct competitive analysis before designing the scope of a site and to look at what the most successful sites do. While designs must be original, government offices can review the process of successful sites and learn from them. Land's End Clothing and Amazon.com are two very good sites.

Findability

The second question after design is how will people find your site? People find online suppliers largely through word-of-mouth. Word-of-mouth is very powerful in terms of online shopping given the vast number of sites online. Currently, there are about 320 million web sites, with a new site added every 20 minutes.

Word-of-mouth in the media is even stronger. International audiences in particular use newspaper and travel reviews. Some companies put web addresses on ads in the cinema, as in the Philippines. In India, newspaper reviews are popular. Another popular tool is the search engine.

When creating a web site always use "meta" tags. Meta describes the information on your web site, and should always be guided by the content people not the technical staff. Meta is the system by which search engines identify web sites that match their query. It works by trying to match the word in the search box with the meta on a page. Meta includes the descriptions and key words that describe your products. They are hidden in the code and are crucial in helping your site be found by search engines. Without meta it is unlikely that a site will survive. When creating meta it is important to keep in mind that most people will put in a maximum of two words when doing a search.

E.g. "Bhutan" and "textiles"

Therefore, crafting meta is extremely important. As most people are not prepared to search through pages of sites to find what they want, web site designers need to get their site in the top ten sites matching the search.

Usability

Most people shop online for convenience and because they think they can save money (there is no middle person). Further, there is a wider range of products online and no sales pressure. However, only five per cent of visits online result in purchases. So a web site has to serve many purposes, and it has to work harder than a shop, because there is no one to answer customer questions. Thus, it is a very complex task to build even a simple site.

Some points to consider when building a site is that most people are reluctant to give away private information and when required to, many will give a false name and address, and others will leave. So don't make users register just to view a catalogue. It wouldn't be required in a shop, so why online?

Secondly, don't hide the price of a product or make people email for the price. If there is a good reason why you can't publish the price, say so, or provide a range.

It is important to be clear about shipping details. If your site only ships domestically inform customers on the first page. It is quite legitimate to have a domestic-only web site, but say so.

Case studies

Participants were asked to look at the following sites and find their shipping details:

1. RediffShopping.com (India)

On this site it was not clear. The shipping information was in the "shopping trolley", under the terms and conditions. Ms. Price said this was not a good location for it, as it required users to go to terms and conditions before they had decided whether they wanted to buy anything. Another important rule in web design is to match expectations. In this site when users clicked on "view cart" it took them to the "shopping bag" creating a mismatch of expectations.

2. Metro.com (Singapore)

On every page of this site it warns users it only ships to Singapore, however the font is very small, and could be larger. What is useful on this site is that they make it clear that they are creating a market for people in Singapore. Another important consideration for online shoppers is what, if any, international tax might apply. If you are purchasing a gift from an

international web site the tax can be very high. The other thing shoppers need to know is product availability and how long will it take to receive the product.

3. Disney.com

This site had a number of pop-ups. Most people don't like pop-ups, so if its important information there is a chance they will ignore it.

4. Freedom.com

This site had a fixed font size making it difficult for some users who may not be able to read small print. They have also arranged their products by rooms, predefining buyers' needs and restricting their ability to "browse" the store. Ikea, another furniture store, arranges its' site by product, giving shoppers more flexibility. It is important not to restrict your customers' opportunities.

Other more general tips include using terms that have universal understanding. For example, do not use "zip" by itself as a term for postcode, unless your site is only for American users, as this is a uniquely American term.

Always require users to fill in the month in full as the different presentation of dates between countries can be confusing.

E.g.: 2004/09/02
09/02/2004
02/09/2004
Use instead 02 September 2004

Don't use slang, particularly if your site is international. Use the most commonly used word as you don't always know who your audience is. Do not use acronyms that are not clear, use words in full.

Don't use abbreviations (e.g. M.I. on American sites means *middle initial*, however many people do not have a middle name)

Lastly, avoid cluttered design.

Credibility

The success of a site ultimately comes down to credibility, which is all about trust. Users need to know why they should complete your survey, register personal information, and buy your product.

Stanford University Guidelines for web credibility are a good tool and these guidelines can apply to any web site:

http://credibility.stanford.edu/guidelines/index.html

For e-Commerce sites there are additional items to help make the "buying decision." To ensure e-Commerce credibility, always:

- State privacy policy;
- State returns policy;
- Support international addresses and phone formats;
- Identify any errors in checkout and go back to the form with everything intact and error highlighted;
- Support credit card entry in whatever format;
- Ensure fast downloads;
- Cross selling should be strategic, but make e-newsletters etc. opt-in.

Case Study

http://www/camnet.com.kh/cambodiaschools/villageleap/order_form.htm#p

Ms. Price gave the example of the above online site. She said she had been to the village where the products for this site were made and the organization was based. She had seen their products, liked them and the site was designed by MIT—but she would not buy from this site. Why?

Firstly, the site didn't work properly. For example, some of the links didn't work. Further, the products hadn't changed for three years, and the only contact information provided is an email address for "Bernie" at MIT; there is no contact in Cambodia. Ultimately, the level of trust required for this site is too high, making it very difficult to do business with the site without a big "leap of faith".

C. Samples of e-Stores

Mr. Santi Saeyor, Mr. Sosakul Teeratep and Mr. Panrit Tosukhowong
ADBI

During this session, ADBI IT specialists demonstrated to the Workshop participants the processes involved in creating an e-store and purchasing goods online. Participants were then required to spend two hours building their own e-stores.

The materials provided for building the web site included:

- Software: open source and free software (Zen Cart);
- Web server: Apache with PHP enabled;

- Database: MySQL;
- Mail server: hMailServer.

"Santi's Shopping Spree"

This store was made with free software. Mr. Saeyor said the title of web page was important, as it was a way to catch the attention of prospective customers. Mr. Saeyor then explained the content or components of the store. In the top-left side was the categories of products available through the site. Under this were the new products available. This section should be constantly changing. Further below was the manufacturers' box, which listed the manufacturers who are sold on the store—e.g. shoppers could click on Canon and view all the Canon products sold on the site. Under the manufacturers' box was a customer review box of products sold on site. Under that, very importantly, were the shipping details and return policy. This box provided details of the site's policy on shipping (overseas or domestic only), then under that was a private notice, informing customers of how their information would be used. The next item was "conditions of use" which provided policy details on how the e-store was protected from improper use and what was legally valid (e.g., disclaimers). A last, optional feature was a counter showing how many people had logged into the e-store. On the right was a search box. Findability, as mentioned in the previous session is very important. In the middle section of page an optional feature allowing shoppers to browse the e-store and products without having to log in, is a possibility. The site also provided help to customers who had forgotten their passwords. The free software used for this site supports other languages and can provide that option at the bottom of the page. It also has a currency conversion feature.

In the final section of his presentation, Mr. Saeyor demonstrated to the Workshop how to add products to existing categories in their e-store. This required the web site administrator to go to the administration page of the e-store and log into the site management page. From here, Mr. Saeyor took the participants through a step-by-step process.

A Watch and Jewellery e-Store

Similar in design to the previous store, additional features on Mr. Teeratep's e-store included best selling items on the site and who was buying them—men or women. To be a good buyer on the Internet, shoppers need to know what they want to buy first. Therefore, they need to read product specifications closely and make sure it matches their needs. Using his site Mr. Teeratep demonstrated how to buy online. He then demonstrated the site from the point of view of administration, showing how to undertake order transactions and track shipping and delivery of items ordered.

ADBI Zen Bookstore

Mr. Tosukhowong showed the participants how to change the look and feel of their stores and demonstrated what tools could be used to change the name of the bookstore or customize the colour of the site. He also showed how to upload graphics, such as a logo or background picture, to a site.

D. Evaluation of e-Stores

Following the previous sessions on e-store design and creation, participants were asked to design their own e-store, or improve an existing store they may have, based on what they had learnt during these sessions lead by ADBI's Webmaster, Ms. Price and the ADBI IT staff.

Participants were given two hours to work on the sites. Following the conclusion of this time, each participant presented their web site to the other members of the Workshop and explained its functions, particularly as related to findability, usability and credibility.

Following the presentations, ADBI Webmaster, Ms. Price chose the most successful sites. These are listed below:

Runners up:

1. "Ladies Dream Jewellery Shop"

Ms. Vilayvanh Vongxay

Ms. Price commended Ms. Vongxay on her site and said she enjoyed shopping on it, and it made good use of graphics.

2. "Ice Creams Are Us"

Mr. Fernando Carla

Ms. Price said she really liked Mr. Carlas' site. The graphics were good. They were strong, and although generally the use of the colour black online is not recommended, in this instance it worked well. She also was pleased to see that the site immediately addressed shipping concerns.

3. "Timor Leste"

Mr. Eusebio Da Costa

Ms. Price drew attention to Mr. Da Costa's strong use of graphics, which she said were well chosen, and made her look at the site—which was an important role of graphics.

Winner:

"Bhutan e-Store"

Mr. Sonam Wangdi

Ms. Price chose the "Bhutan e-Store" of Mr. Wangdi as the best site because of its good use of graphics and symbols, as well as strong colours. She also noted that despite the detail on the page, the graphics did not take up too much space, and importantly, the site had a tagline. The tagline explained exactly what the site did, in this case, "shop with us for

authentic Bhutanese handicrafts at reasonable prices." In terms of design, Ms. Price said the site worked very well. Her only recommendation would be to change the contrast in the tagline, because it was a bit difficult to see the red.

Following the presentation of e-stores, participants were given 15 minutes to visit each others' sites and "buy" for those sites. The aim of the exercise was to test the usability of each site and also participants' skills in conducting online transactions. The number of "purchases" made by each individual was recorded, as was the number of "sales" by each e-store. Mr. Sandagomi, from Sri Lanka was recognized as the best buyer with 16 transactions (16 purchases in 15 minutes) and the best seller was Mr. Mohammad Hamid Majidee, from Afghanistan, whose site registered 14 sales in 15 minutes.

E. Automobile Industry and IT

Mr. Satoshi Kuroiwa, Visiting Professor
Nagoya Institute of Technology

Background

In the 1970s, Toyota did not use information technology (IT) in its production systems, and it has only been since the mid-eighties that it has introduced IT into its system. Yet in this short period of time, it has become a model of e-Business.

It produces more than six million cars a year. In one car there are around 3,000 parts and Toyota has about 200,000 employees globally, further increasing the complexity of its operations. To address the inherent challenges and complexities of car manufacturing, Toyota has used IT in innovative ways to enable it to cope with the scale of its car production.

There are many ways of making cars. For example, car producers can choose to make cars in advance of customers, thereby having them ready to go, waiting for buyers. However, such an approach requires a great deal of space. So Toyota adopted the just-in-time approach. Yet, if cars are built by hand this can take too long, so Toyota introduced automation. Still, even with automation, Toyota requires a large number of employees to build its cars. Providing training to over 200,000 employees spread all over the world can be very difficult and expensive, so it introduced e-Learning.

In addition to the use of IT for production, Toyota has also used IT to improve its access and reach its existing and potential customers. The

company has done this through e-Marketing and by linking its marketing and ordering systems with its production system through "GAZOO", a web site and "G-BOOK", an onboard system.

The final challenge to be addressed is the car development system. Developing a new car used to take between 50 and 60 months. By introducing virtual systems, such as 3-D modelling, Toyota has been able to speed up this process. But with six million customers each owning a car for about five years, a way needed to be developed to monitor the life of car parts. Toyota provides a guarantee on car parts for ten years, so it needs to trace parts and manufacturers etc. to ensure parts are lasting for the guaranteed life span. It also uses IT for this.

Measures for the Advanced Digitization of Industry

With the advent of the zero-error era, the Japanese manufacturing industry found it had a management problem. This led to the development of the Electronic Commerce Verification Project in 1995 and the start of the advanced digitization of the industry. In 2000, the Government of Japan began to heavily promote IT with the IT Strategy Conference and the formation of the Electronic Commerce Promotion Council of Japan (ECOM)[2].

The key activities and achievements of ECOM are to support legislation, such as the Electronic Signature Law and the Personal-Data Protection Law which provide comprehensive interpretative guidelines for e-Commerce over the Internet regarding the application of current laws, drafting of interpretative guidelines and so on. It also oversees the drafting of guidelines and agreements for consumer protection, Certification Authority guidelines, security guidelines, and the Standard Agreement on Electronic Settlement, as well as standardization and dissemination of electronic commerce and formation of organizations. This includes online dispute resolution.

There have been significant structural changes to the automotive industry with the shift to the digital economy. The keywords now for companies pursuing digital innovation are—customer-centred, agile and lean, concurrent engineering, collaboration, *de facto* standard, e-Business and e-Commerce. However, it is important to note that only 25 per cent of value is added in the assembly of the car. Most of the value comes later, downstream in the sale and maintenance of the car.

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2 www.ecom.jp

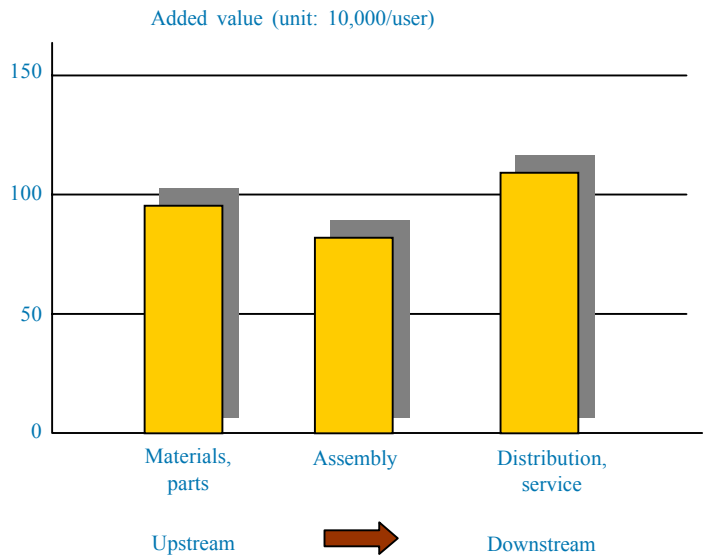

Table 2. Added Value of IT for the Car Business

IT has created highly functional vehicles that have autonomous systems such as blind corner monitoring and advanced positioning correction and cooperative infrastructure systems with cruise controls built-in and synchronized navigation shift controls for example. Toyota has also developed G-BOOK, which is an onboard information service. Its main aim is to direct vehicle systems and its functions and services include information news, weather, and traffic information. Its systems are integrated with car-navigation systems, town information, etc. It can download maps, music, images, electronic books, send and receive emails and has entertainment features such as games, network karaoke and provides Netcare (car care via the Internet) and car repair and maintenance information.

An important feature of G-BOOK is GAZOO[3]. GAZOO is Toyota's portal site in the car business value chain. It provides an interactive information service to customers and enables them to go from their cars to e-Commerce sites where they can get information and pursue products.

G-BOOK is the embodiment of vehicle-IT integration. It has led to the creation of new car values and the establishment of a system to maintain long-term contact points between Toyota and its customers. It is the expansion of the compound value chain of vehicles and other areas.

[3] www.gazoo.com

G-BOOK and GAZOO allow users to go, not from the virtual to the real, but from the real to the virtual. They have created a new way for customer relationship management, a hybrid marketing that combines face-to-face sales in a real store by sales staff, with the provision of virtual information via the Internet.

As mentioned in the background to this presentation, in the 1980s it used to take new car manufacturers 60 months to make new cars; now that time is halved. The critical factor in the reduction of time needed for new car development is IT. Reduction in production time is due to front loading of business processes which has resulted in job organization reform, reengineering, and concurrent engineering achieved with IT support.

Toyota management is people-centric, but also technology-centric. People-centric means it is process-oriented, focused on *kaizen* (improvement), collaboration, and open, bottom-up and flexible processes. With technological innovations and its people-centric management environment, the Toyota production system continues to evolve.

Total optimization by using IT is important at the planning stage (modelling and simulation), while the synergy of Toyota's production systems is important at the implementation stage. Toyota uses IT in its customer relations, in its production processes, in its sales and marketing activities, and to support its global supply chain. However, before pursuing an IT strategy, it is important to first improve mechanisms and operations and only then begin on automation and the introduction of IT. This is because once IT is introduced and an IT system designed, operations are fixed and cannot be easily changed.

F: National e-Strategies: Creating an Enabling Environment

Ms. Marta Pérez Cusó, Associate Economic Affairs Officer
UNCTAD

Ms. Pérez Cusó's talk focused on the design of Information and Communications Technology (ICT) strategies to increase economic and social development.

Digital opportunities

In the economic sphere the contribution of ICT has been dramatic. ICT enhances productivity and competitiveness abroad and at home and provides opportunity for better interaction between players. It can assist not just individual traders but also national economies. ICT provides new ways to organize enterprises and to interact with outside players: new forms of collaboration. It also offers opportunities to work in new sectors.

In the era of globalization, the Internet allows countries to sell internationally not only products but also services, such as business processes services. India has been very successful in the export of software and IT services. In 2002, they accounted for US$8 billion or16 per cent of its exports and eight per cent of its foreign exchange earnings.

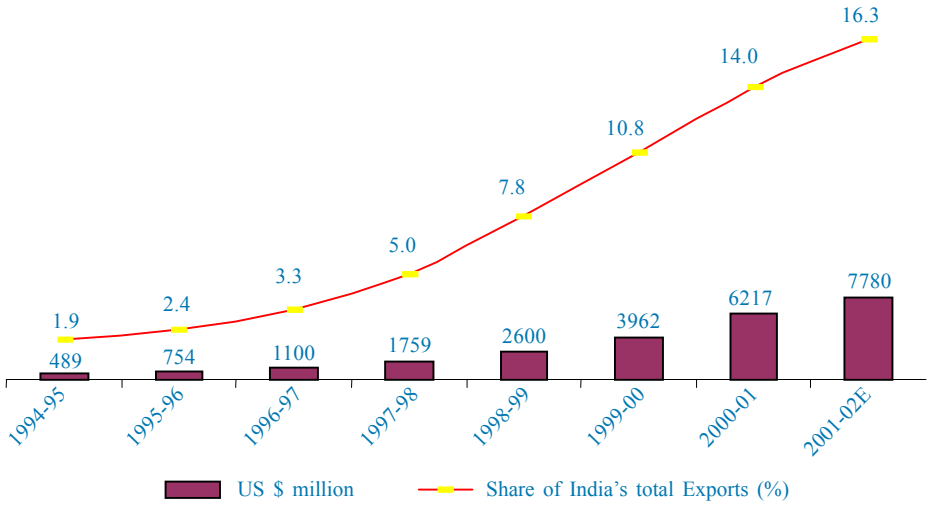

Table 3. The Indian Case

Asia-Pacific[4]

The Asia-Pacific region is the largest Internet user group (160 million people) in the world; however, some Asian nations also have some of the lowest Internet user densities. In India, for example, less than one per cent of the population uses the Internet.

Another important consideration is that while hardware manufacturing hubs contribute to ICT development in Asia, much of the value goes to intellectual property rights holders located outside of the region. Nonetheless, there is potentially a large market for ICT goods and services, as Asian populations are becoming the largest consumers of ICT goods and services.

Asia's diversity (both in terms of culture and development) makes it a perfect test of policies, technologies, legislation, and business models, but also poses challenges to the implementation of blueprint regional models.

4 Source: Digital Review of Asia Pacific

National e-Strategies

Despite positive trends and despite the important opportunities that the knowledge economy offers for developing countries' growth and development, most enterprises from developing countries are still excluded from trading online. Thus, developing countries need to put in place national strategies to raise awareness, create an enabling environment, and build capacity and skills for the digital economy.

The chart below provides a model framework for the development of a national ICT strategy. It serves as a useful basis for explaining the policy areas that should be covered under such a strategy and it shows how policies related to the information economy and society fit.

A number of sectors are targeted by specific policies. Such sectors are divided into two groups, those primarily dealing with the information society (health and education), and those primarily related to the information economy (including all industry sectors, trade, investment and finance). Along such continuum of sectors government is placed in the middle, providing services to both the public and private sectors.

Then there are different policies addressing such sectors: (a) e-Business policies (including e-Commerce policies) that particularly target the information economy. They include policies related to the business and economic environment, enterprise development (especially promotion of small and medium-size enterprises, or SMEs) and development of the ICT industry; and (b) e-Society and e-Government policies targeting the information society, and covering areas such as health, culture, education and the media, as well as government services and customs.

Additionally, there are cross cutting policies that affect all the sectors. They include policies related to telecommunications infrastructure, research and technology development, awareness creation, training and capacity building, legal and regulatory issues, and measurement and monitoring.

Basics of e-Strategies

The basic components of an e-Strategy are i) awareness and training, ii) ICT infrastructure, connectivity and access, iii) adapting the legal framework: trust and security, IPRs, consumer protection, privacy, iv) creating sector-specific initiatives for economic sector, these are policies to enhance the business and economic environment, by for example, assisting local industries to find a niche, promoting a strong domestic IT industry, providing adequate financial support services, and benchmarking and monitoring, and v) promoting e-Government.

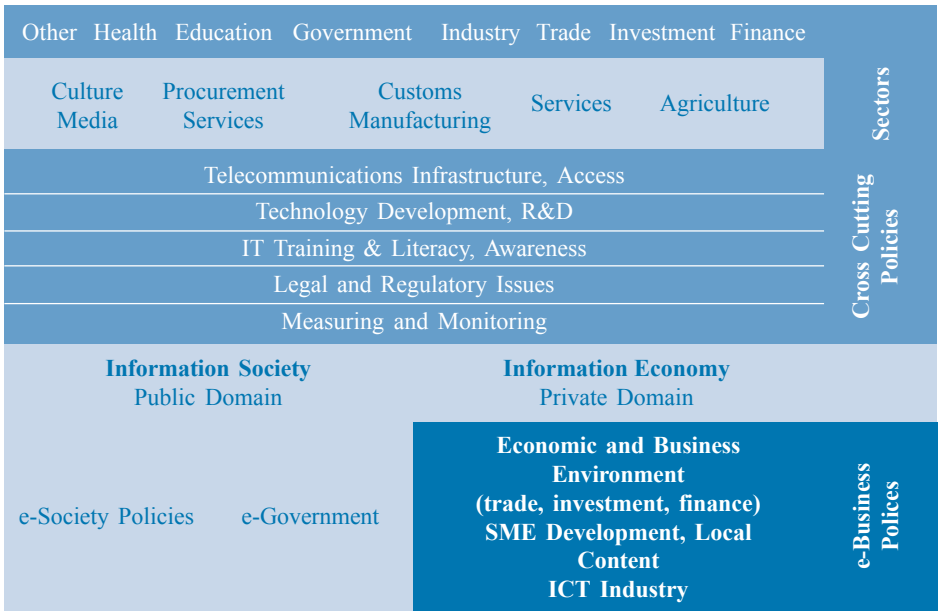

Figure 2. Example of a National Strategy Framework

1. Awareness and training

Awareness building and training should focus on changing mindsets not just building skills. Therefore, awareness should be built at all levels - government officials, entrepreneurs and consumers. This can be done by sharing best practices, media campaigns, governments leading the way (e-Government), and by providing basic IT education through, for example, introducing IT training into curriculum and trainings or through labour force training and skills development - here the private sector plays a key role.

2. ICT infrastructure, connectivity and access

ICT infrastructure needs to be accessible, affordable, and of good quality. To achieve this, governments need to promote an appropriate investment climate as infrastructure can be costly. Telecommunication sector reforms can also lead to significant improvements. Further, governments have a responsibility to create universal access to minimize digital exclusion. They can do this through shared access models, universal service obligations, public-private partnerships and through promoting appropriate technologies (hardware and software).

3. Adapt legal framework

A legal and regulatory framework that supports and facilitates the application of information and communications technology to trade and to business in general, needs to be defined and implemented. Issues such as security, privacy, consumer protection and intellectual property rights, among others, should be dealt with keeping in mind the particular needs and means of the developing countries, but also the fast-changing realities of e-Commerce and its potential.

The main legal challenge of e-Commerce today is that information is intangible. For example messages in the workplace or business are no longer written on paper, instead they are now sent as electronic messages. Because of this and other characteristics, such as e-Services do not cross physical borders, national legal frameworks need to be adapted to enable the development of e-Commerce. It is also important to strike a balance between regulation and flexibility.

4. Sector-specific policies

Policies are needed to create a conducive economic and business environment that encourages trade and investment. A policy framework that promotes open markets, competition and private-sector investment will attract companies. In choosing technological standards it is crucial to consider their compatibility at the international level and avoid future lock-in. Ensuring adequate finance and payment methods are available is another way to promote e-Business. Finally, SMEs are the backbone of the economy and they should not be left behind. Bringing the benefits of ICT to SMEs is especially challenging because of their limited access to financial and human resources.

For countries to be able to maximize the opportunities the information economy offers citizens, traders, and customers should be able to access information relevant to them, and in a language they can understand. Content production is in itself an industry, which can be nurtured to become a niche market.

By targeting certain industries and business sectors, governments can play an important role in enhancing the development of e-Business in the country. In a number of countries (i.e. India, Malaysia) the development of the domestic ICT producing sector has been a priority in the national development strategy. Development of ICT hardware and software production is often pursued by establishing joint ventures or creating high technology parks offering investment and export incentives.

It is also useful to monitor and measure ICT usage. Currently, there is limited information on the e-Commerce sector. Yet, it is difficult to take decisions without knowing if policies are working, how big the market is, what the opportunities are and so on. Therefore, there is a need to develop indicators and the capacity to measure.

5. e-Government

Governments play a key role as producers and users of ICT. They also facilitate ICT use by creating an enabling environment. Governments can maximize the opportunities that ICT offers for economic and social development by addressing the digital divide, by adopting e-Government, and by taking advantage of ICT to improve transparency.

Maximizing the impact of e-Strategies

To maximize the impact and success, an e-Strategy should be integrated into the overall national economic development strategy and involve all key stakeholders. It should be adapted to local needs and context, but it should also be based on international best practice and on effective competition, and it should be technology-neutral.

Activity:

Participants were asked to return to their Country Reports and identify an e-Strategy element. They were also asked to identify a missing element and finally, to consider what possible obstacles to implementation there might be and how these could be addressed.

Bhutan

Sector specific industries were the missing element. There was also a disconnect between ICT and normal policies for promoting trade and industry progress. To address this, clear policy guidelines are needed. Training in ICT should be prioritized, and the support of industry associations mobilized to sustain the use of ICT. An obstacle to this is that many SMEs lack capital, and the Government has limited funding. Funding could be generated by encouraging banks to provide capital (through incentives), and the Government could also give tax incentives to providers of ICT. Lastly, incentives could be given to users who adopt ICT – e.g. through tax breaks.

Cambodia/Laos

For Cambodia and Laos IT is a new sector, and they shared the same problems. Cambodia identified training as their priority. Lao PDR said it needed both IT training as well as infrastructure.

Myanmar

Myanmar identified security on Internet transactions as a challenge and suggested that a legal framework should be prepared by the Government.

Maldives

The Maldives said it needed more information on Internet usage and e-Commerce. Once it had this, then it should set goals and design an e-Strategy. The key issue is infrastructure and access and secondly, e-Government, which is currently limited and not integrated. In terms of implementation of strategies, components of e-Strategies do exist, but there is not an e-Commerce strategy as such. This needs to be integrated into the existing strategies in a way that will benefit the country's development as a whole. Further, key stakeholders, especially the private sector, should be involved. Specific strategies include sharing of resources, training and putting networks in place.

Sri Lanka

The sector specific strategy is in Agribusiness. Agribusiness involves the selling of fresh produce, but farmers don't have access to up-to-date market prices and information. Therefore, they don't know what the market demand is and at what price products are selling, creating a mismatch between farmers and buyers in fruit and vegetable market. The strategy is part of a pilot project to use ICT to provide market information for these products to farmers through village e-Commerce centres. As part of that project, local stakeholders are involved in the development of rural e-Commerce centres, using best practice lessons from other countries, such as India.

e-Strategies Case Study – Thailand

The existing national IT committee (NITC) and the National IT 2000 Policy Plan formulated in 1996 are the building blocks of Thailand's e-Strategy.

A national framework has been created through the introduction of various policies and plans. These include the IT 2010 Roadmap, which outlines long-term IT policies, as well as a National ICT Master Plan 2002-06, which has specific policies. In addition, the Ministry of ICT was set up in 2002 and multiple government agencies are involved in IT planning and implementation.

The Governments' policies prioritize the development of information, content and knowledge over infrastructure. The policies aim at pursuing the continuous development of human resources, reducing the national digital divide, providing permanent, clear-cut leadership and creating a link between the policies and practices of NITC and the telecommunications industry.

Its achievements so far include two national Internet exchange points, 1100 public Internet booths, TambonNet – which provides an Internet point in each district – and the launching of SchoolNet Thailand which connects primary and secondary schools and provides ICT training to teachers. A Thai-language Linux (open-source operating system) has also been developed.

Lessons from the Thailand case study show that leadership from the top is essential. Integration with other development policies, such as linking with education policies, and the participation of all key stakeholders is also essential. Further, implementation plans need to be explicit and it is important to measure and monitor activities and outcomes.

e-Strategies: Regional Initiatives

The e-ASEAN Framework Agreement, 2000[5] was set up to promote cooperation and strengthen competitiveness of the ICT sector as well as to address the digital divide, to promote cooperation between the public and private sectors, and to liberalize trade in ICT products, services and investments in the subregion.

The Role of Business

Businesses can maximize the opportunities that national e-Strategies offer by becoming familiar with the national e-Strategy and the specific ICT policies and incentives. Business should also participate in the design and implementation of e-Policies and link with other businesses to demand an enabling environment. They can also play a role in pursuing South-South cooperation.

Recommended Reading

e-Commerce and Development Report

Freely downloadable from www.unctad.org/ecommerce

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5 Source: Digital Review of Asia Pacific

Digital Review of Asia Pacific 2003/2004

Can be purchased through www.digital-review-org

Conclusions

An e-Strategy is needed to build ICT competence, infrastructure, connectivity and access. It is also essential in helping to set the legal and regulatory framework and should include specific sector policies and trade supporting services. Lastly, e-Strategies should be designed taking into account regional and international policy processes, so as to build coherence and strengthened support.

G: Innovation Policy: A Cornerstone of e-Business

Mr. Stephen Braim, Government Programmes Executive
IBM Asia Pacific

In today's globalized world there are new and pressing challenges facing many of our economies and societies. These include:

- How to accelerate economic development;
- How to remain competitive in today's fast-paced global economy; and
- How to improve the standard of living and quality of life for our people.

These are all complex issues, with no easy answers. However, the keys to addressing these issues clearly involve e-Business strategies and innovation policies.

Whether talking about a country or a company, the ability to innovate to drive new e-Business technologies, processes and outcomes is one of the most critical factors that determine success or failure.

The three basic questions that this presentation will try to answer are:

1) What is innovation?
2) Why is it so important to focus on innovation and what is its' role in e-Business development?
3) What are the factors that create a fertile environment for innovation and e-Business growth?

What is innovation?

Firstly, it is important not to confuse invention with innovation. Innovation is much more than invention, and, while both are of great value, the difference is important.

Invention is the creation of something that didn't exist before—a new device or process.

These days, people invent new things at astonishing rates. More than 850,000 patents were granted in Europe, Japan and the United States in 2002. That is an average of 97 patents an hour.

Yet how many of these inventions truly make a difference in our lives? How many inventions dramatically improve productivity? Or create new industries? Or provide a cure to a crippling disease?

Invention alone does not guarantee value. That's where innovation comes in. True innovation begins at the intersection of invention and insight. It is the application of invention—the fusion of new developments and new approaches to solve real problems.

As part of its focus on increasing innovation in the United Kingdom, the British Department of Trade and Industry has come up with a definition that captures this concept—innovation is the successful exploitation of new ideas. The litmus test of whether something is truly "innovative" is whether it delivers significant value for society or business, the kind of value that:

- Creates new industries and national and global markets;
- Spurs productivity and economic growth;
- Fuels wealth creation and profits;
- Generates high-value, higher-paying jobs;
- Raises the standard of living, not just for direct beneficiaries of those new jobs, but also for other people touched by the innovation.

History is full of examples of this societal impact. One such example is the invention of the transistor. Now very familiar to all, it was first produced more than 50 years ago. What is so impressive about the transistor is not the invention itself; it is the countless people who have thought of countless ways to apply it.

At first, transistors made possible a host of products that simply weren't feasible in the vacuum tube era—such as lightweight, portable radios, calculators and digital watches. But with the integration of hundreds, thousands and now millions of transistors working together on a small piece of silicon to form the integrated circuit, the way we all work and live has been profoundly transformed. These microchips are essential components of almost every mechanical and electronic device in use today. They are in cars, refrigerators, phones, medical devices, and so on—in some form or another, we are never very far from transistor-based technology.

Some estimate that the amount of transistors produced each year outnumbers the worldwide ant population by 10 to 100 times. If nothing else, that's certainly an innovative measure of success.

In terms we might better understand, the worldwide market for semiconductors topped US$161 billion last year, making the transistor one of the backbones of our global economy. In fact, in the information technology industry alone, it generates US$1.3 trillion a year, all made possible by the transistor.

There are similar examples of innovation that have ignited waves of growth and prosperity:

- Applications of the steam engine powered the Industrial Revolution, a turning point in world history.
- Integration of several existing inventions and further innovations in manufacturing by Henry Ford and others led to the US$1.6 trillion auto industry—which, in turn, fuelled the growth of other trillion-dollar industries such as steel, petroleum and tourism.
- The invention of plastic has helped drive many industries, including aerospace, electronics and packaging.

It is little wonder that the respected business magazine, *The Economist* recently declared: "Innovation is now recognized as the single most important ingredient in any modern economy—accounting for more than half of economic growth in America and Britain. In short, it is innovation—more than the application of capital or labour—that makes the world go round."

In relation to e-Business development and implementation, an increased focus on innovation is important because many economies are at a critical juncture in the process of economic structural transformation. It is a time of great change.

What is becoming clear, however, is that this is not merely a cyclical change in the structure of our economy. It is a long-term and profound structural change.

While globally, many economies have made solid economic rebounds (since 1997 and 2001) several key metrics give cause for concern. Inflation is low, but productivity gains are slowing. GDP growth forecasts are mixed across many parts of the Asia Pacific and unemployment remains a significant challenge, with rural unemployment being a critical issue for many developing economies.

We face a number of challenges with our labour force—such as structural change across agriculture, manufacturing and service industries combined with high levels of workforce migration from rural centres to urban regions. Yet, our ability to implement flexible labour policies remains distinctly limited.

Perhaps most important of all, what *The Economist* calls "the dispersal" of innovation has become global. Whether in China and India, or many of the new countries joining the European Union this year, there is a rapid trend toward outsourcing R&D in an effort to lower the cost of innovation and speed time to market.

The CEO of India's Wipro, arguably the leading R&D services firm in the world, compares this phenomenon to the film industry. Companies are reducing their permanent R&D staff, and are seeking the flexibility of "on demand" innovation teams.

e-Business innovation is no longer confined to any one nation or region—and its very nature is being transformed.

For most of history, innovation was very much a local event—confined to a small region or area. That's no longer the case thanks to low-cost, instant connectivity virtually anywhere on the globe.

As a result of e-Business infrastructure and processes, innovation no longer follows a linear path. We used to do the research, then the development, then the engineering, then the manufacturing, then the marketing. Now innovation is dynamic and occurs on multiple fronts at the same time. What once could be done independently now is highly interdependent, drawing upon the knowledge and insight of many others—and no longer within single, silo-ed areas of expertise, but rather across multiple disciplines.

In the past, we built to forecast and demand. Today, we must respond "on demand." To do that, we can not be independent workers in silos anymore. We have to think in an interdependent, collaborative way. We have to think across disciplines, and collaborate at the intersections between them. We have to think and work in an e-Business framework.

Within this context, some of the other major shifts that are affecting business and society are:

1. **The growing services economy.** Services in countries that are part of the Organization for Economic Cooperation and Development (OECD) account for almost 70 per cent of the world's gross domestic product (GDP). Job creation in services is exceeding

overall job growth in these countries, with about 65 per cent of workers engaged in activities related to services. Similar percentages are seen in many of the 21 APEC economies.

This is not a new insight by any means, but a trend that many have acknowledged for some time. Surprisingly, though, the R&D world has not caught up with this shift. For example, in the United States, while the manufacturing sector represents only 18 per cent of the economy, and 12 per cent of the workforce, it captures nearly two-thirds of the total R&D spent annually. That translates into missed opportunities. Every country must assess its R&D strategy and make sure that it is in line with the market opportunity presented by the services and e-Business sectors.

Are we ready to respond? Innovation and e-Business policies help preserve competitiveness and create new jobs—in both manufacturing and services. As the demand for services grows, governments will need to address how to best equip their citizens with the right e-Business skills and how to make their countries attractive venues for services innovation and e-Business development.

2. **Global competition.** As the barriers of time and distance fall, so do barriers to entry. Competition can and will come from almost anywhere around the globe. One aspect of this competition is economic growth, including job creation. IBM recently commissioned an economic forecasting firm to conduct research by looking across all the public projections on employment.

   The study found that over the next 10 years, there will be 91 million jobs created globally, with more than 5 million of them created this year. Many of these jobs are coming in new and exciting areas—upwards to 7 million new jobs created by the emerging nanotechnology industry and 3 million new jobs in biotechnology by 2010 in the U.S. alone.

   In the IT industry—an industry that is fuelled by continual e-Business innovation—we expect 1.5 million new jobs to be created globally in the next two years. At IBM alone we expect to create 15,000 new jobs worldwide this year. But where will these 91 million jobs get created?

   That is a sensitive subject these days. We currently live in a world in which there is one economic superpower, the United

States, which drives more than a third of the world's economy. By comparison, the world's most populous country—China—represents only four per cent of the global economy.

e-Business is the key.

3. **Emerging economic superpowers.** That, of course, is all changing, with profound implications not only for those two countries, but for all countries. Within the next few decades, the economies of both China and India are expected to surpass those of Japan and Germany; by the year 2050, China could become the world's single largest economic force.

   Does that mean we all sit back and cede the best opportunities and the best jobs to these countries? Not at all, in fact, in some ways, the equation is simple—the best jobs will go to those countries that create an atmosphere, a framework, in which e-Business innovation can flourish.

   It is true that jobs may be created in countries with lower-cost labour, helping improve those countries' standard of living. But the higher-value, higher-paying jobs, the e-Business jobs that fuel true economic growth and prosperity, will flourish in those countries and regions that create a fertile environment for e-Business innovation.

   So the real question is, "How do you make sure a good portion of those high-value e-Business jobs and their attendant economic benefits accrue to your economies?"

   It's tough to answer, because more than ever, hotspots for e-Business innovation are popping up anywhere on the globe. The rise of the Internet and robust, low-cost digital communications has made it possible for anyone, anywhere in the world, to connect directly into the global economy.

   Clearly the world is changing, very quickly, and our future is indeed being challenged.

   Our mission, as nations or as corporations, is to harness the e-Business opportunity in a positive and responsible way. And this projection of 91 million jobs reminds us that the time is now to act together, to make the right choices across the face of our economy, to ensure that we continue to deliver the higher standard of living and social progress our people deserve.

We should not look at the potential emergence of another new economic superpower as a threat. In fact, we all benefit greatly from economic growth in the rest of the world, because it increases our markets, and prosperity underpins social harmony.

We need to organize ourselves to take advantage of that opportunity.

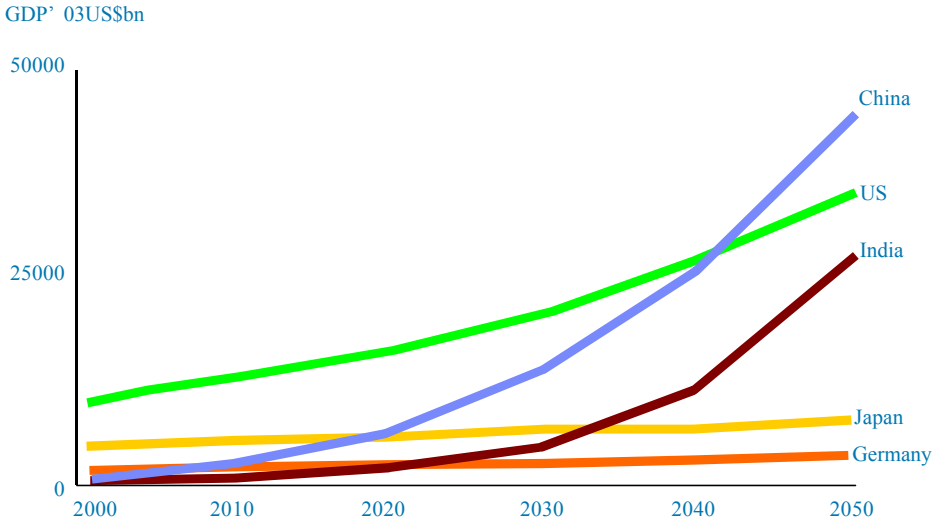

Table 4. New Economic Superpowers in 2050

4. **The ability to transform business models and processes.** Information technology used to be about automating certain tedious processes such as accounting, payroll, and personal productivity, or holding vast stores of information for analysis. But we are now at the point where businesses are creating seamless IT infrastructures to interact much more effectively and efficiently with customers, partners, and suppliers. Just as interesting, we see firms decoupling certain processes from their businesses so they can concentrate on core strengths and differentiators.

   The Future Store in Rheinberg, Germany is an excellent example of comprehensive e-Business transformation from the warehouse to the consumer. This store is transforming the entire shopping experience through the smart application of existing technology. Stock in the store has been equipped with radio frequency IDs, or "smart tags"—microchips containing information about the products.

A smart tag reader sends a message to the store's back-office system when stocks are running low, so shoppers are never faced with empty shelves. It also traces how quickly products are being sold, tracking the most popular items, and the not-so-popular ones.

Smart tags on products such as DVDs or CDs allow customers to take the guesswork out of shopping by letting them scan the item at a kiosk and instantly sample an audio or video clip. At check-out time, the RFID tags in the shopping carts make it easier on shoppers by telling store management how many carts have entered and left the store. If the number of carts being used reaches a certain level, the store opens up a few more check-outs to handle the extra shoppers.

For customers, this innovative use of existing inventions means a faster and more convenient shopping experience. For the retailer, this kind of e-Business innovation builds customer loyalty and helps ward off competition, not just from other local grocers but from Internet retailers who could be located anywhere in the world in today's global economy.

5. **The pace of e-Business innovation is accelerating.** Over time, the penetration rate of the devices that have transformed our society is quite remarkable. Especially over the past 25 years.

   It took the automobile 100 years to penetrate 50 per cent of our population. It took the telephone 75 years, and electricity took 50 years.

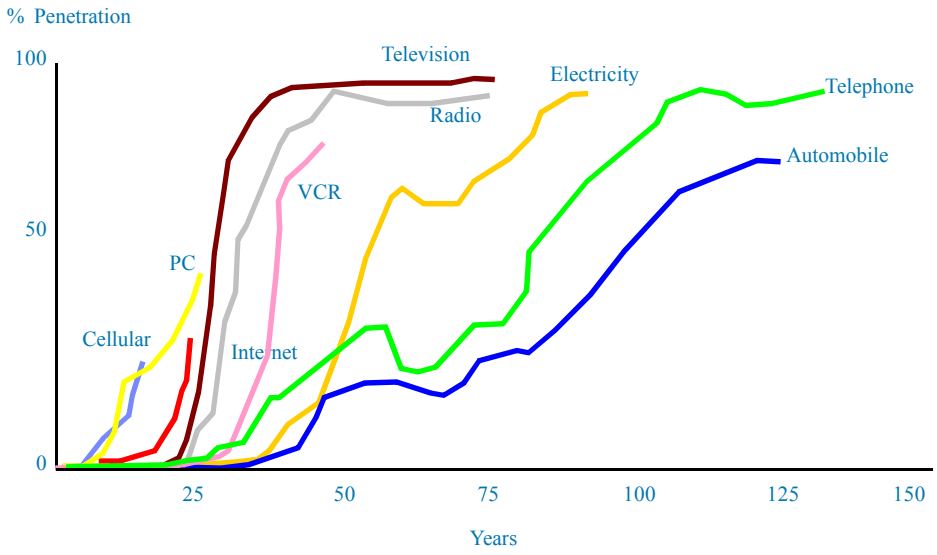

Table 5. The Pace of Innovation

> By comparison, relatively new technologies such as cell phones, DVD players, video games and personal computers are taking hold at a pace that is almost double or triple previous breakthroughs.
>
> These are products that all came to market *before* the global communications and connectivity revolution took hold—imagine what might happen next. Adoption of e-Business technologies and processes is occurring at amazing speed.

With these new realities in mind, governments need to determine whether their country is a hotspot for e-Business innovation. Is government creating an environment in which e-Business innovation can flourish? Where does their economy stand on a scale of global competitiveness?

Some studies would suggest that many countries are lagging behind in key areas. In fact, many countries' businesses and universities are most likely more focused on generating growth and controlling costs than investing in e-Business innovation. But we cannot afford to ignore this issue. In fact, innovation itself is the answer to these challenges. If you do nothing, you risk being left behind.

Countries need to formalize their energies and develop a cohesive e-Business strategy. The national challenge is to look at the broad array of policies, from taxes to market access to education to training, open standards and open computing, payments, e-Government, IT infrastructure and e-Business legislation and so forth. Then lay out clear, actionable, strategic choices that bring them together within a single e-Business policy framework.

Skills and HR Policy

The skills, mobility and flexibility of the workforce are important factors to both producers and customers in e-Business. Science and technology have always played a big part in the economic growth of countries. However, in a study conducted by the National Science Foundation in the United States, the interest among college-age students in attaining bachelor degrees in subjects such as engineering, physical science and mathematics, has either stayed flat or actually decreased over the past twenty years.

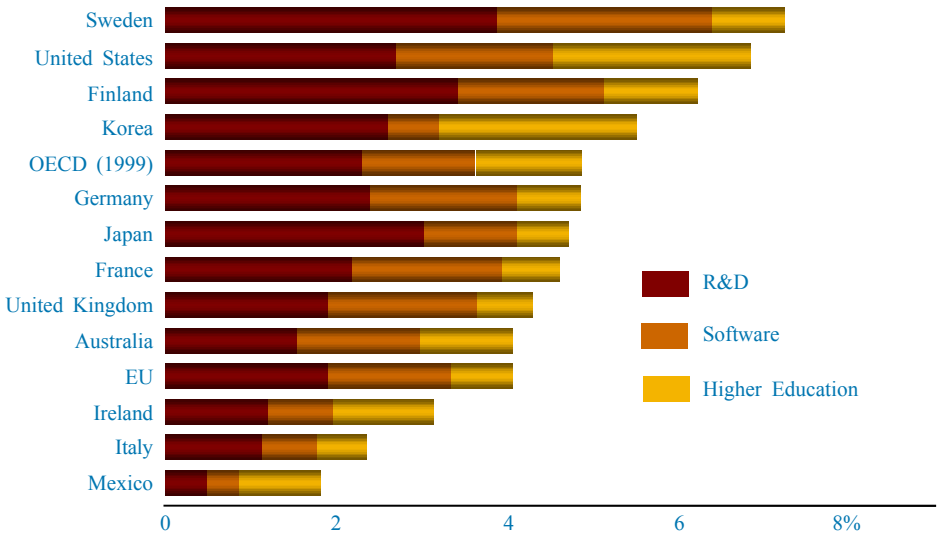

Table 6. Investment in Knowledge (% of GDP and Annual Growth Rate)[6]

That decline is being mirrored in some other industrialized countries, which could face a critical shortage of these skills in the near future.

What effect does the changing nature of e-Business innovation have on skills and education? What skills are needed if we're to prosper in this field?

One certainty is that the e-Business innovators of the future will be those who can bridge the chasms between engineering, IT and technology, business and human relationships. We must invest in training employees in new skills, and we must work closely with our universities to create curricula that ensure a steady pipeline of talent versed in the new and emerging disciplines that support e-Business.

R&D and Funding

Do our traditional notions of R&D and intellectual property protection reflect the reality of today's global e-Business environment? How can we balance the many benefits of open development against the need to protect (and encourage) private investment in research and development? We must re-examine conventional approaches to these issues and then adapt to changing times so we're in the best position to readily identify and nurture the intersections that lead to e-Business innovation.

6 Source: OECD 2003 Science, Technology and Industry Scoreboard

Government Initiatives

Governments must invest in the industries and disciplines that will ensure continued growth and competitiveness in e-Business, rather than become locked into supporting arcane and antiquated industries that stifle development.

We must ensure that government programmes are sufficiently focused on anticipating and investing in these new growth areas and that they provide ample support to drive innovation in existing industries. And the public sector, which represents a significant portion of many economies, must lead by example, and demonstrate a commitment to innovating and reinventing its own operations and e-Business practices.

Labour, Trade and Tax Policies

Government's policies should encourage global companies to make e-Business investments in their country and their citizens. National policies should encourage innovators to live and work is there countries. However, what sorts of policies are necessary to facilitate and reward risk-taking, innovative e-Business companies is an important question that needs answering.

We must work with government to find the right balances between national interests, the needs of citizens, business concerns and a country's economies' position in the global economy.

Metrics

What are the most appropriate measures of innovation? What constitutes progress? How do we track innovation?

Traditionally, we have focused on innovation in terms of research investment—in terms of our students and the skills they need. Using those resources, we asked whether we'd be able to create competitive products and services. We also, in more recent times, have focused on business models and business processes.

But frankly, they are only inputs to the market. Today, we need a framework for innovation that moves beyond those isolated inputs by approaching e-Business innovation in terms of business and societal value.

Further, as we begin to deliver value, we must ask ourselves whether we're doing the right things from an infrastructure point of view. Do we have the right methods of bringing partnerships together? Is our research infrastructure organized effectively?

Equally importantly, we need to ask whether we have the right public policy environment to enable continuous delivery of e-Business value.

If we strengthen the link between innovators, society and the marketplace, we can accelerate the rate, and the likelihood, that e-Business innovations will hit this all-important target in the centre of our framework: business and societal value.

This added perspective greatly benefits the outcomes. Not only does the impact of innovation on business and society accelerate, but our ability to compete increases and the standard of living for our people rises. That is what it is all about: accelerating economic development, remaining competitive, and improving the quality of life and national development.

If new e-Business policy can stimulate more innovation across more companies in national economies, governments will drive greater economic gains, improve the standard of living, and vault their country into the ranks of the world's most innovative e-Business countries. But innovation doesn't just happen. It requires substantial investment and a passion for fostering an environment that stimulates e-Business.

H: The e-Business Revolution and Japan's IT Policies

Mr. Shin Yashunobe, Woodland Corporation and Stanford University

It has only been recently, that Japan has begun to emphasize the importance of policy support for IT growth. A marker of this is the establishment in 2001 of the IT Strategic Headquarters, only since then has Japan taken up the legislative or budget implications of IT.

The graph below shows that in the early stages of global Internet usage, Japan was not so active.

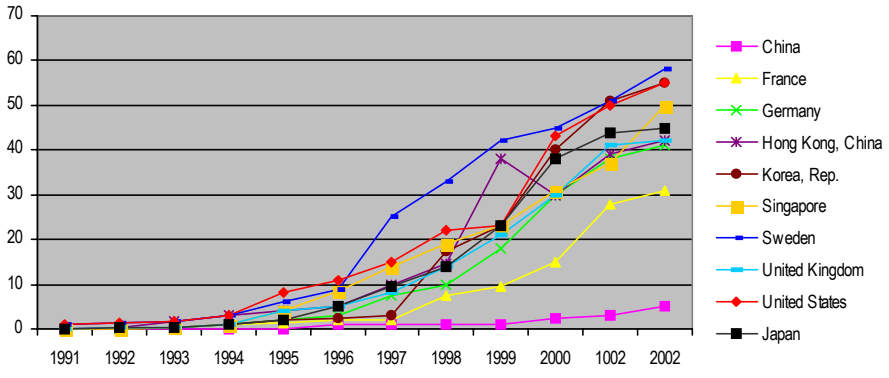

Table 7. International Comparison of Internet

However, since the development of broadband the situation has changed. The price of broadband Internet connection is cheaper in Japan than anywhere else in the world (US$0.09/100kbps), while the United

States is more expensive at US$3.53/100kbps (see table below). Further, in Japan, use of mobile Internet surfing is the highest in the world and the majority of mobile phones are capable of connecting to the Internet.

Internet access from personal computers on the other hand, is decreasing. Now the most dominant digital device is the mobile phone not the computer. There is also a growing tendency for users to access the Internet from other appliances such as game machines, mobile phones and so on.

Because of restrictions of technology, which has till now been segmented into voice capable, image capable and text capable technology, the industry has been divided into broadcasting, telephone and Internet service providers. But once everything is connected through broadband all types of information will be able to be sent through one provider, and customers will be able to watch television programmes on their mobile phone.

Despite its predominance now, Japan initially lagged behind other Western countries in Internet uptake. To address this lag, great effort was put into both policy and business development to ensure Japan didn't fall behind again. The Japanese Government has pursued aggressive policies in this field, focusing not only business-to-business or government-to-business. These policies also include e-Government-related policies as well. Figure 8 below shows the scale of e-Business in Japan. From the figure it is possible to see that in business-to-business transactions many of the transactions are already taking place electronically. About US$704 billion or 11 per cent of total business-to-business transactions occur on the Internet. But more important than the figures is the direction of the market, which is moving forward and growing.

Price of Broadband Internet Use

	Country	Price
1	Japan	0.09
2	Korea	0.25
3	Belgium	1.15
4	Hong Kong, China	1.27
5	Singapore	2.21
6	New Zealand	2.71
7	China	3.07
8	Canada	3.25
9	Netherlands	3.36
10	United States	3.53

Internet Connection from Mobile Phone

	Country	Price
1	Japan	89.5%
2	Korea	87.0%
3	China	30.9%
4	Singapore	25.3%
5	Taiwan	24.4%
6	Italy	22.4%
7	Canada	21.7%
8	Austria	20.2%
9	Netherlands	19.3%
10	Finland	17.9%

Table 8. Japan's e-Business Market Growth[7]

[7] Data: Ministry of Economy, Trade and Industry, NTT-Data, E-Com (June 2004)

The evolution of the Internet has had a great economic impact, resulting in the development of Internet Service Providers (ISP), portal businesses, the rapid spread of personal computers to the household and various business uses (e-Commerce, Supply Chain Management, Application Service Provider, etc.) For example, if we look at the business that Yahoo and other such companies are doing in Japan, the positive impact on the Japanese economy is considerable. This is why it is so important to develop a sound environment so that these e-Businesses can grow. Broadband and ubiquitous networking and computing will further expand this new economic frontier.

It is estimated that the market of Mobile Internet Services and contents already exceeds US$1 trillion. Companies like Index and Access have already made their stock holdings public and are continuing to enjoy considerable success in those markets. This area can be one where new companies come in and stimulate the economy as a whole, which is why government should emphasize the importance of creating a healthy and sound infrastructure for this field. Other growth areas are contents distribution (music, games, pictures etc.), cross-over of communication and broadcasting, and further development of business use (various ASP services which include heavy data exchange).

In 2000, when the Government established the IT Strategy Headquarters, it asked Sony CEO Nobuyki Idei to Chair the committee. In 2001, the committee was formally passed into government hands, and it is now led by the Prime Minister, who is also the Chair.

The Japanese Government has set up many committees such as this in the past, but they have not been particularly successful. This time however, it has succeeded, and the key to that success was that this time a permanent secretariat was established (at the time with around 70 employees) which gave it the opportunity to coordinate and implement IT policies in a more comprehensive way. At the same time an e-Japan Strategy was prepared (The Government is now implementing e-Japan Strategy II).

The e-Japan Strategy was a three-year plan launched in January 2001. It formed the basic IT Policy Strategy of the Japanese Government from 2001 to 2003. The strategy aimed to realize the "most advanced high-speed Internet infrastructure within five years," "reformation of social and economic rules which meet to the digitalized environment," "establishment of e-Government," and "human resource development in the IT field."

e-Japan Annual Programmes are issued every year. They define details of the annual budget, legislative reforms and other policies so as to realize the goals of e-Japan Strategy. These programmes are reviewed every year. The current e-Japan Strategy II (July 2003) focuses on the "use of the IT Infrastructure," whereas the first e-Japan Strategy focused on the "Development of IT Infrastructure."

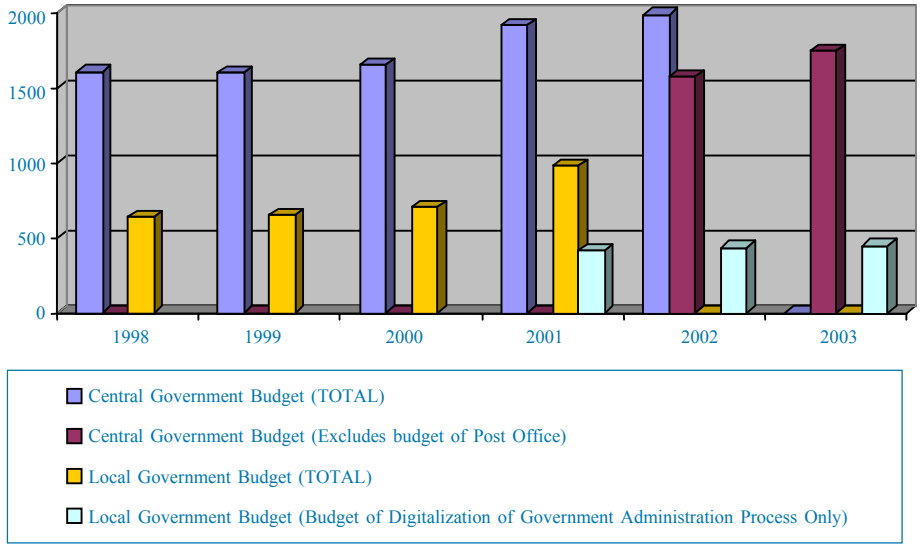

Table 9. Government Expenditure Related to IT Policies[8]

Government support for IT growth is indicated by the increase in spending. This trend shows a steady growth in spending on IT, while the budget as a whole is decreasing; indicating the importance the Government gives to IT.

The Government has implemented reform of the legislative framework in the last few years. The purpose of these amendments is to address legal issues resulting from digital business, as most legislation assumes business to be non-digital. This has been done in order to realize the potential of digital technology in the e-Commerce field. Now, most business that can be done in a non-digital format can also be done on the Internet.

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8 Source: Ministry of Post, Telecommunication, Home Affairs and General Administration. Note: The Government has stopped publishing data on local government's IT related expenditure and Postal Office's budget

New laws include:

- Illegal Access Protection Law (1999, enforced from April 2000);
- Digital Signature and Authentication Law (2000, enforced from April 2001);
- Amendment of Commerce Code (Digital Registration of Enterprises) (2000 and 2001);
- Residential Code Network (2001, Enforced from August of 2001 and 2002);
- Governmental Procedure Digitalization Law (2002);
- Privacy Protection Law (2003, will be enforced from April 2005);
- The e-Documentation Act (Planned in the second half of 2004).

Up to now, Japan's IT policies can be regarded as having achieved reasonable success in developing the necessary IT infrastructure such as a broadband network, mobile network and digital broadcasting. The clearest indicator of this is the infrastructure—broadband or ubiquitous networking.

On the other hand, in utilizing such infrastructure, the Japanese Government is still struggling. An example is the Digital Residential Registration system. This system was introduced by the Government and requires citizens to have a resident registration to access local government services. Citizens also have to pay tax in the location where they are registered and receive a residential registration code in place of a postcode. While it sounds convenient, there are concerns about whether such a scheme would infringe on the privacy of citizens. The Government is now also producing ID cards that are linked to the residential registration scheme. So far, only 300,000 people out of Japan's total eligible population of 120 million have taken up the card. This is largely because the government services available through the card are limited. However, the Government has spent 500 billion yen to prepare the infrastructure for the card, making it a very expensive card.

Government use of IT infrastructure is still struggling in this early stage. However, the Government is focusing on improving the utilization ratio, to make itself a world leader by the end of 2005. While there are still some problems in racing to adapt government and business processes to the Internet, with privacy and security becoming primary concerns, business use of the Internet for e-Commerce (Net-retail, net-trading, e-Marketplace) has nonetheless been growing rapidly.

Another growth area is cooperation with Asian economies. This is a big market, and the region is a front runner in the development of ubiquitous Internet, suggesting the potential for new business models to be developed in the region. The market is big enough, as is the population, and it is possible a new "google" may come out of this part of the world.

Asian economies have previously collaborated in the industrial production process. This is clearly observed in the electronics industry (hardware). Recently, this system of creative collaboration has been transplanted to the software and IT service industries. Furthermore, rapid growth of the Asian Internet-related market also implies that this region possesses great potential as a market. Especially, in the mobile and ubiquitous computing market, Asia is already the world's largest market, and out of the region may come a considerable number of evolving entrepreneurs.

I: On Demand Operating Environment: Redefining How You Manage e-Business Systems

Mr. Stephen Braim

Business on demand is an enterprise whose business processes, integrated end-to-end across the company and with key partners, suppliers and customers, can respond with speed to any customer demand, market opportunity or external threat.

In every industry, the common denominator is a business imperative for end-to-end integration, so that products, services, invoices, components, medical images, capital, government services decisions, answers and so on are all available on demand. On demand increases an enterprise's responsiveness and enterprises that achieve this will wield an awesome competitive advantage and will be able to respond to any market threat or challenge or opportunity as it arises.

e-Business today is moving towards organizations with virtual, 24-hr a day engagement right across their eco-system so there is no clock—business responds to the needs of the market, where ever they are at what ever time.

An On Demand Operating Environment is an open standards-based, heterogeneous world, integrated and freely enabled with autonomic capabilities. However, the computing environment where most companies operate today is heterogeneous, widely distributed, vertically isolated in many cases, and generally more complex than necessary. That environment is both essential to a company's ability to create strategic advantage, and it's also a major obstacle to becoming a fluid, responsive, dynamic enterprise.

On Demand Operating Environments offer more flexibility, variability and economically attractive choices for buying and managing e-Business. This is the utility computing notion—companies do not have to buy 15 mainframe computers; instead they can buy capacity and employ someone to manage the operations, with the company setting the requirements. This can dramatically reduce the cost of infrastructure.

The business drivers are (the Promise of IT):

- Deploying new capabilities;
- Cost reduction;
- Efficiency;
- Security and operational resiliency;
- Workforce productivity.

But there are also some traditional problems with IT:

- Time to value: how do you return time to value?
- Managing complexity and integration;
- Return on investment;
- Constrained resources;
- Utilization of existing infrastructure: 70 cents of every IT dollar in government or industry goes to integrating current infrastructure, just to make the system work.

Therefore, businesses should have a set of reasonable expectations about the benefits that they will derive from investments in information technology. Further, issues of cost reduction never go away. That's especially true now, as we look for new ways to convert fixed costs to variable costs. But IT has to do more than function as a cost-control centre, it has to drive the creation of new businesses and new revenue opportunities. It is now one of the most tangible manifestations of a company's brand image, and often the first contact a customer, prospect or partner has with a company. IT is also the mechanism for ensuring the privacy of confidential information and the security of the systems themselves. And of course, today it is the vehicle that enables any enterprises to respond far more dynamically to the demands of an always-on marketplace and economy.

On the other hand, the gap between the promise and reality is substantial. The ability to derive real business value from one more hot box, or software release is marginal, especially in this economic climate, with focus on tangible, near-term returns. If time to value was ever measured in years, it isn't anymore.

Complexity has been the number one issue of CIOs. Across all industries, more than 40 per cent of all investments in information technology are spent on trying to get technologies to work together. In other words, half the investment goes to things that don't directly drive business value. Compounding the problem, skills are in historically short supply.

In terms of value on investment, what is known about current utilization rates is both depressing, and intolerable from an economic standpoint:

- Mainframes are idle for 40 per cent of the time.
- Unix servers are idle for 90 per cent of the time.
- Most personal computers are idle for 95 per cent of the time.

So when we talk about on demand, what we are talking about is transformation on two levels. It is the transformation of business processes and the transformation of the underlying technical infrastructure. Taken together, they add up to one more transformation, one which may prove to be to the most exciting and game-changing aspect of the movement to on demand business.

To achieve on demand business the key requirement is integration. Governments need to integrate, but also need to lower the costs of integration. There is no point having an e-Government or e-System in place if it is not linked to other departments. However, the transition to on demand will occur over time.

There are four dominant characteristics that typify the business attributes of an on demand business:

Responsive: Capable of sensing changes in the environment and responding dynamically, whether to unpredictable fluctuations in supply or demand, emerging customer, partner, supplier and employee needs, or unexpected moves by the competition.

Variable: Able to adapt cost structures and business processes flexibly, reduce risk and drive business performance at higher levels of productivity, cost control, capital efficiency and financial predictability.

Focused: Committed to concentrating on core competencies and differentiating tasks and assets; uses tightly integrated strategic partners to manage tasks ranging from manufacturing, logistics and fulfilment to human resources and financial operations.

Resilient: Prepared for changes and threats—be they computer viruses, earthquakes, or sudden spikes in demand.

It is a "touchless" or straight-through process, from the time an order is received until the product hits the loading dock. Automakers for example, would be able to boost customer satisfaction through invisible, seamless maintenance capabilities—software downloads replacing in-the-shop tune-ups. While retailers would sell exactly, and only, the inventory delivered to each store that day. These processes could provide major competitive advantages. However, until now, the infrastructure to deliver these services hasn't existed. But that is changing.

In terms of infrastructure, the dominant characteristics of the on demand operating environment are firstly, that it is integrated. The on demand operating environment is capable of integrating with, and transforming, individual business processes, but going beyond "transformation by department" to link processes and applications horizontally, end to end, is difficult. The very nature of the transactions—involving legacy and custom applications—demands whole new levels of data integrity and transaction processing of the highest order. This requires at the very least *a new software infrastructure* built on web services, new development tools and open standards.

The second characteristic is that it is open. This is essential, as today businesses must do more than integrate everything inside within their enterprise. They must also be able to connect with other enterprises, other business processes and applications, and billions of pervasive computing devices. As existing data, applications and transaction systems cannot be replaced, open technical interfaces and agreed-upon standards are the only realistic way to ensure that all can connect.

A third requirement of the on demand environment is that it be virtualized. Almost every organization is sitting on top of enormous, unused computing capacity; most IT systems are only used to 30 per cent of their capacity. However, server consolidation and capacity-on-demand offerings are beginning to address the issue of under-utilization. Now there's an opportunity to virtualize the entire data centre with an emerging technology called grid computing, which allows distributed computing resources to be shared and managed as if they were one, large, virtual computer. Most grids are being built first in government laboratories and universities. From there, they will most likely be implemented inside of companies. These kinds of "intra-grids" will allow customers to increase the utilization of their computing assets significantly. By streamlining systems and moving towards open standards and open sourced-based operating systems, a lot of IT processes can be moved out of government, and the IT system centralized, with individual departments linking in on a capacity basis, using only what they need. Therefore, governments need to get smart as to how they

procure their IT. Rather than spending large amounts, they should look into sharing resources across industries or departments.

The last technical requirement or characteristic of an On Demand Operating Environment is that it be autonomic. It is clear that the upward spiral of complexity will soon outstrip the ability of humans to keep up with it. The solution is technology that takes on far more of the management itself, similar to the way the human autonomic nervous system manages basic functions like respiration. These systems will self-manage, self-protect, balance workloads, and upgrade software.

Today, however, the economics of IT environments are being reshaped by server consolidation, usage-based pricing and capacity-on-demand approaches. The next step is to virtualize the data centre, allowing customers to build "internal computing utilities" to drive up utilization and the value delivered to the business. Then as virtualization moves into the Net itself, businesses will have the ability to tap into "external utilities," acquiring computing and applications from service providers and paying only for what is used.

Phases of e-Business adoption:

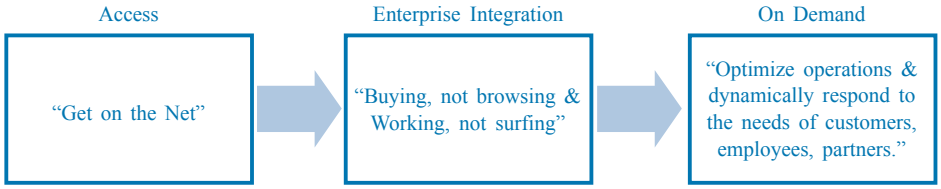

Figure 3. Phases of e-Business Adoption

Like any new era, e-Business unfolded in phases. And in each one, the Net has transformed the space it moved into. There were three broad phases:

Phase 1: Access to digital information:

- This was about publishing content, most of it of the static "look-up" variety.
- Simple database queries allowed us to do things like check a bank account, look at airline flight information, or see where our overnight package was.

At this stage it was relatively easy to be an "e-Business." All an enterprise needed was a home page, and all an individual needed was a browser.

Phase 2: Real transactions, real e-Business:

- Allows users not just to view online, but also to undertake transactions online, e.g., bank customers can view their accounts online and also transfer money, travellers can check a flight departure time and book a seat, or trade a stock, buy a book, apply for a loan, renew a driver's license, take a college course etc.

This requires more than a web site and takes behind-the-scenes integration of technologies and business processes.

Phase 3: Advanced, on demand

This phase is about the end-to-end integration of the processes within an enterprise, as well as all the relationships and transactions that anchor an enterprise in markets and industries.

About three quarters of businesses are still in Phase 1. Another 20 per cent are into Phase 2. And these companies are seeing real benefits. They have identified a key process from customer relationship management, to procurement, to the manufacturing floor, and are applying networked technologies to transform it. These businesses are also learning that the transformation of a stand-alone process is a great beginning, but it's not the end game. And that's where we are today, at the cusp of the next major phase of e-Business adoption.

This is about another kind of transformation, or, more specifically, new levels of integration:

- Of processes and applications inside the business.
- Of suppliers and distributors at either end of the business.
- Of customers outside the enterprise; of employees inside it.

Connecting all of these business processes and the systems that support them is becoming the priority for more and more customers. That is the essence of what is meant when we describe a world of on demand business.

Benefits Overview

Government:

Benefits include improved services, increased operational efficiencies, enhanced citizen participation, and improved policy formulation, lower costs and more focus on core business activities. According to the National Office for the Information Economy Report, e-Business opportunities in

Australia were estimated to add 2.7 per cent to GDP growth over 10 years. This translates into an increase in employment of up to 1.4 per cent over the period—"the increase in e-Business activity obtained by 2007 is equivalent to achieving 11 years of economic growth in just 10."

Business:

Benefits to business include increased channels to market, enhanced customer interaction, improved inventory management, lower costs and improved profits and it can also drive operational efficiencies.

Citizens:

For citizens, benefits include enhanced social development, improved product choice, lower prices, access to new markets at any time, better market information flows and redefined communities.

Economy:

Benefits include increased employment, improved industry productivity, increased export opportunities, greater international investment, increased innovation and enhanced economic growth. When you add up all these benefits it is obvious that the economy wins, by gaining greater international competitiveness and innovation and by becoming a more attractive destination for inbound investment.

An example of how e-Business can impact on a company is Prudential. It started with an aim to improve responsiveness and reduce costs, and to provide customers access to updated information in real-time and across accounts. It did this by implementing a web portal, and integrating ten disparate systems from nine lines of business. They worked with IBM Software Services to implement a solution in just five months. The outcome was enhanced customer experience through real-time information access; lowered call centre costs, and significant year-on-year reduction in call volumes. In addition, it now has the ability to support 300,000 registered users, with 400 new registrations and 8,000 unique visits per day. Five per cent of redemptions and 15 per cent of exchanges are processed online and nearly 5,000 mutual funds statements have been downloaded since inception.

J: Business Process Outsourcing: A Tested Opportunity

Ms. Marta Pérez Cusó

Business Process Outsourcing (BPO) involves contracting a services provider to completely manage and operate non-core business processes. Outsourcing has existed for decades, especially in manufacturing, as a way

of reducing costs and decreasing investment in capital assets. The earliest outsourcing ventures, principally by large enterprises, were in the area of IT services.

Now, with advances in network technology, high-speed data networks, and increased bandwidth capacity, outsourcing has expanded to include a wide range of management services, so that enterprises are now able to offload entire business functions.

Examples of BPO services include banking services (e.g. account opening, check clearing, insurance services such as claims processing), human resource services such as payroll processing, and sales and marketing services, including telemarketing and direct marketing.

The growth of BPO services specifically in developing countries results from a combination of various factors, including recent ICT developments in these countries, and corresponds to an increasing demand from enterprises located mainly in the United States and in Europe to outsource non-core business functions at a low cost with a view to focusing on their main core operations.

Business process outsourcing is now a US$300 billion market[9], with an annual growth rate of 23 per cent since 1999. It is expected to be a US$585 billion market by 2005, including a wide range of functions from a company's value chain[10].

BPO services vary in terms of their complexity, ranging from basic administrative functions such as data entry or billing services to more complex tasks that require decision making and problem solving. The level of skills required to provide BPO rises as the complexity of the task increases.

Digital Divide Data Cambodia

www.digitaldividedata.com

Digital Divide Data Cambodia is a social enterprise,

[9] See http://www.cio.com/archive/050102/uneasy_outsourcing_content.html

[10] Offshore outsourcing, Shailen Gupta, Managing Growth. April 2002.

which has created skilled entry-level jobs and educational opportunities through BPO. Its 2002 revenue was US$150,000 and between January and May 2003 it won 15 contracts. Digital Divide Data Cambodia digitizes documents and sends them back by email or CD-Rom delivered by courier. The organization was started by an American foundation, and its first client was Harvard University who asked it to digitize some of its records.

It partnered and undertook training with India's Cyberdata. Now, 50 per cent of their clients are outsourced to Cyberdata, so it is a cooperative between two companies in two different developing countries. Its main focus has been to understand its clients' technical requirements. It also provides flexible working hours for women workers, and plans to expand their operations to Bantum Bang and other areas in Cambodia.

Daksh, India

www.daksh.com

Daksh was founded in 2000 and is now a top contract centre in India. Its 2002 revenue was US$29 million and it has expanded its operations to Southeast Asia, with a centre in the Philippines. Daksh provides customer service, back-office processing, data analysis and customer interaction services and offers 24/7 service, focusing on high quality, with regional interest.

Recommendations:

Ensure quality service: BPO services can be complex and risky, and emphasis on quality service offerings is crucial. Thus it is recommended to start by providing basic services as an entry point, such as data entry, and to then expand services to more complex business processes. Equally important is to focus on a few projects, learn the business mentality of BPO clients and build confidence.

Communicate early and frequently with clients: A web page is a window of communication, and marketing, partnering and labelling is essential for a good website. For BPO, web pages should have prices and competitive advantages clearly stated. A list of clients can also boost the image of the company to new customers. Develop partnerships with major clients as a way of entering the market and keep abreast of developments in the market.

Benefit from diasporas networks: BPO clients look for vendors that have a similar culture and mindset, as collaboration requires an understanding of cross-cultural social dynamics. Thus, diasporas are a useful network for outsourcing.

Request concise service requirements: As systems become more complex this is helpful to define expectations.

Governments should address ICT infrastructure and access, including in rural areas, to promote BPO. They should do so through the provision of low cost infrastructure and the necessary education skills, not only ICT skills but also language and communication skills. Tax incentives can also be a good incentive to promote BPO services.

Engage private and social partners. For example, in the Cambodia case study above, the organization has both private and social objectives (training disabled women). The Government has a role in helping start-up companies in developing countries.

Use Asian opportunities for a win-win situation. It is noteworthy that some BPO services are transacted between developing countries.

Conclusions[11]

Outsourcing is maturing, and is expected to continue growing, offering opportunities for developing countries. But while there are some success stories, they are limited in number, and efforts should be made to try to replicate the success of BPO in other countries, as many still have to discover its potential. Government and international support can help in this regard.

K: Supply Chain Management and Traceability

Mr. Kazumasa Takeuchi, Research Director
Electronic Commerce Promotion Council of Japan (ECOM)

Definition of Supply Chain Management

Supply chain management (SCM) is the tracking and control of materials, information, and finances as they move in a process from supplier to manufacturer to wholesaler to retailer to consumer. There are three types of supply chain flows:

1. Product flow: includes the movement of goods from a supplier to a customer, as well as customer returns or service needs.

2. Information flow: involves transmitting orders and updating the status of delivery.

[11] www.unctad.org/ecommerce

3. Financial flow: consists of credit terms, payment schedules, and consignment and title ownership arrangements.

The essential goals of supply chain management are to reduce inventory, increase the speed of transactions through real-time data exchange, and increase revenue by satisfying customer demands more efficiently. The ultimate goal is total optimization among related partners and to increase business. A win-win relationship among business partners is indispensable for sharing information and to pursue mutual collaboration and benefit.

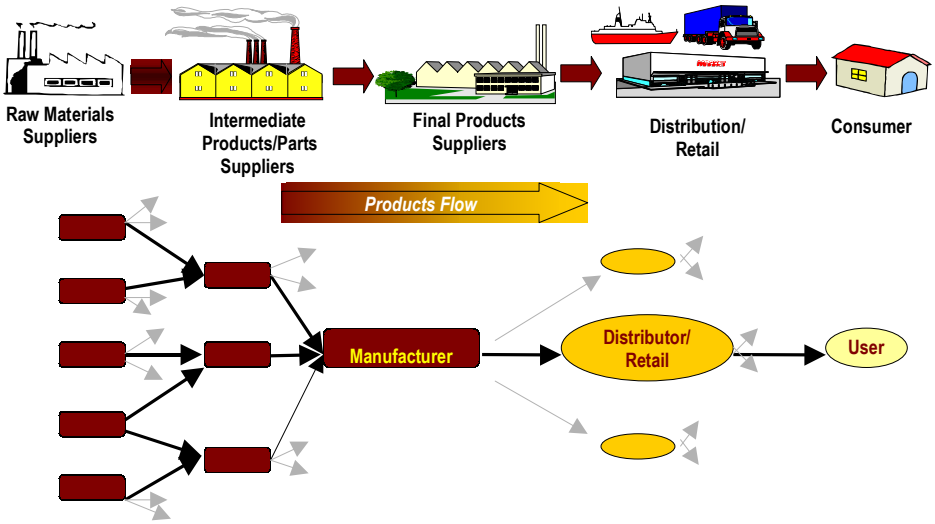

Figure 4. Supply Chain Structure

Beyond Current SCM

The limitations of current SCM include the gap between virtual inventory (system) and actual inventory. The challenge is to link virtual information and real information—inventory figures for example. This is very difficult to do and there are many holes in the system. Further improvement of SCM is needed, as well as labour saving processes on verification and stocktaking, improved quality management for customer satisfaction and better customer relationship management (CRM).

There are also other factors that can have an impact on SCM. These include international threats such as FTA, terrorism, smuggling, and pirates and thieves, and global challenges such as global warming, environmental contamination, limited natural resource reserves and natural environment protection. Therefore, the next generation of SCM needs to address these concerns. Traceability is one way to address these concerns.

Traceability is most important for SCM. It improves the visibility of actual product flow and assets (tracking) and the capability to trace back the historical record of the product.

Traceability is the ability to trace the history, and use or localize an entity by means of recorded identifications (ISO 8402 traceability).

The ISO 9001 Series: Quality System Requirements Section 8 on Product Identification and Traceability applies to materials, components and sub-assemblies intended for incorporation into the final product. Identification is maintained from receipt, during all stages of production, delivery and installation. A part number correlated to corresponding drawings, specifications and other technical documents is identified for materials, components and subassemblies. Finished products are uniquely identified by lot and part number to allow for traceability. However, to improve traceability, additional information beyond what is currently available in SCM is needed.

The application of electronic tags is one way of improving SCM. A device such as a SCM electronic tag can be attached to people or products—giving the ability to track such objects—but contradictorily, it has attracted severe criticisms from consumers because it is potentially a violation of privacy—this is a future problem for this technology.

Without addressing the controversial nature of the electronic tag, there are many types of tags, including:

- The barcode: this is normally 12-14 characters, with a data size of up to 60.
- 2-dimensional code: this is a more complex form, which can save up to 4,000 characters.
- RFID (radio frequency identification) is slightly different. It consists of one small chip which connects to antennas enabling users to get information far from the centre. It is actually very old technology, invented in England in World War II. Its original objective was to identify enemy planes from English planes (all English planes had RFID).

As an answer to the need for traceability, the RFID tag has the highest expectation.

RFID Tag Example: RFID field test in a supermarket

Using frequency allocation for RFID, each package has a small tag which provides customers with product information through a kiosk terminal. The information provided includes what date a vegetable was produced, when it was shipped, where it came from and so on. Such precise information can increase customer confidence.

Comparison of Electronic Tags

Characteristics	RFID Tag	Barcode	2-D Symbol
Unique ID	Individual tag level	Product code	Product code
Reading distance	Up to several meters	A few centimetres	A few centimetres
Multiple tag reading at once	Ok	No	No
Covering	Ok	No	No
Reading during movement	Ok	No	No
Rewrite	Ok (rewritable tag)	No	No
Environment/ duration	Durable	Very weak	Very weak

RFID can be used on five different radio bands, which are used internationally, enabling global compatibility, which is very important. It can be expected that within a few years the world's SCM will change dramatically due to RFID.

If businesses can implement RFID it will allow them to be in a position to supply and partner with some of the biggest companies in the world who already have, or are preparing to, implement RFID.

Wal-Mart	USA	World No.1	Jan 2005
Department of Defence	USA		Jan. 2005
Metro Group	Germany	World No.5 European No.2	Nov 2004
Tesco PLC	UK	World No.8 European No.4	Sep. 2004 (delayed)
Target	USA	World No.6 USA No.4	Late Spring 2005
Albertson	USA	World No.11 USA No.7	April 2005

Future trends in RFID

The EPC Global (Auto-ID Centre) was established by EAN International jointly with UCC (Uniform Code Council) in November 2003, with

succeeding Auto-ID Centre activity. This will lead to a harmonization with ISO Standards and ultimately a dramatic reduction in the costs of RFID.

Companies already using RFID include Wal-Mart and the US Department of Defence. Wal-Mart will require its top 100 suppliers to attach Auto-ID RFID tags on all cases and pallets by January 1, 2005, and it will be required for all suppliers by 2006. It is evident from this example, that while RFID is being led by the top 100 suppliers, it will soon become necessary for all suppliers. Small companies should therefore try to get ahead now.

The US Department of Defence is demanding that all suppliers fit passive RFID tags on all cases and pallets by January 1, 2005.

L: Policies of e-Business and Commerce in Korea

Dr. JongChan Park, Korea University

Introduction

The spread of the Internet-based e-Commerce is rapidly changing the paradigm for the economic activities of nations and enterprises. The global economy is fast being converted into an e-Commerce system.

Under these circumstances, Korean companies are accelerating their efforts to facilitate e-Commerce, while the Korean Government has been endeavouring to promote e-Commerce activities by establishing the "Basic Act on Electronic Commerce" in 1999, "Comprehensive Policies for e-Commerce Development" in 2000 and "e-Business Initiative in Korea" in 2001, etc.

If the Korean Government's strategies are implemented as planned, e-Commerce—which has been delayed due to the absence of cooperation among enterprises and lack of investment capability of SMEs—will be disseminated throughout the nation's entire economy. The size of the e-Commerce market in 2003 was about US$204 billion. As a result, Korea is expected to take off as an advanced country in the digital era in which both traditional and new industries are developing in harmony.

This paper summarizes the current status of and prospects for e-Commerce in Korea, particularly focusing on e-Commerce policies and laws. Firstly, the report will summarize the e-Commerce infrastructure, followed by the status of each e-Commerce area, major e-Commerce issues, and finally, e-Commerce policies of the Government.

Infrastructure for e-Commerce

As of December 2002, there were 22,490,000 personal computers being used in Korea. In 2002, there were 515,200 web sites in the "kr" domain. The number of hosts is widely regarded as a reliable index of the level of Internet usage. In Korea, the number grew from over 460,000 in 1999 to approximately 690,000 in 2001. As of November 2001, there were 22,985,216 IPv4 addresses in Korea.

The Korean Government formulated its Basic Informatization Promotion Plan in 1996 to elevate Korea to "IT Power e-Korea". It will be completed in 2010. In December 2000, Korea succeeded in building a broadband Internet network covering 144 regions around the country two years ahead of schedule. As a result, broadband Internet access is being enjoyed by more than 10.4 million households, or more than 70 per cent of all households in the country.

An OECD report dated October 2001 states that Korea is the most advanced country in the world in terms of broadband Internet network connections. The xDSL service has become the most widely-used means of access since 2000.

By the end of 2002, there were 32.5 million mobile phone subscribers in Korea out of 48 million people. In December 2002, just three years after LG Telecom first launched its mobile Internet service, the number of mobile Internet subscribers surpassed 29.1 million. Mobile carriers are now aggressively pursuing strategic alliances with companies specializing in Internet content and solutions in order to stimulate demand for a mobile Internet service and to offer a wider range of services.

e-Commerce Market

The total volume of e-Commerce in Korea increased from US$47.93 billion in 2000 to US$204 billion in 2003, up more than 32.2 per cent from 2002. Business-to-business (B2B) transactions have emerged as the largest area of e-Commerce and the growth of business-to-consumer (B2C) has been particularly remarkable. Thanks to the increasing public awareness of the benefits of e-Commerce and government policies to facilitate e-Commerce, this trend is expected to continue.

In the B2C area, both general and specialty retailers are involved in e-Commerce operations, with most specializing in retail sales (84.8 per cent). In February 2002, Internet shopping retailers recorded US$337.1 million in sales. In 2003, B2C accounted for US$530 million.

The volume of B2B transactions in 2003 amounted to US$180 billion, a 32.8 per cent increase from 2002. Manufacturing, wholesale/retail, and construction are the top three B2B e-Commerce industries, in that order.

The volume of business-to-government (B2G) e-Commerce for 2003 generated by 56 government entities (37 central government agencies and 19 local government organizations) amounted to US$19 billion. Most of the activity transpired among the central government organizations. Materials and equipment/machinery were the top two categories of transaction in B2G e-Commerce.

Major e-Commerce Issues and Impediments

1. Protection of Privacy

Now, most large companies which have web sites also have privacy policies, with many stating their intention to keep confidential all private information collected. They also have staff who are responsible for managing private information. But users may find it difficult to keep track of changes in their rights and responsibilities as regards to private information in the possession of companies.

In relation to user rights regarding privacy, companies typically hold private information from the time the user joins as a member until he or she cancels the membership. Most companies follow established procedures when users want to view or change their information or want to cancel membership.

Most companies who disseminate promotional email messages claim that they offer ways to block their promotions. Sites containing information that may be harmful to children are required to indicate that their sites are "hazardous."

The Korea Information Security Agency states that it received 21,585 complaints and consultations on privacy infringements in 2003—an increase from 17,956 the previous year.

2. Consumer Protection

In consumer rights protection, major concerns are protecting consumer rights in online purchasing, eradication of unfair trade practices, preventing harm to consumers, and protection of privacy. Lastly, in the area of dispute resolution, major concerns include conflicts between jurisdictions and overlapping applicable Acts, and identifying alternatives to legal action for effective dispute resolution.

With the rapid increase of e-Commerce, the number of disputes filed for resolution with the e-Commerce Mediation Committee is rapidly increasing from 1,310 cases in 2001. In May of 2004, the number of disputes in B2C accounted for 54.6 per cent, C2C 39.6 per cent and B2B 3.3 per cent. C2C increased sharply from 20.5 per cent in 2003.

3. Intellectual Property Rights

Acts on e-Commerce intellectual property rights include the Intellectual Property Rights Act, as amended on March 27, 2001 by Presidential Decree. Among the revisions made, the Act allows the Minister of Culture and Tourism to specify the scope of content to be copied by a computer, etc. and confirm usage of books and others along with changes thereof in ways other than information display via computer screens and other interfaces.

In addition, the revision of the Enforcement Decree of the Computer Programme Protection Act enacted through Presidential Decree on July 16, 2001 vests in the Minister of Information and Communication the authority to specify protection and restriction on programmes owned by foreigners as well as the scope of programmes available for usage.

At the same time, to resolve disputes around domain names, the Ministry of Information and Communication set up the Domain Name Dispute Mediation Office in August 2001 with experts from the private sector.

Although business models are not subject to protection under the Patent Act, the Review Criteria for Computer-related Inventions was revised in 1998 to recognize as patents recorded media where software is recorded. As such, computer-related inventions are now deemed to use the Act of Nature, and when specific means that can use the invention for industrial purposes are provided, the invention may be patented. Although there is still some confusion about the BM patent in Korea, the General Guidelines for Internet Patent Review and Guidelines for e-Commerce Invention Review were promulgated in February and August 2000, respectively, to be used as guidelines for BM patents.

4. Security and Certification

The Basic Act on Electronic Commerce and the Electronic Signature Act are the two Acts related to security and certification in Korea. The Basic Act on Electronic Commerce gives e-documents the same legal force as written documents. The Act was formulated to improve the viability of e-Commerce, protect consumers, and to help implement government policies for promoting electronic commerce.

The Electronic Signature Act was passed in February 1999 as a means to ensure the identity of the other party in remote communications in non face-to-face situations and to guarantee the integrity and authenticity of electronically signed documents. Both the Basic Act on Electronic Commerce and the Electronic Signature Act came into effect on July 1, 1999.

Also, the Korea Certification Authority Central[12] has established evaluation guidelines for e-signature certificate management to be used to review Certification Authority (CA) operations. The Ministry of Information and Communication plans to ensure the interoperability of e-signatures so that people can use single certificates for e-signatures for different e-Commerce trades.

5. e-Payment

Internet shopping retailers, which account for the bulk of e-Commerce in Korea, use the following payment methods: credit card, online deposit, e-money and others in the orders of transaction volume.

Most of major commercial banks have developed and are currently offering products that allow corporate customers to settle payments online through B2B transactions. The system has been in operation since March 2002.

Most banks in Korea have expressed keen interest in using bolero.net to offer their own foreign exchange services. Bolero.net is a neutral secure platform enabling paperless trading between buyers, sellers, and their logistics service and bank partners. Among those interested, Woori Bank is already a member of the bolero.net service. Mid- to large-scale trading companies like Samsung Electronics, POSCO (Pohang Iron and Steel), and Hanjin Shipping have also joined bolero.net to build their own global supply chain management systems. KTNET has signed a strategic partnership agreement with bolero.net to link bolero's service to KTNET's trade automation service for the Korean trade community.

6. Impediments

The reasons the Government cites for the delay in the proliferation of e-Commerce include lack of collaboration among businesses; uncertainties about outcomes; insufficient investment resources among small- and medium-sized companies; lack of corporate innovation and sincere pursuit of non-transparent business practices; lack of standardization; shortage of trained manpower; and the absence of a standardized payment system.

[12] http://www.rootca.or.kr

Government Regulatory Framework and Policies for Promoting e-Commerce

1. e-Commerce Mediation Committee

The e-Commerce Mediation Committee was established in recognition of the fact that arbitration led by experts would be more useful than conventional means of adjudication or mediation as e-Commerce disputes entail more technical aspects specific to e-Business than areas that can be resolved with an understanding of Acts and regulations. The Committee mediates disputes stemming from e-Commerce between consumers and e-Commerce providers, and between e-Commerce partners (payments, delivery, service provided by telecom companies, etc.).

2. eTrust and I-safe

The eTrust certificate is a mark awarded to web site operators that satisfy certain set criteria upon evaluation of consumer protection and privacy policies of the commercial web site and purchasing process. I-safe offers the ePRIVACY mark and I-safe mark to promote awareness of privacy protection and security to create a foundation for trust between individuals (users) and operators (suppliers) through active self-regulation.

3. Privacy and Consumer Protection

In recognition of the importance of privacy protection, Korea has set up both a regulatory framework and means for self-regulation. The Korea Information Society Agency (KISA), in particular, has been authorized to oversee privacy protection in the private sector pursuant to the Promotion of Information Communication Network Usage and Information Protection Act (hereinafter referred to as the "Information Communication Network Act").

4. Protection of Intellectual Property Rights

The Government Acts on intellectual property rights are diverse and cover a wide range of issues. The major pieces of legislation include the Copyright Act, Computer Programme Protection Act, Patent Act, Design Act, Utility Models Act, Trademark Act, and Unfair Competition Prevention and Business Secret Protection Act. The Civil Code and Commercial Code also have clauses applicable to intellectual rights protection. Korea amended the Copyright Act in January 2000 to reflect the WIPO agreement of 1996. The Computer Programme Protection Act was also partially amended in December 1998, followed by a full revision in January 2000.

5. Security and Certification

Formulation of the Electronic Signature Act began in 1998. It was enacted on February 5, 1999 and went into force from July 1, 1999. On July 7 of the same year, the e-Signature Certification Management Centre was established within the Korea Information Security Protection Agency to implement the full force of the Act.

6. e-Payments

Vigorous efforts are being exerted towards enacting Acts on e-payments. Concomitant with the rapid growth of the e-Finance industry, which includes Internet banking and online home trading of stocks (HTS), the enactment of the Basic Act on Electronic Finance Trading is under serious consideration. Efforts are also underway to establish a basic framework for regulating e-Finance trading that covers: handling of trade orders, restrictions on trades, cancellations/changes to trade orders, termination of trading contracts, confirmation of trading details, storage and viewing of trading records, error handling, response to accidents/malfunctions, notification methods and their validity, responsibility for and exemption from loss compensation, changes of service contracts, and priority in service contracts.

Relevant Acts	Details
Basic Act on Electronic Commerce	- Privacy protection; ensuring safety of computers, etc. used for e-Commerce; display of facilities, equipment, and information on cyber retailers; information provision to consumers; government's obligation to protect consumers, etc. - Establishment and operation of e-Commerce dispute mediation entity; development of measures to mediate disputes - Measures for quick and fair handling of consumer damage; use (with necessary revision) of consumer damage indemnification standards of Consumer Protection Act; establishment a centre handling damage compensation
Consumer Protection Act	Prevention of harm to consumers; cooperation for consumer protection; develop display and ad standards; information provision; relief for consumer rights infringement; develop measures to protect consumers and related organizations; requests for recompensation for damages; dispute mediation, etc.

Relevant Acts	Details
Information Communication Network Act	Privacy protection; obligations of information communication service providers
Visiting Sales Act	Regulations on mail order/telephone order sales; penalties for false displays/advertisements
Act for Fairness of Displays/Ads	Prohibits false advertisements; notification of important displays/ advertisements
Unfair Competition Prevention Act Business Secret Protection Act	Prohibits unfair trade practices such as intentional confusion with products and sales activities of others, etc.
Monopoly Regulation Act Fair Trade Act	Prohibits unfair trade practices such as false displays/ advertisements, and unfair collusive actions
Instalment Transactions Act	Regulation on instalment contracts and rights of purchasers
Regulations of Contractual Terms and Conditions Act	Obligation to specify, disseminate, and explain user agreements; regulates agreement content including invalid unfair regulations and restriction on exemption clauses
Framework Act for Informatization Promotion	Protecting rights of information communication users
Telecommunication Work Business Act	Prohibits actions hampering fair competition; regulates user agreements; protects users; provides for matters on damage compensation and burden of proof for telecommunication service providers; protection of communication confidentiality, etc.
Electronic Signature Act	Provision of certification related regulations and services; privacy protection, etc.
Criminal Code	Punishment for fraudulent actions with computers, etc.
Commercial Code	Regulates branding such as usage of brands that might confuse their owners

Figure 5: Acts and Regulations on Consumer Protection

M: Building Trust for Users and Consumers

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Trust and e-Business

All business must be transacted on a basis of trust between the parties involved. Traditionally, this trust was implicit; it was included and

represented in the transactions. For example, a business had well-recognized offices, buildings, maybe even uniforms. There was a personal relationship between the customer and the staff, or the customer was known and verified by sight; e.g., local banks had no need of any authentication process in old days.

This environment is inherently secure, but not scalable to global populations. However, if there is one fundamental principle of e-Business, it is that your customer base is unlimited, or limited only by size of the population. However, you still need the same degree of trust, even though much business is now transacted through an electronic identify such as a web site.

In e-Business, organizations and users still require the same trust, but now they are represented by electronic identities. The link between these and what they represent is the weak point.

What Do We Mean by "Trust"?

Trust, noun; assured reliance on the character, ability, strength, or truth of someone or something (http://www.merriam-webster.com/cgi-bin/dictionary).

Trust is the intersection of three concepts: security, privacy and reliability[13]. If we take those three aspects or intersections, we can look at the following components:

- The e-Business environment and where that particular aspect will have an impact. For example, web sites should be involved in all three aspects of trust.
- Users are partly responsible for security. Businesses can and must devolve some responsibility onto users; technology is of limited use in restraining users.
- Network environment: it is incumbent on e-Business suppliers that their use of Internet is secure.
- Resources (applications and databases): there is a serious responsibility in the transaction to ensure security and privacy.

Points of Trust in e-Business

The basic objective of security is to grant users access to resources according to company policy. This provides a security baseline. To achieve this requires a series of mechanisms operating at different levels and at

[13] Designing for Trust, L. Jean Camp, Harvard KSG, 2002

different points in different transaction paths. Security has evolved as enterprises have shifted from private to public networks, therefore, security management solutions are needed to manage large numbers of users and provide secure access to sensitive resources, while keeping the "bad guys" out.

There are a whole series of vulnerable points which can affect the integrity of our business environment. The positive side of this is that each one can be exploited or leveraged to deliver benefits and opportunities, which is why we are in e-Business to begin with.

Points of opportunity

When we think about security, we automatically think of the basics, such as firewalls, which are designed simply to keep people out, or intrusion detection software, which alerts us when the bad guys break in. We also think of anti-virus software to prevent catastrophic systems failure due to a virus. These are all critical components of security today; however, they are only part of the story.

When we think about security today, we need to think about the big picture, which includes both identity and access management. Keeping everyone out is no longer good enough. We need to allow the outside world to have access to our precious resources—but in a tightly controlled way. How can companies manage their growing user base while offering this type of secure access to resources? How do you know which users are allowed access to which resources? What layer of protection can you implement to protect the resources themselves?

Businesses should take a two-tier approach to security; one that involves a high-level view of security in e-Business and includes the perimeter defence and the control layer. The perimeter defence is equivalent to the entrance of your building, which is an implicit rejection regardless of originator. Building entrances help to keep out undesirable traffic, just as firewalls, VPNs, Anti-virus, and intrusion detection systems do. The control layer is like a security desk. At this point, visitors are subject to checks, and there is an explicit acceptance of users. This point is known as "3A"—Authentication, Authorization, Administration.

On the reverse of this is security for the user. Can they trust the web server? When the user initiates a sensitive transaction, to enable the user to trust you to be the site they think you are, your web server presents a digital certificate to the user. This is the absolute baseline for doing secure business. The name in the certificate matches the name of the web site and the certificate is signed by a trusted Certificate Authority. It is pre-

stored in the user's browser. The web server initiates secure communication with the browser via SSL. This validates the web server, secures the user's sensitive transactions and enables the user to trust your web server.

To access a resource, users need to have an identity created by an administration with a set of privileges. An administrator creates an account (or an identity) for the user on the resource manager, with an appropriate set of access privileges. This is called provisioning. The user logs in using that account. This is called authentication. The resource manager then checks and enforces the user's access privileges in real time. This is called authorization.

The entitlements given to people typically depend on their role. There are many different types of users, e.g., employees, customers etc, but only relatively few roles. Therefore, mapping people to roles is generally very dynamic, but mapping roles to entitlements is generally very static. This leads to role-based control.

Identity management manages access rights, otherwise known as role-based access control (RBAC). Identity management, properly understood, includes access management since access rights are managed off the user's identity.

Identity management helps to set and enforce the security policy. The standard way that a user gains access to a resource is via an identity (account, user ID, login). Therefore, resource access is managed by managing the identities that provide that access. This requires the administrator to identify the valid users, identify what users are entitled to access, and control who gets access to what. Identity management therefore, includes:

- Lifecycle management of user identities (setting);
- Identity-driven access management (enforcing).

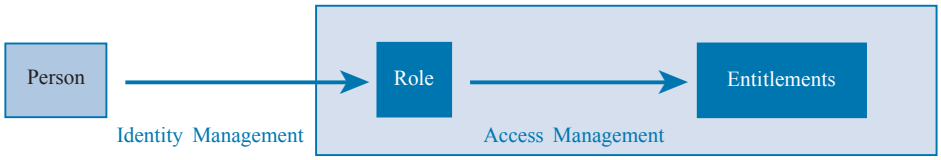


Figure 6. Role-Based Identity Management

Trusting users is important in this process. When a user asserts an identity X, You need to know who X is and what entitlements he or she has; this is the problem of identity management. And a user needs to prove that he or she is X; this is the authentication problem. This proof needs to

persist for the duration of the user's transactions, which raises issues such as session management. As users interact directly only with computers, not with applications, authentication enables you to infer who the user is, but not with 100 per cent certainty.

Methods to increase the degree of certainty include session timeouts, reauthentication, step-up authentication, digital signature, and authentication strength proportional to transaction sensitivity. Authentication is important but authorization is the fundamental objective. Authentication is separate from authorization, and enables us to strengthen trust without tampering with a user's access rights.

There should be a separation of both authentication and authorization from the application, so that users authenticate to a trusted security layer and that applications authorize against that security layer. This ensures that no one gets direct access to content servers.

A security policy is fundamental.

The authentication service has many functions which make it important to separate authentication and authorization. Firstly, the authentication service receives authentication details that, for example, could be a user ID and password or an x.509 certificate. The first thing that we must do is to verify the information and check that they exist in our registry of users. Once we know who the users are, we must identify all their authorization attributes, that is, we need to know all the groups or roles that a member is part of. It is important to remember here that a user's identity should not change, but their access attributes (roles) may change frequently.

When we have all the required information, this data is formatted into a credential that the authorization service will be able to understand. In Access Manager, this credential is called an Extended Privilege Attribute Certificate, and it contains all the information about the principal that the authorization service will need to know. It is not important to know the format of this credential, just that it contains the user identification and group memberships for the user.

One simple, straightforward authorization decision model is the ISO 10181-3. In this model a centralized, unified security policy is clearly established, and once established, becomes the rules that policy enforcers use to determine which requesters can access which targets in what ways. The answer to each authorization request is "yes" or "no". For performance and scalability reasons, the policy will be able to be replicated locally to the policy enforcer, for quick authorization checking.

Another defence mechanism is Access Manager. This brings a directory-based, integrated approach to user management and security services for e-Business. This approach deals with the partners, customers, employees, suppliers, and any other e-Business participants attempting to access resources in the secure intranet by placing a security layer (HTTP reverse proxy called WebSEAL) in the demilitarized zone. Through this, secure, policy-based, and highly available transactions are able to take place. The integration that Access Manager affords enables:

- Sharing of user and group information in a common directory;
- Single sign-on to the target applications;
- Efficient exchange of personalization data to maximize users' satisfaction with the transaction;

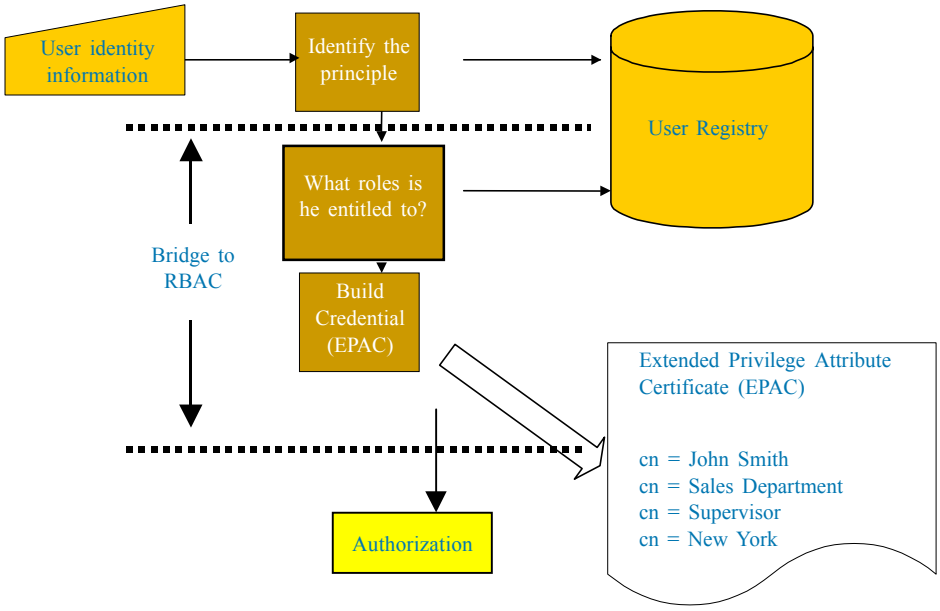


Figure 7. Reusable Authentication

- Defence in depth: the capability of layering access points, in order to prevent unauthenticated or unauthorized users from entering the secure intranet;
- Plug-and-play security for application providers such as Siebel, SAP, Plumtree, and BroadVision.

The principle of defence in depth states that critical web servers and content in the internal network should be isolated. All incoming requests should be proxy, with no direct connections between users and web server, all users should be forced to access via proxy and lastly,

authentication is separated from authorization by configuring various modes of authentication independently of web servers.

Privacy vs. security:

Protecting your IT infrastructure from unauthorized access is a *security* problem. Protecting your IT infrastructure from intentional or unintentional abuse of authorized access is a *privacy* problem.

Privacy is a growing issue as more and more personally identifiable information (PII) is submitted to or collected by web sites. Customers' knowledge that their PII will not be used for purposes other than what they consent to increases their trust in doing e-Business. A growing number of countries are enacting privacy legislation to protect PII.

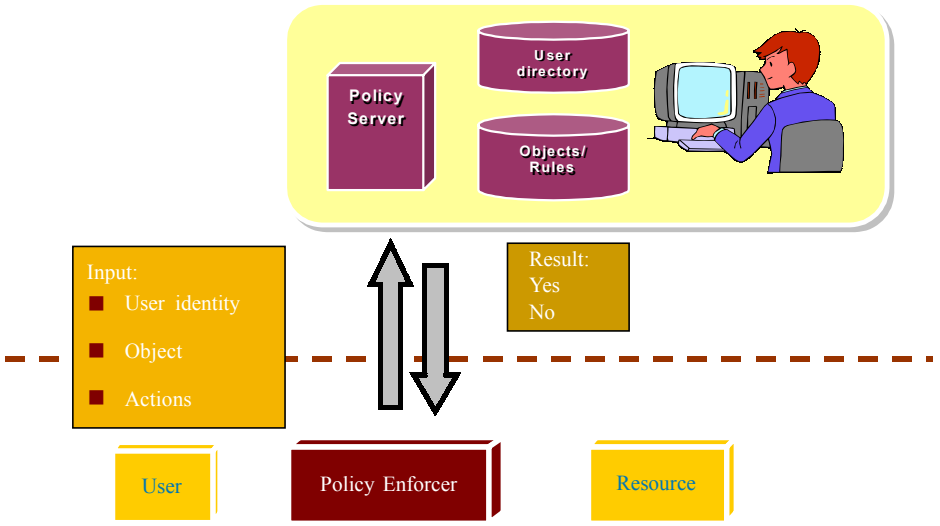


Figure 8. Authorization Decision Model (ISO 10181-3)

Privacy adds two dimensions to the security problem:

- Who owns the PII?
- What is the purpose of the access?

So in addition to access management software, companies may need some privacy management software to enable them to:

- Define and deploy policy to IT systems and applications;
- Record end-user consent and privacy choices;
- Monitor and enforce compliance;

- Provide detailed reports on use of protected information.

A component of trust for a consumer is that they know that businesses will use their information in ways consistent with their expectations.

Another crucial component of trust is reliability. Reliability is visible to users as the availability of the web site and its resources. Users can be very impatient and will go somewhere else if there is a viable choice. Therefore, critical components of the e-Business infrastructure need to be replicated to achieve high availability; these include web servers, secure proxy, firewall, directory server, applications and databases.

The security challenge gains a whole new dimension when we consider the web services environment. Web services allow servers from multiple organizations to interact seamlessly over the Web to deliver web-based e-Business to consumers. For consumer-based e-Business, web services raise new trust issues. For example, users may need to have a usable identity at multiple levels in the web services environment. This leads to the technology of federated identity.

Federated Identity

Federated identity is a technology for creating a portable online business identity to drive relationship- or affinity-driven business models between companies. Federated identities can simplify user experiences and accessibility. The concept however, is not new, and previous examples include the credit card, the ATM card, state driver license, and passports.

Federated identity relies on both an Identity Provider and a Service Provider. An Identity Provider manages users—employees, customers, and contractors and owns the user relationship. User Administration and ID management are also handled by the Identity Provider and the user is issued network credentials by the Identity Provider. Access to services is controlled by the Service Provider who provides access to services for the duration of the federation.

Example: Identity Provider—Passport authority:

- If you want to go to a foreign country you need a passport;
- This is obtained from your local passport authority;
- They will want to verify your identity first;
  - Using locally valid credentials to verify claimed identity; "vetting process"

Example: Service Provider—Passport verification authority:

- Foreign immigration can rely on your local passport authority to act as the authoritative source of information about you.

Federated identity management is loosely coupled with user lifecycle identity management across identity domains on a foundation of trust. This simplifies administration and enables companies to extend identity and access management to third-party users and services. Federated user lifecycle management is a three-step process—enrol, de-enrol and runtime.

Federated identity management enables extended user lifecycle management that simplifies identity and access administration for autonomous and trusted intra-company or inter-company transactions. Federation requires the technology implementation of many capabilities, including a trust relationship to enforce business and technical agreements, an ability to generate and accept a wide variety of identity assertion formats, federated user provisioning and account management, federated dynamic enrolment, federated Single Sign-On (SSO) and de-federation, de-provisioning and "Global Good Bye"—(single sign-off).

The benefits of federated identification management are based on the value proposition:

- Identity Management costs are lowered because companies are no longer in the business of managing "users" or "identities" that are not under their control.
- User experience is improved because users can navigate easily between web sites while maintaining a single login identity.
- Integration is simplified because there is a common way to network identities between companies or between applications e.g., Straight Through Processing.

This helps to deliver top line growth, and bottom line cost savings.

Trust between Identity Providers and Service Providers is the fundamental basis for this system. But as we have seen in this presentation, trust between users and Identity Providers can be facilitated by technology. This requires business and legal solutions.

Trust for users and consumers is as important in e-Business as in traditional business, but the problem of establishing such trust is magnified by the burgeoning size of the user population and the increasing complexity of e-Business. Therefore, appropriate security, privacy, and reliability mechanisms need to be deployed at various points in the transaction path to ultimately deliver trust to consumers.

N: Promoting Online Safety as a Means of Fostering e-Business

Mr. Jeff Bullwinkel, Director, Corporate Affairs
Microsoft Hong Kong

New technologies have a great deal of potential, but if misused they can allow one person anywhere to threaten national security and public safety, to compromise critical information and disrupt vital services and to erode trust in computing.

Threats from new technologies come in a number of different forms. They can be unstructured threats such as hackers and virus writers, or they can be structured threats such as 'hacktivists', organized crime, 'phishers', fraudsters, or professional spammers. In addition, there are national security threats from new technology which can include terrorism and espionage.

The three main types of threats are:

Hackers: a lot of the most significant attacks have involved young, smart men who hack simply for fun. But they can have a significant impact on economies around the world. One of the challenges is trying to reach potential hackers and educate them that hacking is poisoning the wealth of the e-users.

Phishing: these are sites that are circulated via the Internet. Their goal is essentially to be exact replicas of official e-Business sites (e.g. Banks) to extract confidential information that users think they are submitting to an official site for criminal purposes. There are increasing links with spam.

National security threats: there is an increasing realization among serious criminal groups of the potential to interrupt the entire world economy through acts of terrorism on the Internet.

Trends in Cybercrime—the Exploding Problem of Spam

There is no universal definition of spam. Generally though, it falls into one of the following categories:

- Unsolicited commercial email;
- Unsolicited bulk email;
- Unsolicited bulk commercial email;
- Unsolicited bulk commercial email that is "offensive";
- Unwanted email;
- Unwanted communications.

One of the challenges is to identify what spam is. Some say it is unsolicited and with a commercial content. Others say it is unsolicited, and with bulk content, but that it does not have to have a commercial component. Ultimately, identifying spam is subjective, but it is affecting e-Commerce in a very profound way.

Junk mail makes up 60 per cent of email content. There has been a significant increase in recent years—just three years ago it was only three per cent. Of further concern for this region, more and more spam is originating from the Asia Pacific. Fourteen billion spam mails are sent every day, with Microsoft blocking three billion spam emails every day, as does AOL. The cost of that is enormous in terms of the extra storage space that is required to hold all this mail, the bandwidth to transmit it, etc. The cost to business is as much as US$20 billion every year, in the form of time wastage in filtering out spam. It is now a more costly problem to business than absenteeism. Beyond those costs there is an alarming convergence between spam and more serious fraud. The real impact is that it leads to an erosion of trust in the overall computing environment. People may stop accessing the Internet because filtering through spam is becoming too burdensome. Spam is the number one problem for email users, and 29 per cent use email less as a result.

The motive for spamming is money. It has a low cost of entry, plus the potential for high profit as well as anonymity. Target lists cost very little to acquire. Further, there is zero incremental cost to send an email as the cost is borne by receiver and infrastructure providers. It is anonymous, providing high profit, "affiliate" opportunities for products that lend themselves to the privacy of the Internet. Put all that together and it means that spamming is easy and low risk. All that is needed is an Internet connection, simple mailing software, and a mailing list.

The process involves firstly, a spammer getting your email address. This can be done via a Web Spider or Troller/Crawler, by buying existing third party mailing lists, by performing a Directory Harvest Attack or via embedded Web-Beacons.

From these email addresses a spammer then sends out millions of emails world-wide, typically using open proxies or open relays, to send messages that have a false identity and subject line, and from multiple locations.

Most ISPs and enterprises try to block the spam through filtering, SafeLists and BlockLists, challenge/response systems and so on. These systems succeed in deleting more than 80 per cent of spam. However, some spam still gets through to users. Spammers earn money if there are respondents to their spam. Spam generally pays off if only 1 out of

100,000 respond. In addition, the cost to spammers is low (1/100th of a cent) with many spammers earning high incomes (over US$250,000).

One of the reasons why spamming is so successful, is that the structure of the Internet was not made to be secure, because it was originally designed to be used within government. For that reason there are major challenges inherent in the system that needs to be addressed in a retrospective way through technology.

For a start, computer crime has low financial and manpower requirements. There is no physical presence required, and no boundaries. Information transmitted over voice and data networks is difficult to identify as every bit looks the same, and encryption is better than a good disguise. Further, there are also a number of impediments to enforcement of Internet privacy and security. For example, private sector reporting—there has been a historical reluctance for business to admit they have a problem. Preservation of data is also difficult, and there is a lack of policy infrastructure, resources for enforcement, mechanisms for international cooperation, and so on.

Response by Governments—Legislation

The Council of Europe CyberCrime Convention provides a baseline for criminal offences and is potentially open for signature to a much wider range of countries beyond Europe. It provides a baseline of criminal offences:

- Core Offences: Addresses confidentiality, integrity, availability of computer data;
- Computer-Related Offences: Traditional offences such as fraud carried out via computer networks;
- Content-Related Offences: Sexual exploitation of children;
- Copyright-Related Offences: Trade in pirate or counterfeit physical or digital media;
- Ancillary Liability*:* Attempt, aiding and abetting, corporate criminal liability.

Many other countries are committed to addressing spam, and there are various anti-spam laws:

- United States: CAN-SPAM Act.
- European Union: An EU Directive obligates Member States to enact anti-spam laws by 2003.
- Asia Pacific Region:
  - Growing trend toward legislative response;
  - Australia, Japan and Korea already have some laws in place;

- Other markets actively considering are—Hong Kong, China; Malaysia; New Zealand; People's Republic of China; and Singapore.

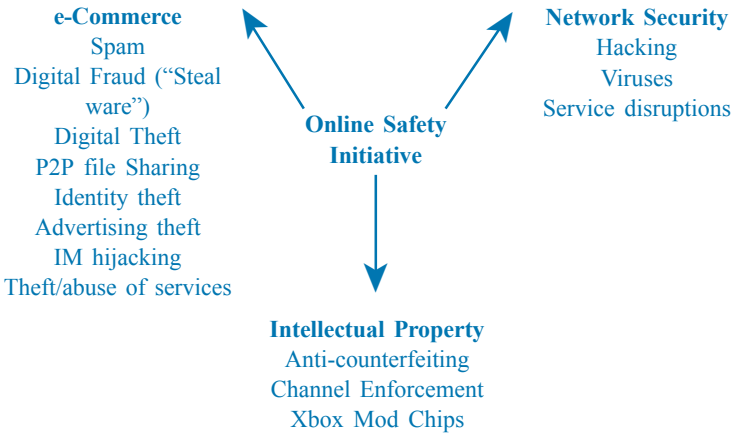
Governments are addressing the problem through inter-governmental cooperation agreements, multilateral bodies such as APEC, ASEAN, and the United Nations and through mutual legal assistance and extradition. But more still needs to be done. There is a need for faster and more efficient tools such as 24/7 networks, expedited preservation of traffic data, trans-border access to stored data without formal request, publicly available data and consent by party with lawful right to disclose.

There also needs to be public-private sector collaboration. Without this collaboration we can not address the problem.

Security, privacy, reliability and business integrity are all essential. Microsoft has created its systems to be secure by design, by default (Win Server 2003 has 60 per cent less attack surface area by default compared to Windows NT 4.0 SP3) and by deployment. To make a system secure by design requires mandatory training, the building of threat models, conducting of code reviews and penetration testing, the use of automated code tools and the redesigning of architecture.

It is also important to communicate the risk. Users should know what to do to protect themselves and configuration guides, consumer bulletins and training and education should be made available as part of the global security push.

Microsoft's online safety initiative targets three key areas: network security, e-Commerce and intellectual property.



The viability of the Internet as a means of e-Business is under serious threat. Urgent action by governments is needed to provide infrastructure and resources for investigation and enforcement. Better mechanisms are also needed for cross-border cooperation, and public-private sector collaboration is key.

Useful web sites:

http://www.microsoft.com/security:

➢ Consumer: Protect Your PC

http://www.microsoft.com/technet/security:

➢ Enterprise: Global Education and Certification Programmes for IT professionals

http://www.cybercrime.gov

➢ U.S. Justice Department site offering wide range of information on laws, procedures, actual cases, international activities in cybercrime area

http://www.nipc.gov:

➢ U.S. FBI site on national infrastructure protection

http://www.coe.legal.int:

➢ Council of Europe site with link to convention

O: ICT as a Building Block for Competitiveness in Emerging Economies

Mr. Jonathan Kushner, Global Strategic Accounts Executive Microsoft

Information and Communication Technologies (ICT) have significantly contributed to increasing the productivity and competitiveness of the enterprise sector. However, so far these benefits have been somewhat uneven and only accrued to a small group of countries in transition and developed countries, with a large number of countries left out of the opportunities—this is what is commonly referred to as the digital divide.

Successful national strategies and new business methods have helped some countries to achieve productivity and national growth. According to an OECD study there is a strong link between investment in ICT and faster growth. On average OECD countries have invested about seven per cent of GDP in ICT, far outpacing ICT investment in the developing

world. The global e-Business market is estimated at around US$2.3 trillion (2002), and 30 OECD countries account for 95 per cent of the total value. The Internet has also presented a number of challenges to growth. When considering growth, we need to look at it holistically, not just at productivity growth. We need to look, for example, at spam and its impact.

Successful national strategies to promote the competitiveness of the enterprise sector take a two-pronged approach, involving both the e-Business environment and SMEs.

The e-Business environment needs:

- e-Leadership by governments: without a commitment from government to moving businesses towards e-Business we won't see a lot of progress, so governments really need to take the initiative;
- Market competition in ICT: the price for broadband Internet plummeted with the introduction of competition (e.g. Yahoo) to government-owned ISPs;
- Trust and security policies: these are critical issues to address in creating an environment favourable to e-Business.

Industry, enterprise and SME levels need:

- Awareness, managerial skills and pre-competitive investments among SMEs;
- Human and intellectual capital: ICT used as an enabler;
- Complexity in ICT hardware and software solutions: easier ways to deploy these solutions need to be found.

Benefits of e-Commerce and e-Business in Emerging and Transition Economies

Most economic benefits begin with transactions such as "front office" relational and product innovation to improve market reach and products. This can include customer development and e-Marketing solutions (market research, business profile information, catalogues, pricing, advertising), e-Business solutions to buy and sell services via the Internet (ordering, billing, and payment) and customer service and support solution (feedback, reference and referral building, new product promotion).

This is linked to integration—moving from the "front office" to the "back office" to enable process and organizational innovation to improve production and management through product input integration and production solutions; procurement and supply chain management; finance, online banking and accounting solutions; and e-Learning solutions to upgrade employee skills.

Case Study: Need for Simplifying Trade Forms to Reduce Data and Document Requirements

Today, seven to ten per cent of the value of international trade is spent on custom formalities. A typical international transaction involves 30 parties and 40 documents, 200 data elements—60 per cent of which need to be re-typed at least once, and a delay of 88-208 days between delivery and payment. That is a lot of wasted time, considering that time is money.

From a revenue perspective there is low government operational efficiency to collect customs revenue, with money falling through the cracks or not getting there quickly enough. There is also a lack of uniform trade procedures making trading with neighbouring countries (natural markets) often more difficult than with OECD countries. If systems are not compatible, there are many lost opportunities in terms of economic growth. There are also reduced FDI opportunities, with inefficiencies creating a barrier to FDI.

One attempt to address these challenges is the United Nations UNeDocs which are a set of international trade forms in electronic format (and paper) based on international standards (GATT, WTO, WCO, UNCITRAL, UNLK, UN/EDIFACT) and best business practice. UNeDocs are freely available over the Internet. UNeDocs use the Internet for efficient international trade.

Trade Facilitation in Asia Pacific

In Singapore, the Government embraced UNeDocs and has created the Singapore Trade Facilitation[14]—an integrated platform for trade facilitation based on UNeDocs standards. The Government estimates it will achieve US$440 million in savings and create even greater opportunities for new business opportunities—US$2.5 billion in new revenue potential forecast over a 20 year period. The Trade Facilitation facilitates new logistics value-added services (i.e., reverse logistics, regional distribution and multi-country consolidation hubs).

The Australia Business Entry Portal[15] is another example of an attempt to simplify the documentation required for trade and business. The Business Entry Portal facilitates business for Australian firms. It is a one-

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14 www.ida.gov.sg/idaweb/doc/download/I2909/InfoPort_Factsheet_-_FINAL.pdf

15 www.bep.gov.au

stop shop on the Internet providing businesses with a wide range of services and information about start-up, taxation, licensing and legislation. The Portal enables businesses to comply with government requirements more simply and conveniently. Further, it offers information and services to expand business through importing and exporting opportunities. It is also replicable in other markets.

IT and Economic Growth—Policy Issues

A global survey of the economies and IT sectors of 28 countries revealed three key findings:

- Countries with faster growing IT sectors have faster growing economies;
- IT sector growth is driven by spending on software and IT services;
- Government policy should target the software and services segment.

IT spending is driven by software and IT services growth, and is an important component of overall economic growth.

The World Economic Forum Global Competitiveness Report (2003-2004) identified technological advance as the ultimate source of growth. As more and more nations transition into the Knowledge Economy, a key component of their knowledge capital base is intellectual property. Like any other national assets, intellectual property can and should be exploited to create economic value.

The importance of innovation to economic growth has long been recognized. Innovation generates intellectual property and intellectual property creation, protection, management and exploitation can directly impact the nation's economic performance. The need to create a more conducive business environment to better manage the nation's pool of intellectual property resources in the whole intellectual property ecosystem and value chain is critical.

Like many other fields of technology, e-Learning technologies create intellectual property in the form of copyright and patentable business methods. Government policy makers, enterprises and educational institutions should re-examine their existing business models to evolve a new business infrastructure that will nurture the creation, protection, management and exploitation of intellectual property as an emerging new form of economic asset in the whole e-Learning ecosystem.

Harnessing IT potential for economic growth in the knowledge economy is a key challenge. Local businesses are increasingly relying on their ability to create and utilize knowledge and intangible assets and exploit these assets to create value.

Intellectual Property Rights (IPR) are among the most important mechanisms for realizing a return on such an intangible asset as an idea—without that right there is no way to gain from an investment in that idea. A number of international organizations, including the World Summit on the Information Society (WSIS), have recognized the link between intellectual property and economic growth. ICTs are an important enabler of growth through efficiency gains and increased productivity, in particular in SMEs.

Intellectual Property and Public Private Partnership

IPRs can provide a catalyst for foreign direct investment (FDI). Countries with strong intellectual property regimes and laws generally are favoured sites for investment for multinationals. Multinationals view the strength of IPR protection in a local economy as an important factor in investment decisions. However, affordable access to IPRs is a challenge for developing countries, but IPRs can be used a means of promoting technology access in the long run. Further, harmonization of IPR rules is important—so that we can export and opportunities can easily take place. From the government perspective we need to think about joint development of intellectual property assets in research institutions. We also need to think about knowledge management and training of local knowledge workers in managing and exploiting intellectual property assets:

- Creating corporate sponsored programmes at schools and universities to share expertise in intellectual property asset development and management;
- Providing expertise and financial assistance in creating local campaigns to explain the value of intellectual property;
- Providing human and financial resources to accelerate development of an intellectual property culture and strong intellectual property systems and infrastructures.

In terms of economic assets and national policy, intellectual property can be a valuable economic asset and a critical business tool that can enhance competitiveness. Intellectual property should be managed strategically to maximize returns to the individual and to the nation. Effective management of intellectual property assets and value chain is critical to strengthening the capability and competitiveness of developing economies, as intellectual property is an industry by itself, a strategic

industry, and no longer an adjunct sector. Intellectual property is a downstream product, the codified and legally protected form of intellectual assets, and the fruits of innovation and intellectual property creation are ultimately linked to the quality of innovation and creativity. Therefore, effective intellectual property policy formulation requires that intellectual property be seen as part of the larger intellectual property ecosystem and the national economic system.

Example—India

India has embarked on a strategy to introduce stronger intellectual property laws and policies, and is creating an increasingly positive intellectual property environment to encourage and reward local innovation. As a result, it is beginning to reap the profits, for example in e-Business outsourcing. The Indian software industry employs 500,000 software engineers, Indian-produced software is used worldwide, and the intellectual property-positive environment is stimulating foreign investment. Besides India, other countries are following stronger intellectual property policies to attract FDI, including China, Singapore and Korea, but unfortunately they are a minority among developing countries.

The creation and exploitation of intellectual property assets is possible only when potential creators understand the importance of the intellectual property system and have the means, resources and infrastructure to participate in it.

What needs to be done to promote the use of ICT as a tool to support competitiveness?

- Leadership from governments is required as well as public-private partnerships.
- Challenge existing ways of working.
- Public sector managers need e-trades, e-Commerce and e-Business planning skills.
- Involve multi-stakeholder public-private partnerships, as implementing can be risky, expensive and difficult.
- Develop a culture of e-Business among various stakeholders including SMEs.
- Promote the development of trade in goods and services via e-Commerce.
- Promote strong protection for intellectual property made available over digital networks.
- Resource mobilization.
- Mainstream ICT into development programmes.
- Monitoring and evaluation.

- Increase technical assistance through multilateral institutions, which are an indispensable source of expertise, advice and assistance.

P: Harmonized Development of Legal and Regulatory Systems for e-Commerce in Asia and the Pacific

Mr. JongChan Park

Background of the Conference

Following the UNCTAD-UNESCAP Asia-Pacific Regional Conference on e-Commerce Strategies for Development (Bangkok, November 20-22, 2002) and the World Summit on Information Society (WSIS)—First Phase (Geneva, December 10-12, 2003), UNESCAP developed a three-phase regional technical assistance project for e-Commerce legal and regulatory system development in Asia and the Pacific.

There are increasing concerns that inappropriate legal and regulatory systems constitute a serious impediment to e-Commerce in Asia and the Pacific. The Conference provided an international forum for governments, policy and lawmakers, legal experts, lawyers, academics and the private sector to discuss current technical legal issues and identify capacity building needs of the members of the legal profession in the region.

Objective of the Conference

One objective of the Conference was to discuss the training and capacity-building needs of the legal professionals concerned and to agree on a regional capacity building framework for the "Harmonized development of e-Commerce legal systems in Asia and the Pacific," to be implemented jointly by UNESCAP and other interested capacity-building institutions.

Another objective of the Conference was to ensure that the legal professionals (lawmakers, regulators, lawyers and judges) develop a common understanding of e-Commerce legal and regulatory issues to facilitate harmonized development of e-Commerce related regulations and jurisprudence in the region.

The Conference

The Conference, held at the United Nations Conference Centre in Bangkok on July 7-9, 2004, achieved some significant outcomes and was acknowledged as a breakthrough for e-Commerce legal professionals in the public and the private sector in the region.

The first two days of the Conference were open to all registered participants. All government officials, policy and lawmakers, legal experts, lawyers, academics and the private sector interested in ICT, e-Commerce development and trade facilitation attended.

After a presentation on the state of laws and regulation and best practices in Asia and the Pacific on Day One, the major technical legal issues related to e-Commerce were addressed on Day Two.

A roundtable discussion on the capacity-building needs of the legal profession for the facilitation of e-Commerce took place on Day Three. Senior officials and experts from over 20 countries attended the Conference and participated in the roundtable discussion.

Conclusions and Recommendations of the Conference

The Conference,

Acknowledges: the importance of training and capacity building for e-Commerce legal professionals; that, regardless of the uneven stages of development of legislation on e-Commerce in the different countries, the legal professionals in the targeted UNESCAP subregions develop a common understanding of the e-Commerce legal and regulatory issues and solutions. In so doing, a more dynamic harmonization of laws and practices will be achieved (hence our preference for the term "harmonized development" rather than "harmonization").

Recalls: The Geneva 2003 Declaration of Principle of the World Summit on the Information Society (WSIS), according to which:

- Enabling environment at national and international levels is essential for the Information Society. ICT's should be used as an important tool for good governance.
- The rule of law, accompanied by a supportive, transparent, pro-competitive, technology neutral and predictable policy and regulatory framework reflecting national realities, is essential for building a people-centred Information Society.
- Standardization is one of the essential building blocks of the Information Society.
- Regional integration contributes to the development of the global Information Society.
- Regional dialogue should contribute to national capacity building.

Endorses: the Technical Assistance Project (summarized in Figure 9).

Recommends: that UNESCAP, as the regional arm of the United Nations, coordinate with other relevant capacity building organizations, particularly UNCITRAL, ITC UNCTAD/WTO, UNCTAD, ITU and the World Bank, to implement the regional capacity building activities on a regional or subregional basis.

Requests: that donor countries, as well as the regional and international development finance institutions, particularly the Asian Development Bank, provides the necessary financial and technical support for implementation of the technical assistance framework at the regional or subregional level.

Benefits of the Conference

The immediate benefit for legal professionals in Asia and the Pacific and beyond is the availability online on the UNESCAP web site[16]. The web site has a wealth of documents such as Conference Proceedings and Conclusions and Recommendations of the Roundtable on Capacity Building Needs. In addition, to create a platform for further interaction for follow up activities, Prof. Michael Geist, an e-Commerce Legal Expert and Consultant for The International Trade Centre (ITC) UNCTAD/WTO has also launched the "Technology Law and World Economic Development Project."

Future Activities

Phase I of the project was implemented in cooperation with the International Trade Centre UNCTAD/WTO, UNCITRAL and UNCTAD, and with the support of the French Government. The main activity of Phase I of the project was a Regional Conference on Harmonized Development of Legal and Regulatory Systems for e-Commerce in Asia and the Pacific.

Phase II and III feature capacity building activities at the regional and national levels, respectively, and will be developed and implemented jointly by cooperating agencies. The upcoming Phases II and III consist of regional and subregional training.

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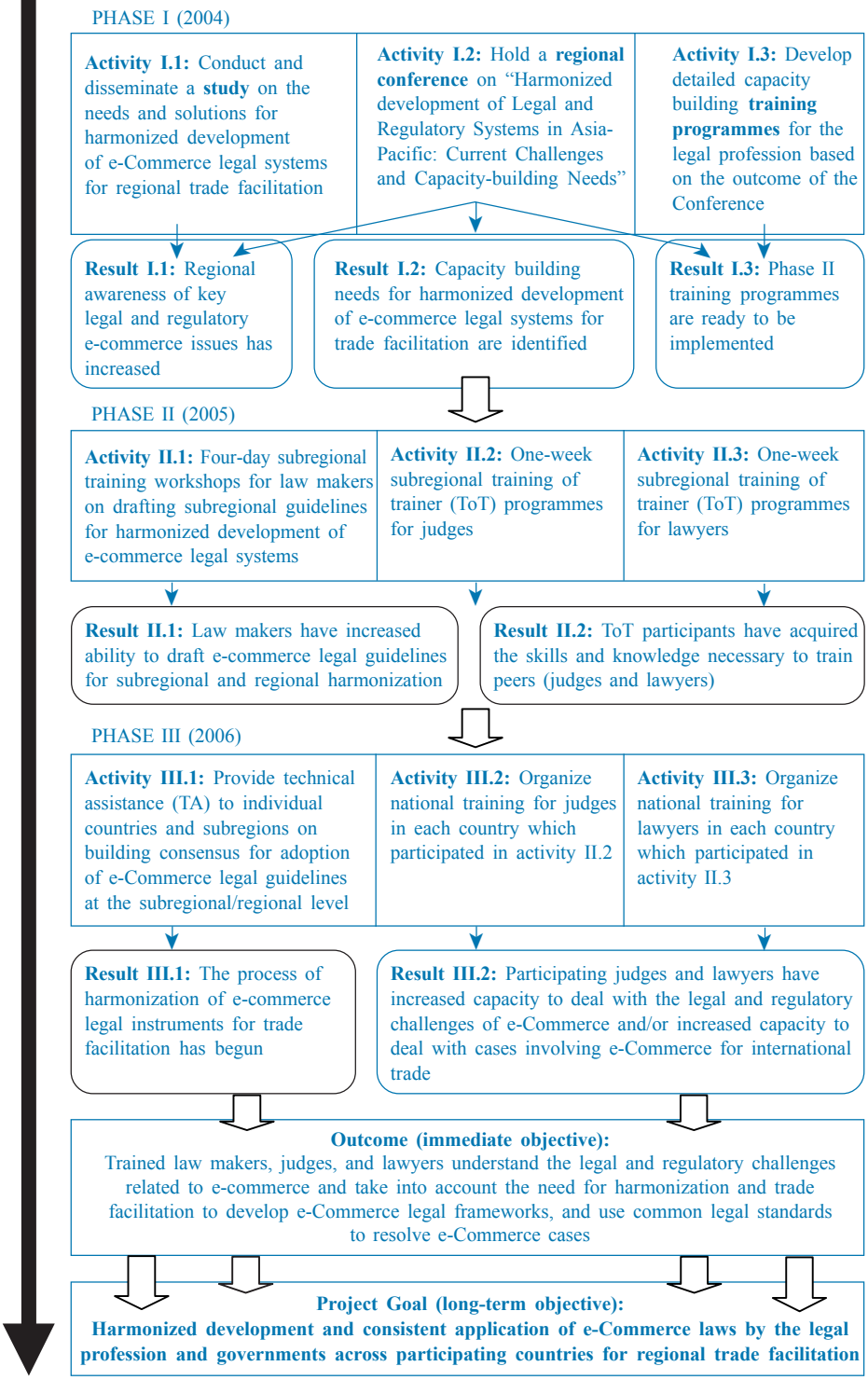
[16] http://www.unescap.org/tid/projects/ecom.asp

Figure 9. Technical Assistance Project Overview



Q: Justifying and Measuring the Success of e-Business Investments

Mr. Michael Harrison, Regional Director, Enterprise Business Value Microsoft

Part 1: Justifying e-Business Investments

"The newest innovations, which we label information technologies, have begun to alter the manner in which we do business and create value, often in ways not readily foreseeable even five years ago."

Alan Greenspan
Chairman, US Federal Reserve (1999)

The above comment was made by Mr. Alan Greenspan five years ago, but only now are many organizations starting to question the value of IT and whether technology really is driving business and giving companies the competitive advantage they are seeking.

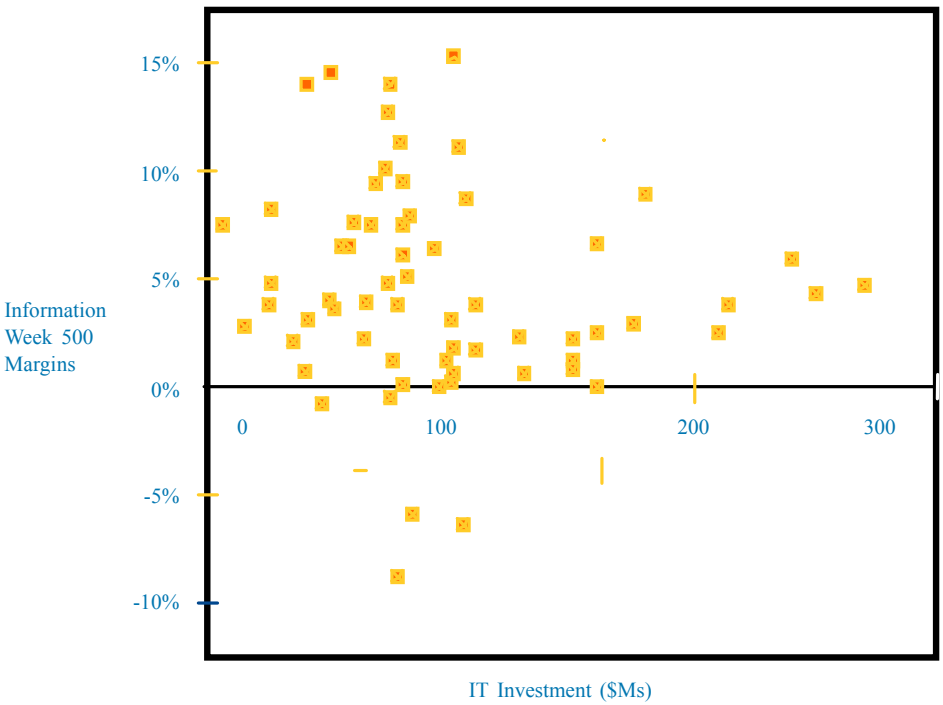


Table 10. Competitive Advantage[17]

[17] Source: InformationWeek 500

From Table 10 it can be seen that there is little or no correlation between business value and IT investment.

In the past organizations did very little about justifying IT and e-Business investment. Now they are doing more. Of businesses, 57 per cent say IT is key to competitive advantage, and 91 per cent expect IT to have a significant bottom line impact, but 52 per cent also say they are not getting their money's worth from IT.

Companies are not getting their money's worth, because while they spend an appropriate amount of time implementing technology, they do not spend enough time evaluating the business benefits of IT and e-Business projects. e-Business investments are highly risky, expensive and have great upsides if managed correctly, but they can also be a great waste of money and resources if not managed correctly .

The three CEO priorities for IT are 1) to create new business opportunities through direct impact to revenue and profit and new products, markets, or businesses; 2) create measurable productivity increases to the business, that is lower cycle time, operational efficiency and better customer satisfaction/improving loyalty, lower cost of sales; and 3) achieve greater operational efficiency for IT through the lower cost of ownership and technology investment.

In the past, one way of justifying investment in IT has been the IT pitch for IT investments. That is, the IT Department has traditionally pitched for IT investments by focusing on technology and on selling features, not value. IT professionals typically have an inadequate understanding of the "core business" and while CEOs are now demanding better "Business Understanding", many IT professionals have difficulty communicating in financial or business terms the value of technologies or services to the business. Further, IT relationships are generally transactional and not normally part of strategic business or planning process. A key problem in this approach is the limited access to the business and the business managers.

A second approach to justifying investment in IT has traditionally focused on the "fear factor"—our competitors have it, we need it as well. This is the "Core Business Leaders" approach. This reflects an inadequate understanding of the way IT can provide a competitive advantage. CEOs are now demanding IT-Business Alignment. However, Core Business Leaders have difficulties in communicating to IT their vision and strategy for the business and have a limited understanding of the technology.

To better achieve value from IT investments there needs, firstly, to be a better understanding of the business. Companies also need to set business objectives, organizational objectives, critical success factors, and key metrics. Once having identified the business needs, IT can then align solutions and services to these issues or objectives. This will build better relationships between the IT professionals in a company and the business leaders, helping to create "long-term" solutions and build a "partnership" for growth.

The e-Business Investment Challenge

In a lot of cases, measuring, communicating and justifying the value of e-Business to the business is done at a very superficial level and done based on relationships. It is rarely done based on measuring value or return on investment (ROI). However, there needs to be other metrics on which we measure the value of investment in IT, not just ROI. For example, gains in productivity, services levels, customer satisfaction and quality. There needs to be a way of quantifying and optimizing e-Business Investments. In recognition of this, Microsoft has developed a framework to do this - REJ".

Key Requirements of the Rapid Economic Justification (REJ) Framework:

The REJ" Framework provides a set of tools to measure and justify technology investments. Its methodology is business centric and based on established tools and methodologies. REJ" results are independent, auditable and able to be reviewed by a third party. They are also presented in a language that is understandable to business managers and owners.

Five step process:

1. Business assessment - Identify key stakeholders, their desired outcomes and their strategy to achieve these outcomes.

Task: Describe the business

- ➢ Stakeholders;
- ➢ Key Markets;
- ➢ Core Services and Products;
- ➢ Core Business Processes;
- ➢ Strategic Management Processes;
- ➢ Infrastructure Processes;
- ➢ External Forces and Agents.

Action

- ➢ Research Annual Reports, Management Reports, Strategic Planning documents;
- ➢ Meet with the leaders in the business to capture their needs;
- ➢ Identify priority areas of the business for early migration;
- ➢ If necessary, hire external consultants to do this.

2. Solutions - Analyze business processes against desired outcomes and propose solutions.

Task: Develop a detailed understanding of the products/solution

- ➢ Detailed review of product features to map them to the business requirements for each department and/or process;
- ➢ This is a team effort—not just a management task.

Action

- ➢ Create an initial "Value Map"
  - Describe the product features that are of most relevance;
  - Map these features to business needs/goals;
  - Describe the metrics at a high level.

3. Cost/Benefits analysis—Leverage modelling tools to optimize the analysis and quantify business costs and benefits. Most traditional models based on ROI.

Task: Develop Financial Model that depicts IT Value:

- ➢ "Benefit" model that measures potential business value;
- ➢ Cost model for implementation and operations.

Actions:

- ➢ Create a "Chart of Accounts";
- ➢ Determine how "better is measured";
- ➢ Develop "Value Statements";
- ➢ Determine potential benefit of each value statement.

4. Risk – Profile and quantify risk, using sensitivity analysis to optimize the economic impact of the investment. Many organizations do ROI but don't do a detailed mapping of risks

Task

- ➢ Assess Risk Exposure Broadly

- Alignment Risk;
- Solution Risk;
- Financial Risk;
- Project/Organizational Risk;
- Technology Risk;
- Operations Risk.

Action

➢ Profile Risk factors;
➢ Agree process for Risk weighting;
➢ Create a Risk Table to document the
  - Risk impact.

5. Financial metrics—Project impact of the e-Business investment in financial terms such as ROI and payback. All business indicators need to be taken into account, not just one. Looking at one indicator is short-sighted.

Task: Develop Cash Flow Projection

➢ Calculate and verify the expected return on investment

Action

➢ Select the approved metric;
➢ Engage a financial/business analyst;
➢ Estimate cost of risk factors;
➢ Engage an impartial, skilled reviewer;
➢ Reiterate until agreed by all parties.

REJ" is only a framework, but it enables better understanding of the business and drives greater alignment between business and IT. This is a key element for the success of e-Business investments. It also identifies and quantifies both costs and benefits for an e-Business investment, and is based on business input.

Part 2: Measuring the Success of e-Business Investments

Case Study: IT@Intel I

What is e-Business?

- Aberdeen Consulting Group: "the automation of the entire spectrum of interactions between enterprises and their distributed employees, trading partners, suppliers and customers";

- The Giga Group: "the application of electronic network technologies to transform business process";
- The value of e-Business is in the reduction of the complexity of standard business processes.

When e-Business transforms standard business processes to add value and improve transactions within the value chain, business value is created, lowering the cost of sales and capital expenditure, improving the working capital position, increasing market share and position and creating productivity gains and efficiency improvements.

Intel categorizes the success of e-Business in terms of business value and has identified 17 "Value Dials" or "Value Levers" that best describe the success of e-Business in all forms (see Table 11 on next page).

The categories of e-Business value are divided into cash cycle/cash flow, operational efficiency improvements, stabilizations and market optimization. An overall e-Business evaluation shows value levers in terms of success and failure, rating them from one to ten.

Examples and explanations of some of the value levers:

Days of Inventory (DOI) Reduction

Any e-Business process that allows an organization to operate with lower levels of inventory than otherwise possible creates value.

Example:

By obtaining demand information more quickly, with fewer errors, and interpreting that demand information into a timely plan-build reset we will need less inventory.

Days of Receivables (DOR) Reduction

Days of receivables are very similar to the DOI concept, as it involves collecting accounts receivable from A/R to cash on the balance sheet.

Example:

Applications that help organizations receive payments from customers faster produce benefits and need to be measured. An example is electronic funds transfers.

		Value Dials	Supplier: Inventory Management	Supplier: Planning Systems	Supplier: Materials Procurement	Supplier: Warehouse/Deliver	Empl/Internal: Self-Help Empl HR Tools	Empl/Internal: Financial (GL, AP..)	Custo-mer: Order Mgt & Customer Supt	Custo-mer: Conveyance of Product Info	Infra-structure: Uptime/Reliability/Design	Infra-structure: Remote, Down-the-Wire	Infra-structure: Mergers & Acquisitions	Manufacturing: Factory Tool Allocation	Manufacturing: Equip Performance Monitor	Manufacturing: Excursion Mgt	Manufacturing: Capital/Inventory Mgt
Cash Cycle	1	Days of Inventory	x	x		x											x
	2	Days of Receivables						x									
Efficiencies	3	Headcount Reduction		x	x	x	x	x	x			x					
	4	Headcount Productivity		x	x	x	x	x	x		x	x		x	x	x	x
	5	Headcount Turnover		x	x	x	x	x	x								
	6	System End-of-Life		x	x	x	x	x	x	x	x	x	x		x	x	x
	7	Materials Discounts			x												
	8	Capital, HW/SW Avoidance									x		x				x
	9	Unit & Other Cost Avoidance	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	10	Factory Uptime									x			x	x	x	
	11	Scrap Reduction	x	x											x	x	
Stability	12	Risk Avoidance: Process	x	x	x	x		x	x		x	x				x	x
		Business Continuity						x	x		x						
Optimizing Markets	13	Time-to-Market								x							
	14	Open New Markets								x							
	15	Optimize Existing Markets	x							x							
	16	Cross-Selling								x			x				
	17	Vendor-of-Choice	x	x	x	x			x	x			x				

Table 11: Defining the Value of e-Business[18]

Headcount Reduction and Avoidance

This is when e-Business process automation replaces people, by reducing or eliminating the core task that an individual performs. This concept can apply to many parts of the value chain.

Example:

Implementing an electronic account payable process to verify invoices and relay payments can eliminate the need for accounts payable clerks.

Headcount Productivity

Subjective headcount productivity is applied when people are going to become more effective and efficient because they will have fewer non-core tasks to perform.

[18] White Paper May 2003 – Intel Corporation

Example:

Human resources or employee-facing applications of e-Business tend to concentrate on headcount productivity, web-based applications such as self-help, online forms and searchable databases of company policies, as but a few examples.

Headcount Turnover

By their nature, some jobs entail a high percentage of low-satisfaction activities, resulting in high turnover rates that have an undesirable financial impact on the organization.

Example:

Many jobs within an organization involve data reconciliation or analysis tasks that produce little real value-added for the company. Replacing these tasks with e-Business systems will reduce headcount turnover.

System End-of-Life (EOL)

Often, after deploying a new e-Business application (internally or externally), many other systems are replaced; this replacement creates value for the organization.

Example:

Standardizing and internationalization on cross geographical systems provides scope to reduce the number of systems used with an organization.

Materials Discounts

Paying less for materials or reducing the cost of the procurement process achieves savings and needs to be measured as an indicator of success.

Example:

Direct contractual discounts, discount for early payments and new methods of buying are all examples of benefits that can be achieved.

Capital, Hardware and Software Avoidance

Modifying methods or systems can reduce, prevent, or delay the need for installing new hardware and software.

Example:

Correct application of e-Business solutions can create lower infrastructure costs in other areas of the business.

Unit (and Other) Cost Avoidance

Other business costs can be avoided or reduced by the correct application of e-Business.

Example:

Processes that track product shipments, and correctly target certain shipments for expedited services and others for standard freight, can save significant dollars in freight billing.

Factory (and Production) Uptime

This category of e-Business success is best described by the implementation of e-Business applications that enable the production of more of x, at higher quality.

Example:

Production automation, loading and manufacturing resource planning all require time. If you can reduce this time with the correct application of e-Business, you create greater value and more success.

Scrap / Waste Reduction

All manufacturing or production produces waste. Reducing the production of waste will create value to an organization.

Example:

Sometimes organizations build the right produces but in the wrong amounts, basically due to incorrect forecasting of incorrect decisions being made on demand. The decision may be correct but the inputs wrong.

Risk Avoidance

Business processes supported by control systems can perform checks and balances that locate errors, highlight potential fraud, and assure the accuracy of an organization's reporting.

Example:

There are two basic levels of risk avoidance: business process risk avoidance and business continuity risk avoidance.

Time to Market

Time-to-market (TTM) is becoming increasingly important as a key factor in being first to market a new service or product. If an organization

is able to lower the TTM it is able to create competitive advantage and thus success.

Example:

Delivering, marketing and selling a service or product via e-Business will reduce the TTM of that service or product. Web marketing and e-Commerce are both good examples of such e-Business"

Opening New Markets and Optimizing Existing Ones

Sometimes an e-Business capability allows a firm to access a market that was otherwise unreachable or cost prohibitive to enter.

Example:

Delivery of marketing collaterals, product specifications, and personalized history are all examples of optimizing existing markets.

Cross-Selling

Cross-selling can be managed quite easily and occurs when selling one product opens the door for selling another, complementary product. e-Business opens up opportunities in this area.

Example:

Organizations can deploy a content infrastructure that relates component products according to compatibility.

Vendor of Choice (VOC)

The VOC value dial lets firms account for the goodwill benefit that occurs when certain programmes deliver features that please customers, but do not necessarily deliver specific, quantifiable dollar value.

Example:

An organization can modify its order management automation to allow direct feeds from its customers systems. This process eliminates the need for customers to enter data and makes the customer happier to transact with the organization.

The IT@Intel white paper can be downloaded at:

http://www.intel.com/business/bss/infrastructure/managing/define_value.htm

R: Expansion of the e-Commerce Market and Rakuten's Growth

Mr. Ken Takayama, Rakuten

Background of Rakuten

Rakuten's Internet shopping site www.rakuten.co.jp has six million users/members. The site provides several types of services including travel/ accommodation booking and auction services. It also has a communications site, greeting card services and a web portal, and sells cars, bags and other items online. People buy online because those living outside of Tokyo do not have access to luxury stores and department stores.

More than 28 million people have registered, making it quite a large site.

Penetration of Broadband

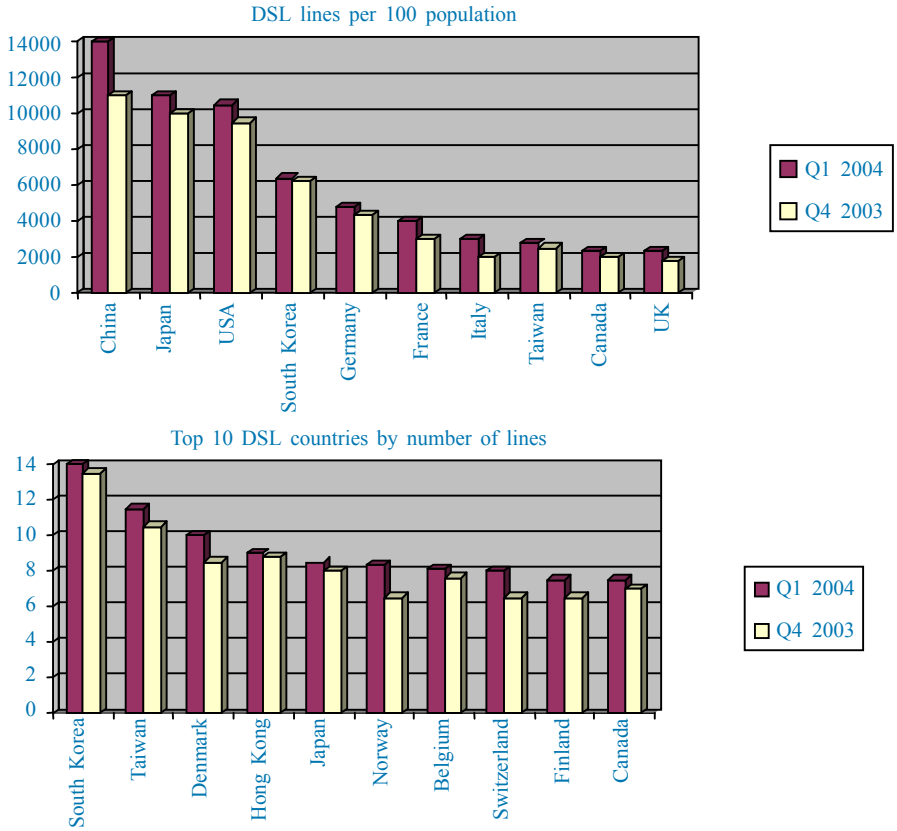


Table 12. Penetration of Broadband[19]

[19] www.point-topic.com

Japan is one of the biggest DSL countries in the world, with about nine lines per 100 people, though China actually exceeds Japan in terms of DSL use. DSL use in Japan is growing rapidly. When Ratuken started, Japan was one of the most expensive countries in the world for DSL—about US$100 for a line. Now it is US$20 a line—making it very competitive.

Changes in the e-Commerce Environment:

There have been a number of changes which have had an impact on the e-Commerce environment in Japan. Firstly, there have been improvements in access, led by the spread of broadband and high-speed access, Access is now also constant as a result of advances in technology and reductions in cost.

The e-Commerce environment is also rapidly diversifying thanks to the spread of mobile-commerce and television-commerce. Transactions amounting to US$10 million are conducted a month through mobile commerce.

There has also been an increase in skills and enhanced understanding among users of the convenience and price competitiveness of e-Commerce.

Japanese e-Commerce Market Forecast

The Japanese e-Commerce market is forecast to grow to 14 trillion yen by 2008, with average annual growth rate of 132 per cent.

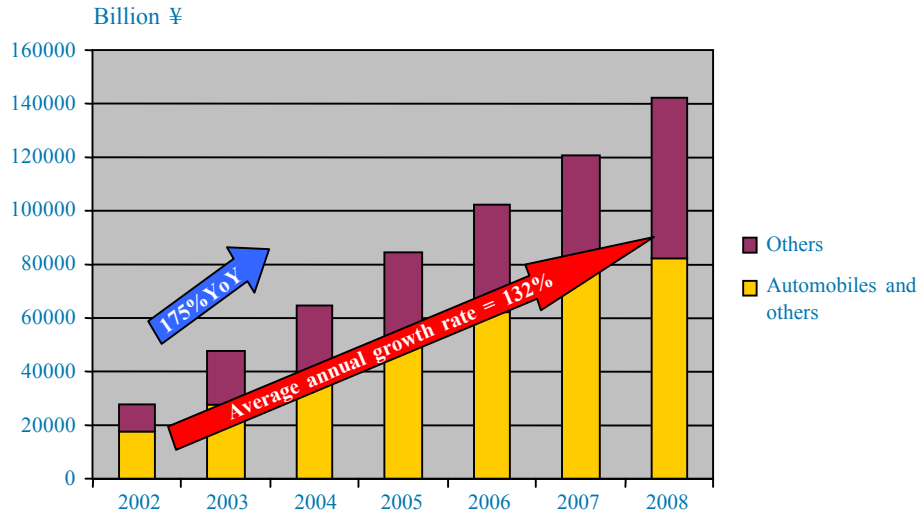


Table 13. Japanese EC Market Forecast[20]

[20] Nomura Research Institute.

Cycle of Success in Internet Shopping Malls

Rakuten is the leading Internet shopping mall in Japan. It has merchants from all over Japan and provides a marketplace where users can choose from a wide range of products. The concept of the site is "Shopping is Entertainment!"

There has been growth in the number of merchants, but like the Las Vegas model, harsh competition encourages people to come to the site because they know that with all the competition they will find a product they like. If people come into site they will buy—the more that people buy, the more merchants that are attracted to the site—creating a cycle of growth.

The Rakuten service started in May 1997. It now has 9,200 merchants, and has sold over 3.7 million items. Merchants were able to set up on the site for just US$500 a month—which was very inexpensive in Japan at the time. Rakuten also set up its own proprietary system—Rakuten Merchant Server System (RMSS). The RMSS was built internally, rather than outsourced, and through it, each tenant has its own e-Commerce consultant. Rakuten also has a training institution—the Rakuten Academy—which offers daily seminars on topics such as how to take a digital photo, how to build up a web site, how to use your banner heads and so on.

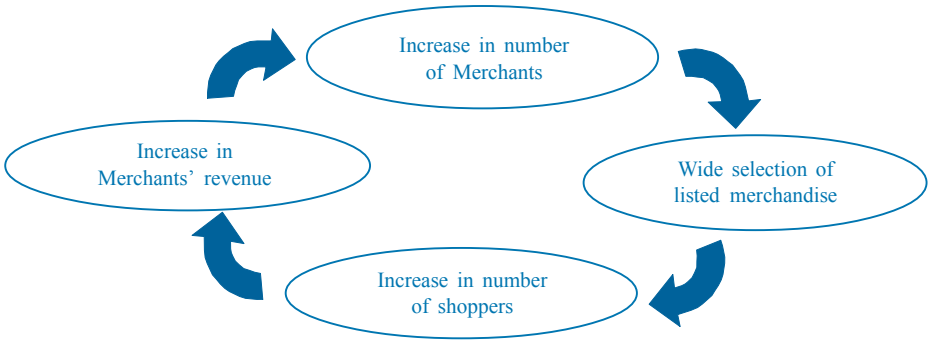


Figure 10. Cycle of Success in Internet Shopping Malls

The success of Ratuken is that it provides traffic for merchants to their sites, and it also provides systems so that merchandisers don't have to build their own sites. It provides the technical expertise and support enabling tenants to sell around US$450 million a quarter, making the site bigger than any other e-Commerce site in Japan. Strong growth is continuing, as the graph below shows.

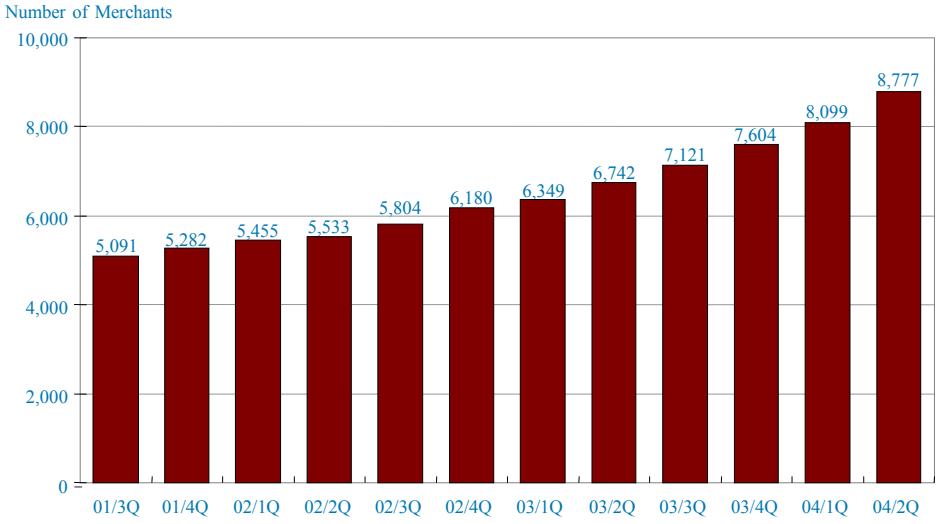
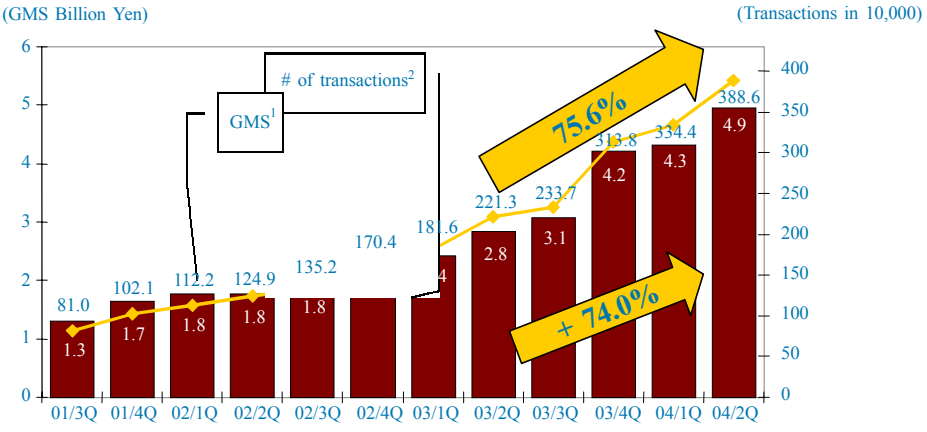


Table 14. Growth in Number of Merchants

Measures to Increase Transaction Volume

Ratuken has a number of ways to attract buyers to the site, including expanded access routes and affiliate programmes such as Infoseek and individual users' web sites. It also has launched a number of product specific markets such as a Wine Market, Watch Market and Seafood Market.



*1 GMS=Mall (Fixed Price, Super Auction, Group Buy) + Flea Market + Mobile + Business Service + Golf + Books from Sept 2003 GORA included, from Q1 2004 Rakuten Download included.

*2 Note: Number of Fixed Price Purchases at Mall

Table 15. Gross Merchandise Sales

Another initiative has been the introduction of a Point Programme in which points are awarded to shoppers in proportion to the purchase price. Affiliate models (Amazon is very good at affiliate models) and points programmes are good ways to "incentivize" users to use a service.

Rakuten's Vision

- Online shopping mall;
- Internet portal/contents;
- Online travel services;
- Financial services.

Ratuken's vision is to become an integrated Internet service company with e-Commerce as its core strength. The Rakuten Group's reach is increasing continuously. Since March 2004 it has increased by 3.7 points and it now over the 60 per cent mark, with 61 per cent of all Internet users in Japan using Rakuten services in some way. It is now second only, behind Yahoo, and ahead of MSN, Microsoft, Sony and NEC.

Rakuten is focusing now on realizing service collaborations, by offering membership and super-points. Linking services is the key and this will be done by integrating multiple services with a single ID/point system, involving information systems integration and knowledge sharing. Other focus areas include providing one-stop services through membership database consolidation, and a branding strategy—group services will come under one "Rakuten" brand.

Rakuten's approach is to enable and empower. The company utilizes a learning-by-doing approach, providing support and hints as needed, as it believes the merchants know how they want to sell their products, and Rakuten's role is to provide hints on how to sell on the Internet—trying to combine its know-how with their merchants' know-how. Contact with merchants is done largely through the Internet through Rakuten's e-Commerce consultants. They have about 150 clients per consultant.

ANNEXES

Annex 1

WORKSHOP AGENDA:

Wednesday, September 1, 2004

09:30–10:00	Registration
10:00–10:30	Opening Ceremony MC: Mr. Raymond Renfro Director, Director Capacity Building & Training Welcome Remarks by Tomohiro Innami, METI, Japan Opening Remarks by Mr. Peter McCawley, Dean, ADBI Election of Chairperson Group Photo Session
10:30–11:00	Break
11:00–11:40	Workshop Introduction and Overview Mr. Jeoung-Keun Lee, Senior Capacity Building Specialist, ADBI Introduction of the Participants and Resource Persons
11:40–13:00	Current Status and Trends of e-Business Mr. Jung Uck Seo, Chairman, Korea Foundation for International Cooperation of Science and Technology
13:00–14:00	Lunch Break
14:00–15:30	Country Reports (Viet Nam, Turkmenistan, Timor-Leste, Thailand, Tajikistan, Sri Lanka, Philippines, Nepal, Myanmar, and Mongolia) Chair, Ms. Penelope Price, Senior Communication Specialist and Webmaster, ADBI
15:30–16:00	Break
16:00–17:30	Country Reports (Maldives, Lao PDR, Kyrgyz Republic, Kazakhstan, Indonesia, People's Republic of China, Cambodia, Bhutan, Bangladesh and Afghanistan Chair, Mr. Fernando Cala II
18:00-19:00	Welcome Reception

Thursday, September 2, 2004

09:30–10:30	e-Commerce Web Sites: Findability, Usability, Credibility Ms. Penelope Price, Senior Communication Specialist and Webmaster, ADBI
10:30–11:00	Break
11:00–12:00	Samples of e-Stores Mr. Santi Saeyor, Mr. Sosakul Teeratep, and Mr. Panrit Tosukhowong
12:00–13:00	Lunch
13:00–15:00	Small group work on making e-Stores Mr. Santi Saeyor, Mr. Sosakul Teeratep, and Mr. Panrit Tosukhowong
15:00–15:30	Break
15:30–16:30	Individual work on testing and commercial transactions with assistance from Mr. Santi Saeyor, Mr. Sosakul Teeratep, and Mr. Panrit Tosukhowong
16:30–17:30	Evaluation of e-Stores Ms. Penelope Price, Senior Communication Specialist and Webmaster, ADBI

Friday, September 3, 2004

09:30–11:00	Automobile Industry and Information Technology Mr. Satoshi Kuroiwa, Visiting Professor, Nagoya Institute of Technology, (Former Chairperson, Planning Committee, Electronic Commerce Promotion Council of Japan, ECOM)
11:00–11:30	Break
11:30–13:00	National e-Strategies: Creating an Enabling Environment Ms. Marta Pérez Cusó, Economic Affairs Officer, United Nations Conference for Trade and Development (UNCTAD)
13:00–14:00	Lunch Break
14:00–15:30	Innovation Policy: A Cornerstone of e-Business Mr. Stephen Braim, Government Programmes Executive, IBM Asia Pacific

15:30–16:00	Break
16:00–16:45	Venture Business Mr. Joichi Ito, President and CEO, Neoteny Co. Ltd.
16:45-17:30	e-Business Policies Mr. Shin Yasunobe, President and CEO, Woodland

Saturday, September 4, 2004

09:30–10:15	e-Business: Driving Company Level and Economy-wide Competitive Advantage Mr. Stephen Braim, Government Programmes Executive, IBM Asia Pacific
10:15–11:00	e-Retailing Mr. Hiroshi Mikitani, President and CEO, Rakuten Japan
11:00–11:30	Break
11:30–13:00	Supply Chain Management and Traceability Mr. Kazumasa Takeuchi, Research Director, ECOM
13:00–14:00	Lunch Break
14:00–15:30	Policies of e-Business and Commerce in Korea Dr. JongChan Park, Professor, Korea University
15:30–16:00	Break
16:00–17:30	Building Trusts for Users and Consumers Mr. Gerard Joseph, Security Expert, IBM Asia Pacific

Monday, September 6, 2004

09:30–10:15	e-Business Policies and Strategies Mr. Jeff Bullwinkel, Corporate Affairs Director, Microsoft
10:15-11:00	ICT as Building Blocks for Competitiveness in Emerging Economies Mr. Jonathan Kushner, International Corporate Affairs Manager, Microsoft
11:00–11:30	Break
11:30–12:15	Harmonized Development of Legal and Regulatory Systems for e-Business Dr. JongChan Park, Professor, Korea University

12:15-13:00	Business Processes Outsourcing: A Tested Opportunity Ms. Marta Pérez Cusó, Economic Affairs Officer, United Nations Conference for Trade and Development (UNCTAD)
13:00–14:00	Lunch Break
14:00–15:30	Measuring Success of e-Business Mr. Michael Harrison, Senior Manager, CPE, Microsoft
15:30–16:00	Break
16:00–17:30	Public and Private Partnership in Innovation Mr. Atsushi Shinjo, Senior Researcher, Softopia Japan

Tuesday, September 7, 2004

09:30–11:00	Presentation of Action Plans Chair, Mr. Fernando Pagaragan Cala II
11:00–11:30	Break
11:30–13:00	Presentation of Action Plans Chair, Mr. Fernando Pagaragan Cala II
13:00–14:00	Lunch Break
14:00–15:30	Finalization of Action Plans and Workshop Evaluation Mr. Jeoung-Keun Lee, Senior Capacity Building Specialist, ADBI
15:30–16:00	Break
16:00–17:30	Closing Ceremony Closing Remarks by Mr. Raymond Z. Renfro, Director, ADBI Handing Out Certificates Vote of Thanks by Participants

Annex 2

Welcoming Remarks

Mr. Tomohiro Innami
METI Japan

Good morning distinguished guests from various Asian countries,

Good morning everyone.

It is my honour to have the opportunity to make an opening remark in such a prestigious forum as the "Regional Workshop on Promoting e-Business and Commerce in Developing Countries."

Information and Communications Technology (ICT) is indispensable in Japan. It functions like a nervous system. It is extremely convenient, but on the other hand, the security risks are enormous.

In Japan, we have developed the e-Japan Initiative. e-Japan I, which started in 2001, aims to strengthen the ICT infrastructure in Japan. e-Japan II which started in 2003, emphasizes the application of ICT. In addition to that, we have developed an accelerating package to speed up e-Japan II. Included in this is the "Asia IT Initiative." This initiative provides assistance to other countries in the region to educate highly-skilled IT students, including Master and Doctorate students. Students educated under this initiative will be trained in Japanese, and in the future they will work for Japanese ICT companies in their home countries. This is a win-win situation. Countries can benefit from raising the skill level of their ICT workers, and Japanese companies can benefit from hiring excellent local students.

Ladies and gentlemen, it is now time to hear the top-notch presentations on the state-of-the-art technology; my thanks to the distinguished speakers and Asian Development Bank.

I strongly hope that you will learn much from these speakers and contribute to constructing your country's ICT networks.

Thank you.

Opening Remarks

Mr. Peter McCawley
ADBI

The Asian Development Bank Institute as the name suggests is an institute—a think tank. We are supposed to think about development problems across Asia and I think we agree they are many of them.

We are part of the Asian Development Bank itself, but a small part, as our total fulltime staff number only 35. In Manila, the total staff is over 2,000. We have had strong support from the Ministry of Finance and the Government of Japan, which established this institute about six years ago. Unlike the ADB which is based in Manila, we are based in Tokyo.

ADBI has four main areas of work:

- Applied Research

ADBI research aims to contribute to the policy debate in a number of defined areas and selected issues especially in poverty reduction, regional cooperation, private sector development and governance. The research is published on the web.

- Core capacity trainings

We conduct about 13-15 a year, some in our partner countries in Asia and some in Tokyo.

- Outreach training in technology

As part of our outreach we produce a daily economics newsletter. We also have a support programme reviewing CD-ROMs, as well as translating and customizing them for use at the local level if we find a good CD-ROM.

- Special Programmes

We've recently started a new activity—the Japan Fund for Public Policy Training (JFPPT) which is supported by the Government of Japan to enhance its capacity-building efforts. The Fund's main goal is to assist institutions of ADB's developing member countries build capacity for public policy management, initially concentrating on economies in transition. It will help set up partnerships with local training and research institutions and will enable countries to acquire assistance from foreign academics to jointly develop and conduct training programmes, primarily in local languages. The training programme in each country will be tailored

according to its specific needs. Each training programme will be targeted at mid-career to senior-level government officials engaged in economic management at national and sub-national level. The programme is currently being undertaken in Viet Nam, if it is successful, it will be expanded to Cambodia and Laos.

We are trying to use digital divide technology in the Institute because we think ICT is an amazing revolution. If we look over human history sometimes there are small revolutions and big ones—the printing press was a big one, but at the time people were skeptical, just like I image they are now about ICT. However, supply creates its own demand, and it will spread out and encompass the planet. Digital technology is very important and countries which neglect it will pay a very high price.

There are three digital divides. First, there are those between rich countries and developing countries that have problems of access. Second, gaps are also emerging between developing countries, with China and India moving quickly to embrace the technology. There is now a risk that countries that fail to move in this area will be left behind. Third, even within developing countries, there are divides between urban and rural areas.

And the broadest challenge we all face is how to use this new technology to tackle the problems of development? It is up to us to work on this issue, because most of the thinking, programming and designing is being done in developed countries. They won't be thinking about developing countries—we have to do that ourselves.

This workshop is designed to be a practical step in addressing these divides.

Annex 3

Closing Remarks

Mr. Ray Renfro
ADBI

On behalf of the ADB Institute, I am very pleased to provide the closing remarks for the successfully concluded "Regional Workshop on Promoting e-Commerce and Business in Developing Countries."

The workshop has provided a valuable introduction to the challenges of implementing and benefiting from e-Commerce and Business to the 23 participants from 19 countries.

Background

The use of electronic tools in business and commerce is on the rise. e-Commerce involves more than just selling products online, it also includes any business transaction that takes place via digital processes over a network. It is also an enabling technology that allows business entities to increase the accuracy and efficiency of conducting business.

As we saw from the country presentations on the first day of the workshop, some countries in the region are actively pursuing e-Commerce and Business. Other countries still have a way to go, and require substantial investment in basic infrastructure, such as telephones and electricity, before they can begin to fully realize the benefits of IT.

This divide between relatively e-Ready countries and those are less so, was further reflected in the presentation of Ms. Marta Pérez Cusó from UNCTAD on Day Two. As Ms. Cusó reported, while the Asia Pacific region is the largest Internet user group in the world, individual countries in the region have very low internet-user density. We learnt that in India for example, less than 1 per cent of the population uses the Internet.

So how does our region make the most of the opportunities before it, and ensure that the benefits are accessible to all?

Well, we hope this workshop and training has provided some of the tools needed to better enable you to promote and implement e-Commerce and Business in your countries. For example, over the last six days we have examined conducive policies, legal frameworks and technological infrastructures for promoting e-Business and Commerce. We have also assessed some of the diverse business models and trends in electronic business and commerce practices. For example, we have learnt about:

- Microsoft's Rapid Economic Justification Framework which assists businesses to measure their technological investments in terms of value to the business,
- Toyota's introduction of IT to streamline its production, marketing and customer service operations, and
- Japan's Ubiquitous Networking and Computing strategy which hopes to overcome current limitations of technology to allow users to access information in a range of forms through one network.

Key Lessons and Issues

Among the key lessons that have emerged from the workshop have been:

- Investment in ICT and e-Commerce has the potential to accelerate national economic development and competitiveness, and improve the quality of life of our citizens;
- However, it is important to ensure that the right infrastructure is in place before pursuing ICT investment;
- Government plays a critical role in creating an enabling environment for e-Commerce and Business through supportive policies and legislation; and
- Lastly, once we have made an investment in IT, in either our companies or government organizations, we need to have ways of measuring the value of our investment.

Accomplishments

The workshop has provided participants with a forum to about learn some of the tools for e-Commerce and discuss appropriate policies and strategies which can enhance e-Commerce take-up in their country. For example:

- All participants now have their own e-Commerce site—thanks to a session conducted by ADBI staff on the second day of the workshop—and I hope you are all recording large sales!
- Participants actively shared information on their country's experience in e-Commerce; and
- 23 Action Plans were developed and presented for 19 countries demonstrating practical next steps in the development of e-Commerce in their country.

Next Steps

It was agreed that critical next steps include:

- The organization of a regional workshop on e-Commerce by ADBI on an annual basis—or possibly a series of in-depth workshops focusing on particular aspects of e-Commerce.
- Governments should take urgent action to establish the legislative infrastructure and allocate the appropriate level of resources to facilitate the effective investigation and prosecution of computer-related crime. It was also agreed that intergovernmental and public/private sector cooperation were critical components of an effective response to computer crime.
- Workshop participants asked that ADBI explore the possibility of facilitating capacity building programmes with a view toward:
  - Assisting policy makers in developing effective legislation on computer-related crime consistent with international standards;
  - Ensuring that prosecutors and judicial officials have a common understanding of laws in this area; and
  - Working with law enforcement and justice officials to set up or increase the capacity of specialized units dedicated to cyber crime investigations and prosecutions. This could include the provision of needed equipment or the delivery of relevant training for officials.
- ADBI should explore the possibility of partnering with other intergovernmental organizations in developing and implementing capacity-building programmes along the lines described above.
- Lastly, its was recommended that continued partnership be maintained with the private sector in future activities aimed at fostering a healthy e-Commerce environment, including industry involvement in the possible projects discussed in these recommendations.

Acknowledgements

I would like to thank everyone who made this a successful activity. Special thanks go to our partner organizations for their valuable inputs and financing, including Microsoft, IBM, and ECOM.

The quality of the presentations was excellent, and I thank our speakers. Please join me in thanking the workshop coordinator Mr. J. K. Lee. The workshop was also largely a success because of the active parts played by all of you—the participants—in the discussions and country-specific action plans.

I wish you all success in applying the tools and lessons learned from this training event to your work and a safe journey home.

Closing Remarks

Mr. Peter McCawley
ADBI

Still more than half the people in the world have never heard a dial tone and one-third lack access to clean water and electricity, yet it has been over 100 years since electricity was introduced, so clearly it will take some time to spread these new technologies, such as we have been learning about this week, to all.

But it is more urgent than ever. Because of the impact of telecommunications, those without are now much more aware that they don't have what we have, and they can see the gap much more clearly than 20-30 years ago. And the message from many of these poorer people is that they are not prepared to accept the imbalance anymore. So we must share, and we must begin now.

It is a big challenge, but we must move forward. It is a new world, and we have to try harder than we have in the past to share the benefits of the new world with the poor.

You are now all part of the elite—you have access to and experience of ICT. You understand its potential, and hopefully when you return to your home countries you will be able to use it to achieve increased productivity, growth and benefits for the citizens—all citizens—of your countries.

The most important challenge now is to find ways to share the technology and its applications. And it is up to us to tackle this problem—how do we share, reach out and use this technology in our countries? It may take all your life to answer those questions and spread the benefits. We haven't even yet shared water, so clearly it is going to be hard to share ICT.

But that's the challenge—to share the benefits and ensure access to all.

This Institute is trying to explore ways of doing that, but we need to work with you. So I thank you all by taking the first step and joining us here this week, and participating so fully and enthusiastically.

I would like to thank Mr. J. K. Lee for organizing the Workshop, to all of you, and to our resource people from overseas.

Have a safe journey home.

Closing Remarks

Participants

Bangladesh

Mr. Md. Touhidur Rahman

In this short period of time, we have covered so many items, such as legal enforcement, security systems, how to develop web pages, and so many other things. I am impressed by my experiences and I give my personal thanks and gratitude to ADBI.

In my opinion, the only thing I missed was the opportunity to see how big companies are dealing with e-Commerce issues, physically. Perhaps it would be possible to incorporate that in the next session.

The support staff have been very nice to us, and I would like to thank them and everybody else involved in the workshop. And we will try on return to our countries, to apply what we have learnt here and contribute at least a little bit.

Nepal

Mr. Keshar Bahadur Baniya

ADBI officials, resource persons, facilitators, fellow participants, I would like to thank Mr. Lee for letting me say a few words. I have already told you that I am a beginner in this field, but having attended the seven-day programme I have learnt a lot. Now I know at least how to handle web sites and build one.

ADBI has done a tremendous and marvellous task in teaching us and letting us exchange different views—particularly what the least developed countries, and landlocked countries need. There is tremendous possibility to develop ICT, because it is cost saving.

A special thanks goes to Mr. Lee for making us alive and active. To me, the workshop has been conducted in such a way that I have learned a lot. One thing I was really impressed by was the noble idea that was expressed by one of the resource persons—"let the whole world benefit from our innovation and new ideas."

The ADBI staff have been very friendly and helpful and I would like to express my thanks to ADBI, my government and the people of Japan for making our stay very comfortable.

Maldives

Mr. Ibrahim Firushan

It's a great pleasure to be here, and please accept my thanks for the invitation. We got a great deal out of the workshop from preparing country reports, and by participating in the workshop we were able to put it in a global context. And we were able to see the great potential, working both with regional partners and private sector partners.

I would like to thank Mr. Lee for creating such a rich learning environment, and the support staff and the presentation staff.

Cambodia

Mr. Ses Sothy

On behalf of the Government of Cambodia, thank you for this important workshop. I think it was important and I learnt a lot during the workshop. As Mr. McCawley said, we face so many serious problems but I hope we can work together and achieve a good result.

Private Sector

Mr. Johnathan Kushner

I would like to give a big thank you to ADBI and their staff, and to Microsoft and the other resource persons.

On behalf of Microsoft and the private sector participants, I would like to first say thanks to ADBI for the opportunity to participate in the Workshop as a resource person and to be a part of this excellent workshop. It has been a wonderful opportunity to interact with all of you.

Thanks to ADBI and Mr. Lee for their hard work and vision for wanting to bring the private sector into this exercise and for allowing us to contribute our thoughts and experience to you. Thanks also to the support staff. Thank you for making everything work smoothly, on time and without any hassles.

My biggest thanks go to you as participants, for making the Workshop successful with your participation. You have been a part of building the feeling and exchanging ideas and opinions with each other and ourselves from the private sector.

I would like to finish by saying, that although this Workshop is concluding, it should not be the end of your experience with e-Commerce. As you return to your countries to put what you have learned into action, hopefully your learning will be a continual process. So I encourage you to continue to interact with each other and ADBI and also us in the private sector.

Annex 4

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Annex 5

SUMMARY OF COUNTRY PROJECT PROPOSALS

Country	Project title	Proposer	Budget (US$ million)
Afghanistan	Introducing e-Commerce in Afghanistan	Mohammad Hamid Majidee	40.0
Bangladesh	Establishment of Countrywide e-Service Centres	Md. Touhidur Rahman	30.0
Bhutan	e-Business Pilot and Readiness for Rural Entrepreneurs in Bhutan	Sonam P. Wangdi	7.611
Cambodia	Provision of Basic Training Course on Information Technology	Ses Sothy	0.359
People's Republic of China	Paperless Trading Promotion Project	Shi Weiguang	0.320
Indonesia	Applying and Developing Intellectual Property Rights (IPR) in Indonesia for Middle Small Industry through Service of e-Commerce	Sudarmanto	29.00
Kazakhstan	Developing e-Business in Kazakhstan	Saldenova Almagul	0.62
Kyrgyz Republic	Action Plan for Implementation of the e-Economy in the Kyrgyz Republic	Dosaliev Bakytnur	200.00
Lao PDR	Increasing e-Business Awareness In the Business Community	Vilayvanh Vongxay	0.64
Republic of Maldives	Capacity Building for ICT and e-Commerce in the Maldives.	Ibrahim Firushan	28.00
Myanmar	Trade Information System Development Project	Zaw Zaw Aung	0.675

Country	Project title	Proposer	Budget (US$ million)
Nepal	Strengthening ICT and e-Business in Nepal	K.B. Baniya	30.00
Philippines	ICT Platform for Small- and Medium-size Enterprises	Fernando P. Cala II	10.55
Philippines	Philippine E-Government Portal	Juliana E. Sudario	22.0
Sri Lanka	Deployment of an SME Portal and a Regional Network	T. K. J. Sandagomi	61.00
Tajikistan	Creation of a Base for e-Business in Tajikistan	V.H. Gamzatov	30.00
Timor-Leste	Improvement of Capacity Building for Government Officials of Timor-Leste	Eusebio da Costa	n.a.
Turkmenistan	Introduction And Development of e-Commerce In Turkmenistan	Abdurahman Ovezov	12.23
Viet Nam	Developing the e-Commerce Environment in Viet Nam	Nguyen Thi Thu Huong	20.00

Introducing e-Commerce in Afghanistan

Proposer: **Mohammad Hamid Majidee**
Country: **Afghanistan**
Date: **6 September 2004**

I. INTRODUCTION

Two decades of conflict, both civil and international, have wrought destruction at all levels and in all sectors of Afghanistan's society. With the end of fighting coming just three years ago, efforts are now being made to rebuild the country, both economically and socially, but there is still a long way to go. For example, manual or offline commerce has restarted, but almost 90 per cent of all goods are imported from other countries. The Internet and Information Technology are also being introduced for the first time, but computer literacy is very low, with many people having little or no awareness of its presence before its recent introduction. The Government is largely relying on international aid and will do so for at least a further five years. There has been no opportunity for preparatory efforts on e-Commerce so far, because the first years since the end of the conflict have been spent dealing with post-war crises and concerns.

Things are changing however, and as the country becomes more stable and secure, people are beginning to think of new ways of doing business, and e-Business and e-Commerce will be part of this.

This project will be part of efforts to show people how they can benefit from online business. It will identity what problems need to be addressed, at what stage, and how to solve them. It will also demonstrate how to set up an IT system which will work for business, and will establish training courses and provide training materials for those who are interested.

II. ISSUES

Because e-Commerce is a new concept for Afghanistan, there are many challenges that must first be addressed before it is introduced. Some of the challenges are as follows:

- Infrastructure – this is a combination of a number of crucial elements such as electricity, networks, Internet, and computers, etc., each of which has either never existed before in Afghanistan or was only available in basic form and destroyed during the war. Electricity is not yet properly functional. It is only available in the summer in the capital. Other provinces and cities do not have electricity at all.

- Lack of IT knowledge – Schools and universities were partly closed or never had a complete set of qualified instructors. Only a small number of families who had the financial resources were able to educate their children outside of Afghanistan in neighbouring countries like Pakistan or Iran. Those people are Afghanistan's only IT assets. A Faculty of Computer Science was recently established in one University, but qualified teachers are still lacking.
- Goods – There existed a limited number of factories before and during the first years of war, but they were unable to continue or were destroyed during the war. Currently, all products are imported from neighbouring countries and reach Afghanistan at a very high price. e-Commerce is useful when you have your own products to sell.
- Services – Some small businesses have recently started offering imported goods and a limited number of services in a very basic format. They are not using IT applications for day-to-day transactions.

As a starting point towards the establishment of e-Commerce and e-Government, education and knowledge of the systems and processes are essential. Training of civil servants as the first phase, and establishing a chain of trust between the Government and the private sector will contribute to the overall strategy of e-Commerce development. A goal-oriented strategy including some incentives can encourage the private sector to participate and cooperate in this process.

III. THE PROPOSED PROJECT

A. Purpose and Output

There is a critical need to introduce e-Commerce with its benefits and challenges to the people and Government of Afghanistan. Its introduction will be carefully planned and will be implemented in different stages. After every stage the outputs will be analyzed. A thorough analysis of the inputs and outputs at each stage may lead to the success of this project.

In general, the project is expected to deliver three major outputs:

1. Provision of high-speed Internet connection by joining the international Internet backbone (International Super Highway) through Central Asian countries;

2. Provision of basic and important infrastructure for ten government ministries in the first phase and if successful, expanding to other government organizations;
3. Training of government employees.

The following 10 ministries are selected in the first phase:

- President's Office;
- Ministry of Finance;
- Ministry of Commerce;
- Ministry of Planning;
- Ministry of Agriculture;
- Ministry of Education;
- Ministry of Civil Aviation and Tourism;
- Ministry of Food Stuffs and Light Industries;
- Ministry of Mines and Industries;
- Ministry of Communications.

After the successful implementation of the first phase, other ministries will be selected based on the priorities.

B. Methodology and Key Activities

Some of the abovementioned ministries have a small number of computers or infrastructure already installed. Further, one or two are in the process of installing a complete network system like the Ministry of Finance. This project will analyze the existing systems, and if it is possible to utilize and improve these systems, it will. If it is not possible, it will install new systems from the ground up. Some ministries are connected to an Internet connection provided by the World Bank through a costly satellite connection, which is getting slower and slower every day, as the number of users increases. This Internet connection should be improved or a new system installed to ensure speed and accessibility for users. Joining the international Internet backbone will require large funds, but will serve as a great start for the country's IT facilities.

The establishment of infrastructure can be initiated concurrently in two or three ministries. While the infrastructure is being built, training programmes can also start. Training candidates will be selected based on the priorities of each ministry to attend a four-week course on the basics of computers, the Internet, and IT skills related to their work, as well as the benefits of e-Commerce and e-Business and how they can be started in Afghanistan.

Project Framework

Design Summary	Performance indicators/targets	Monitoring mechanisms	Assumptions and risks
Goal To introduce e-Commerce and its basic components	All ministries will be connected through MAN (Metropolitan Area Network).	Physical inspection; Progress reports.	Every new system is not welcomed at the beginning, but as the benefits are getting obvious people will tend to adopt it.
Purpose To make Afghanistan take its first steps in the new era of e-Business	Country will be connected to Internet Super Highway.		
Outputs • To install basic infrastructure (in average at least 100 computers, server, printers, UPSs, etc) • To join international Internet backbone • To train government employees			Due to involvement of national and international actors, implementation may be delayed.
Activities • Project analysis, feasibility study and framework • Risk assessment • Bidding • Procurement • Implementation • Supervision • Monitoring and evaluation • Maintenance			
Inputs • Financial support • Consultants • Management • Labour			

C. Cost Estimate and Financing Plan

Since it is a loan project, there will be a good mechanism for payback. The major portion of the funding will be spent on infrastructure which will provide return on investment over time. Around 45 per cent of the funding will be spent on infrastructure to allow connection to the Internet. The remaining amount will be used to equip ministries and train the staff.

Cost Estimates and Financing Plan
(US$ million)

Item	Government	Donors	Total cost
1. Internet Super Highway connection	0.00	15.00	15.00
2. Consultants	0.00	5.00	5.00
3. Equipment and software	0.00	3.00	3.00
4. Buildings and furniture	0.00	5.00	5.00
5. Training, seminars, and conferences	0.00	5.00	5.00
6. Miscellaneous administration and support costs	0.00	3.00	3.00
7. Contingencies	0.00	4.00	4.00
Total	**0.00**	**40.00**	**40.00**

D. Implementation Arrangement

The project will be implemented by the Ministry of Communications with the involvement of the ten ministries mentioned above.

IV. BENEFITS OF THE PROJECT

After completion of the project, the following benefits are expected:

- Country will be connected to the Internet Super Highway.
- Physical infrastructures will be developed.
- Internet connection costs will be reduced and will be available to all.
- There will be incentives for private sector investment, as well as for international organizations.
- Government activities will be well coordinated.
- Human resources capabilities will be increased.
- A new window of opportunities will be opened for the people.

Establishment of Countrywide e-Service Centres

Proposer: **Md. Touhidur Rahman**
Country: **Bangladesh**
Date: **6 September 2004**

I. INTRODUCTION

Bangladesh has begun implementing e-Governance on a limited scale. The country's e-Commerce volume is not yet significant, and with its limited export base, Bangladesh is facing a negative balance of trade. Therefore, Bangladesh must adopt information and communication technologies (ICTs) to modernize its public service systems and business processes and practices. The steps and policies that Bangladesh takes now will have far-reaching consequences in terms of preparing it to face the realities of the 21st century – the ICT revolution and globalization. Thoughtful and timely steps now will tremendously boost Bangladesh's economic growth, while on the other hand flawed and delayed policies can thwart its IT development process irreversibly.

II. ISSUES:

With the increasing diffusion of ICTs, and more specifically the Internet, people want quick, easy and transparent services. At the same time, the global business community is rapidly moving towards Business-to-Business (B2B) e-Commerce. Buyers and importers gain a clear advantage through Internet access to the global market, which allows them to compare prices across regions, find out whether prices vary by order fragmentation, and learn about substitute or alternative products. Consequently, sellers and exporters make sure that they are well represented in the cyberworld through web sites and portals. Like buyers, sellers also benefit from increased and more efficient access to the global market through the Internet.

Bangladesh is pursuing implementation of e-Government and also an economic policy based on export-led growth. With rising awareness among citizens, it is becoming increasingly important that public services are made available online as far as possible, particularly for the export sectors, which must be able to meet the requirements and expectations of importers and also stand out in the competition against exporters from other countries. In light of this, two issues are becoming particularly important for Bangladeshi export sectors: 1) the automation of businesses internal processes with the use of ICTs to increase efficiency and competitiveness in a global context, and 2) the effective presence and participation in the electronic marketplace of Bangladeshi businesses.

Need for a Nationwide e-Service Infrastructure

Bangladesh has yet to respond notably to the global demands created by the ICT revolution and globalization. The private sector, particularly export-oriented industries, have to take a much more active role in preparing for the business environment of the new century, where the marketplace is increasingly changing in nature as a result of globalization, and especially e-Commerce. The Government and lawmaking bodies have an important role to play in creating an enabling environment for the private sector transition to e-Commerce. Academia should also modernize its curricula to develop the requisite human resource skills required for the challenges of the new century.

III. THE PROPOSED PROJECT:

A. Purpose of the Project

This project aims to produce a comprehensive countrywide IT infrastructure which will provide a solid foundation for e-Bangladesh, and produce concrete strategic actions by stakeholders, such as government, the private sector (export-oriented industries, SMEs, rural/small producers), lawmakers and the academia.

Output of the Project:

The project will achieve the following outputs:

- Create the necessary physical infrastructure for e-Bangladesh;
- Create a legal basis for e-Bangladesh;
- Create potential to outsource new IT related jobs from developed countries;
- Develop a group of IT experts, especially on e-Commerce;
- Provide easy-to-use and transparent online public services;
- Raise general awareness, especially among rural people, about the benefit of e-Services;
- Prepare the IT industry and technical human resources for e-Commerce.

One sub-district (Upuzila) e-service centre will get the following IT equipment:

5 workstations, 1 switch, 1 server, 7 UPS, 2 printers, 3 telephones, 1 (5KW) Generator, 10 chairs, 10 tables, 2 computer operators.

Each district centre will be equipped with double the above amount of equipment, and the national level centre will receive four times as much as the sub-district centre.

For successful implementation, the following international and local consultants will be engaged: human resource outsourcing specialist, customer relations specialist, IT/security specialist, software specialist and banking/financial specialist.

Scope of the Project

The project will include five main parts:

1. Development of a physical infrastructure, e.g. fibre optical cable down to the District level;
2. Preparation of a legal framework for e-Bangladesh;
3. Provision of public services online, including e-Commerce services down to rural area;
4. Awareness raising on the benefits of e-Bangladesh;
5. Provision of training to the stakeholders.

B. Methodology

To provide IT related services to the rural areas at nominal charges, e-Service Centres need to be established at the following three levels:

1. One national level centre;
2. One in each of the 64 Districts;
3. One in each 408 Upazila (except the District Headquarter Upazilas).

For awareness raising, a national level seminar and training at all levels should be provided for stakeholders (according to their needs). Briefing sessions on the benefits of IT should be conducted for rural people and business people.

C. Cost Estimate and Financing Plan (US$ million)

Item	Government	Donors	Total cost
1. Consultants	0	3	3
2. Equipment and software	0	15	15
3. Buildings and furniture	2	0	1
4. Training, seminars and conferences	1	3	4
5. Administrative cost	3	0	3
6. Contingencies	2	1	3
Total	**8**	**22**	**30**

Project Framework

Design summary	Performance indicators and targets	Monitoring mechanism	Assumptions and risks
Goal Providing public services online down to rural areas; Change in lifestyle; Increase export earnings; Outsourcing IT related works from abroad	Expansion of IT facilities to the rural level	Government officials at every level will coordinate the implementation Progress reports	People may not find it useful due to lack of technical knowledge and cost of service
Purpose Easy & quick public services; Facing the challenges of globalization; Poverty reduction	Improvement of living standard and national economy	Frequency of use of IT facilities; Checking the progress down to the grassroots level	After project period the activities may not be continued
Outputs Establishing 1 National, 64 District & 408 Upazila e-Service Centres		Physical inspection; Progress reports	
Activities Expansion of Internet network; Establishment of e-Service Centres; Purchasing & installing IT hardware; Development of necessary legal framework, software & training modules; Conducting seminars & trainings; Providing public services online; Providing advisory services on e-Commerce		Thorough implementation matrix; Keeping track of the activities of the stakeholders	May not be done timely; Slow adoption of e-Commerce by the private sector
Inputs Money; Advice and guidance from qualified experts		Following expert reports/ suggestions;	Advice is not practical or able to be implemented

D. Implementation Arrangement:

The national level e-Service Centre will be administered by the Bangladesh Computer Council under the Ministry of Science and Information and Communication Technology. It will play the key role and will act as main centre of excellence.

The District and Upazila centres will be administered through the Deputy Commissioners and the Upazila Nirbahee Officers respectively, with the help of the Officers of Youth Directorate under their jurisdiction. The Youth Directorate is currently conducting some computer courses and has human resources at the Upazila level, so it could be utilized for successful implementation of the project.

IV. BENEFITS OF THE PROJECT:

After completion of the project, it is hoped the following benefits will have been achieved:

- Physical infrastructures will be developed down to the rural areas.
- A sound regulatory system (legal framework) will be established.
- Internet access will reach poor people.
- Online facilities will be introduced to enable citizens to access major public services.
- The private sector will be encouraged to participate in e-Commerce, increasing export and national income.
- An information bank will be developed.
- Human resources capabilities will be increased.
- New IT related employment from abroad could come.
- Poverty reduction will be assisted.

e-Business Pilot and Readiness for Rural Entrepreneurs in Bhutan

Proposer: **Sonam P. Wangdi**
Country: **Kingdom of Bhutan**
Date: **September 2004**

I. INTRODUCTION

Bhutan as a developing country aspires to reach the best in e-Business practices. The overall development and application of ICT in the country will be guided by the three broad IT Policy objectives of the government. They are:

1. Use IT as an integral tool to enhance good governance;
2. Develop IT and IT enabled industries to generate employment and income for the country; and
3. Apply IT to improve the livelihood of all Bhutanese citizens.[21]

The policy and regulatory framework in the field of ICT is carried out by Ministry of Information and Communication. The Regulatory Authority, known as the Bhutan Telecommunications Authority (now Bhutan Communication Authority), was established in 2000 pursuant to the Bhutan Telecommunications Act of 1999 and the National Radio Regulations of 1999. The Authority regulates telecom services, wireless services, spectrum management, radio communications and cable television services in Bhutan.

As of now, there is no law dealing with the Internet, e-transactions, e-Commerce or any other cyber issues. The Ministry of Information and Communications has drafted a comprehensive law, entitled "Bhutan Information, Communication and Media Act." It envisages the legal recognition of e-Commerce, e-signatures, online privacy, and information security. With the enactment of this Act, it is hoped that many institutions and private firms will go into e-Commerce/Business related fields. While it is the Ministry of Information and Communication that would be involved in the policy and regulatory framework, it would be more relevant for the Ministry of Trade and Industry to actually initiate and implement e-Commerce/Business activities.

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[21] ICT Development Master Plan

Although computers and the Internet were introduced recently, the overall development and use of IT has come a long way. Lemon grass oil was traded to European buyers via e-mail on a pilot basis with the Integrated Horticulture Development Programme starting in 1997. It was from this project's experience that a recommendation was made to expand its range to other exportable commodities.[22] Bhutan's tour operators have set up websites that cater to tourism-related information, often at the request of potential visitors from other countries. However, e-Business in the tourism sector can only take place in a fully-integrated system, as transactions are still highly dependent on human-facilitated processes such as email, fax, fund transfers via telephone banking, etc., to complete travel arrangements for the tourists.

Apart from targeting e-services in the field of health, education, banking and postal services, initiating and introducing e-Commerce/Business in the field of rural and agricultural products would be very beneficial to the rural poor.

II. ISSUES

The e-Business Pilot and Readiness for Rural Entrepreneurs in Bhutan Project faces the following critical issues which it hopes to address:

A. The immature e-Business environment

A basic legal and regulatory framework for e-Business does not exist yet. Policy and legal frameworks covering different aspects of e-Business, such as contractual issues, payment, dispute resolution and cyber issues, are missing. A plan or roadmap for e-Business in Bhutan has not been developed. A legal and regulatory framework should advocate how e-Business can flourish in the country, support the private sector development efforts of the government, and support the broader objectives of Bhutan's vision for the use of ICT in the kingdom. It is envisaged that the project will contribute towards the establishment of an enabling environment through its advocacy of the needs and priorities.

B. Insufficient basic infrastructure for logistics and transportation

The physical distribution system for production in rural areas has not yet been commercialized, due to the lack of basic infrastructure for

[22] BHU/97/003 Integrated Horticulture Development Programme

transportation and financial transactions. With the pilot project on e-Business, the performance of the existing transportation network through Bhutan's postal services will be tested test on rendering services through the timely delivery of goods. Financial transactions through in-country bank transfers, and connecting them to outbound bank-to-bank fund transfers, will again be a pioneering effort to promote doing trade with other countries using electronic means, particularly in the banking sector.

C. International logistics and multimodal transportation

The country suffers from the inherent disadvantages of being a landlocked country. The long distance from ports and international markets results in high transportation costs. There is a need to establish a dry port and gain access to international shipping and logistical systems and facilities. A local logistic provider with value added services under customs control will be necessary to stimulate exports. The project will conduct the pilot testing and develop the framework for the advent of the local logistics provider.

D. Low level of human resources in the IT Sector

While the Royal Government has given the highest priority to the IT sector, there is an acute shortage of IT personnel, especially in the domain of e-Business. There are currently around 225 IT professionals in the country. There is a need to conduct an accelerated training programme in e-Business for the private sector. The training modules will be built in the curriculum of all educational institutions to reach a wide audience within the shortest possible time.

E. Low entry into non-farming activities and low-cost effective products

There are indications that rural entrepreneurs, who have the potential to meaningfully contribute to the national development, are a neglected group. Few artisans and entrepreneurs have been able to operationalize their ventures, owing to the lack of market reach. Therefore, they exist as subsistence farmers, when they could easily become entrepreneurs with a little help. Even the few that are involved in part-time weaving lack access to timely information on market demand, and hence are not able to get the right price for their products. The project aims to connect the rural entrepreneurs with the markets for both inputs and finished products, and to promote the establishment of non-farming livelihoods.

III. THE PROPOSED PROJECT

A. Purpose and Output

The purpose of the project is to facilitate the transition of rural artisans into entrepreneurs and producers, to create an enabling environment for e-Business within the economy and to institutionalize an e-Business programme into a corporation for commercial orientation. The expected outputs are as follows:

- Increased usage of e-Business platforms;
- Increased non-farm economic activities in the rural areas;
- Increased trade activities in the rural areas;
- Enhanced market for rural producers.

B. Methodology and Key Activities

For the successful implementation of the project, it is essential that there be increased awareness both at the centre as well as among the rural entrepreneurs on the usage and benefits of e-Business. Therefore, one of the key activities of the project is enhanced awareness through training, workshops, presentations, and capacity-building measures. The necessity of developing capacity in the field of e-Business utilities, business promotion, Web application, and management of the e-store are highlighted as essential activities.

The project will also develop and carry forward an e-Business action plan to enhance markets for producers of the rural regions. A demand and market survey on handicraft products will be undertaken in order to develop a database on potential products with commercial value.

For the project to be successful, required infrastructure will be developed for the establishment of a viable e-Business corporation as well the institutionalization of the e-Business Pilot Project and appointment of a logistic service provider. Necessary linkages between the rural entrepreneurs, Gup's Office, Regional Trade & Industry Offices and the market will also have to be developed.

Project Framework

Design summary	Performance indicators/ targets	Monitoring mechanisms	Assumptions and risks
Goal Increased private sector development (rural) through deployment of ICT	Increase in GDP and employment	National Statistical Reports	
Purpose **1.** To facilitate the transition of rural artisans into entrepreneurs and producers through training, network building and e-Business **2.** To facilitate the creation of an enabling environment for e-Business within the economy through interactions induced by the pilot project with the various stakeholders **3.** To institutionalize the pilot e-Business programme into a corporation for commercial orientation	Increase in business registrations and non-farming livelihoods Increase in Internet usage and online transactions Viable e-Business Corporation established Increase in export oriented enterprises	National Statistical Reports; Trade statistical bulletin; Surveys	Political will and leadership; Effective implementation of policies; Creation of an e-Business environment in timely manner
Output 1. A pilot e-Business Plan formulated to enhance market for producers in the rural regions of Bhutan **Output 2.** Support provided to MTI/RTIOs/Geogs to implement the e-Business action plan **Output 3.** Pilot e-Business Plan implemented **Output 4.** e-Business Policies examined and strategies identified **Output 5.** Institutionalization of e-Business Pilot project and appointment of logistics service provider	Increased usage of e-Business platform; Increased non-farm economic activities in the rural areas; Increased trade activities in the rural areas	National Statistical Reports; Trade statistical bulletin; Surveys; Ministry of Trade & Industry Progress reports	Creation of sufficient basic infrastructure for logistics and communication Willing and sustained participation of stakeholders; Ability to reduce cost & negotiate transit access with neighbouring countries.

Design summary	Performance indicators/ targets	Monitoring mechanisms	Assumptions and risks
Activities **Output 1** 1a. Conduct demand and market study for handicraft products 1b. e-Business action plan developed **Output 2** 2a. Train MTI (HQ) staff in the field of e-Business utilities/ business promotion 2b. Train MTI regional staff in the field of e-Business/Web application and business promotion 2c. Equipment provided to MTI HQ, RTIOs, and Geogs in rural regions 2d. Gups office built and Equipment provided in rural Bhutan **Output 3** 3a. Rural artisans and producers identified and formed into groups 3b. Pilot E-business Plan carried out **Output 4** 4a. MTI HQ, Regional representatives/ Producer groups attend national/ international seminars/ workshops/ conferences 4b. Incorporation of training modules in education curriculum **Output 5** 5a. Set up corporation to manage e-Business	Rural products with strong market potential identified; Increased number of trainings/ seminars conducted; Increased awareness among rural artisans on e-Business opportunities; e-Business corporation established; Required infrastructure in place for effective e-Business transactions;	Trade statistical bulletin; Surveys; Ministry of Trade & Industry Progress reports; E-Business Project Report	
Inputs The project will be funded through a concessionary loan of US$6.029 million from the ADB/other donors.			

C. Cost Estimate and Financing Plan (US$ million)

Item	Government	Donors	Total cost
1. Consultants a. International consultants – 48 mm b. Domestic consultants – 48 mm	 0.288 0.0288	 1.152 0.1152	1.584
2. Equipment and software a. Equipment b. Software	 0.287 0.02	 1.148 0.08	1.535
3. Buildings and furniture a. Buildings b. Furniture	 0.602 0.02	 2.408 0.08	3.110
4. Training, seminars, and conferences	0.1	0.4	0.500
5. Research, development, and surveys	0.02	0.08	0.100
6. Miscellaneous administration and support costs	0.02	0.08	0.100
7. Contingencies – 10%	0.1364	0.5456	0.682
Total	**1.5822**	**6.0288**	**7.611**

D. Implementation Arrangements

The Ministry of Trade and Industry will be the main agency at the national level dealing with the overall implementation of the National e-Business Project in Bhutan, in coordination with other concerned IT sectors such as the Ministry of Information and Communication (MoIC).

Within the Ministry of Trade and Industry, various departments/ divisions will be involved in the implementation of the project.

The Policy and Planning (PPD) Section will be the central coordinating body ensuring the implementation of the National e-Business Project and facilitating policies to underpin the project. The IT Section within PPD will conduct training for the regions through the Regional Trade & Industry Offices to promote the use of ICTs by businesses.

The Department of Trade will be involved in ensuring that the promotion of the Bhutan e-Store as export promotion and trade facilitation is the core function of the Department.

The Department of Industry will facilitate the creation of an enabling environment for industrial development and support for private sector initiatives.

The Regional Trade and Industry Office will facilitate the promotion and implementation of business initiatives such as the e-Store and also undertake assistance on business registrations and IT backstopping for business owners. The Gup (village headman)'s office in the Geogs (Block) will be the first contact point for rural producers. It is through the Gup's office that the rural producers will get access to dial-up Internet connections.

IV. BENEFITS OF THE PROJECT

The expected benefits of the project are as follows:

1. Road Map for e-Business

It is hoped that the project will create adequate awareness in the Royal Government to warrant the development of a clear roadmap for e-Business in the country. Collaborative and coordination mechanisms will be developed for the successful implementation of the e-Business Programmes.

2. Enabling Environment for e-Business

The project will contribute to the creation of an enabling environment for e-Business by the different sectors of the Royal Government. It is expected that the main cyber law and supporting laws in finance, trade and transportation will be formulated and enacted. The pilot e-Store will highlight all deficient areas and provide direction for remedies.

3. Logistics and Transportation Infrastructure

One of the aims of the project is to address the logistics and transportation constraints of the country. A logistics network within the nation will be established and made operational. With the appointment of an international logistics provider with requisite facilities, the flow of goods into export markets is expected to improve significantly. A dry port will reduce costs and enable the diversification of both products and markets for the country.

4. Expansion of the Industrial Base Through Rural Industries

It is known that there is huge potential for rural skills/artisans to be upgraded to businesses, but that this was impossible due to logistics and marketing constraints. Almost all are currently subsistence farmers but could easily move to non-farming activities. The support from the project in terms of competitive raw materials and market for their products will help the move of farmers with necessary skills into rural industries. Such industries will uplift the rural economy and contribute to the growth of national GDP and employment creation.

5. Use of e-Business as a Business Tool

One of the most profound benefits of the project is the use of e-Business by SMEs as a major business tool. Currently, their use is negligible, and with all the awareness created and trainings modules implanted into the curriculum of educational institutions, there will be exponential growth in the usage of e-Business as a business tool.

Provision of Basic Training Course on Information Technology

Proposer: **Ses Sothy**
Country: **Cambodia**
Date: **06 September 2004**

I. INTRODUCTION

The world today is changing into a single society driven by a phenomenal increase in the amount of communication between societies and information sharing between individuals, regions and countries. It has become a truly information-based society in which information and communications technologies (ICT) are playing important roles.

Increasingly, the world economy is becoming a global knowledge economy in which an ever larger share of products and services are knowledge-based or knowledge-related. Information and communication technologies and the ability to use and deploy them for productive purposes are important means for realizing the benefits of a knowledge economy.

Developing human resources is a priority policy for the Cambodian Government. IT initiatives include special training programmes and seminars with a time-bound action plan to sensitize senior government officials on the benefits and applications of IT in governance.

II. ISSUES

Cambodia faces many constraints. The major difficulties ere:

- Lack of national information infrastructure;
- Lack of human resources;
- Lack of national content;
- Lack of a legal framework.

The key constraint that should be addressed first is the development of human resources.

III. THE PROPOSED PROJECT

Conduct basic training course on Information Technology.

A. Purpose and output

The short-term objective is to provide government officials and the private sector with basic IT knowledge to enable them to use and demonstrate an understanding of e-Government, which has been established by the National Information Communication Development Authority in all government ministries and institutions within the Kingdom.

The long-term objective of the project is to establish a training facility through the National Information Communication Development Authority to train both government officials and the private sector in the use and application of IT and e-Commerce.

B. Methodology

1. The initial focus will be on the preparation of the course: Information Technologies: Applications and Impact. This will include modules on:

a) Overview of various information and communication technologies and their applications;

b) The Internet: how to use it to access, select and interpret information;

c) Basic introduction to electronic commerce and its requirements.

2. The training sessions will be offered at a central classroom, equipped with 60 workstations and computers.

3. Each course will be conducted for two months, five days a week for two hours a day.

C. Cost Estimate and Financing Plan (US$ million)

Item	Government	Donor	Total
Consultant			0.12
Equipment/Software			0.1
Building/Furniture			0.047
Miscellaneous/Administration Cost			0.052
Contingency			0.040
Total			**0.359**

D. Implementation Arrangement

The Cambodia National Information Communication Development Authority "NiDA" will be the government body responsible for coordinating planning, implementing and monitoring activities.

IV. BENEFITS OF THE PROJECT

The successful conduct of the project can set an example for the use of information and communication technologies in general and the empowerment of professional staff in particular.

Paperless Trading Promotion Project

Proposer: **Shi Weiguang**
Country: **People's Republic of China**
Date: **7 September 2004**

I. INTRODUCTION

With the continuing development of information technology and information industry from the 1980s, and especially the 1990s onward, information networks grew rapidly, becoming an important foundation for social and economic activities. The birth and application of e-Commerce has not only changed the traditional production, management and marketing mode and people's consumption mode, but also promoted the adjustment of the world's industrial structure and the change of the division of labour worldwide. In the field of world trade, it has not only extended and enriched the content of world trade, but also raised its efficiency by a large margin, and will thus form a completely new trade framework. At present, the advantage of e-Commerce is being recognized by more and more governments and enterprises. It will become the greatest potential and dynamic trade mode in the 21st century.

The Chinese government attaches great importance to e-Commerce applications. It also realizes that paperless trading is an important area of e-Commerce and has great significance on both e-Commerce development and the growth of trade. Both the central and local governments have enacted a series of laws and regulations to create a favourable legal environment for the development of paperless trading, including laws and regulations on online service, telecommunication development, Internet information system management and the overall framework of e-Commerce development. These efforts will do much to push paperless trading forward.

The Chinese government also initiated the Golden Gate Project, with the purpose to create better conditions for paperless trading through coordination among different foreign trade administration departments. With the continuing perfection of the Golden Gate Project, a complete electronic data exchange system is gradually coming into being. Data related to trade can be shared by different government departments more easily. The Chinese Customs initiated the Customs Clearance Project to promote paperless trading. The project aims to establish a new and easy mode

of customs clearance according to the new characteristics of logistics development of cross-border trade, so as to meet the demands of economic globalization. One content is to promote Paperless Customs Clearance. After signing the Agreement of Liabilities on Electronic Declaration, enterprises can make declarations online. Customs examines and deals with those electronic data. According to Customs, it takes about five minutes to finish the procedure for duty-free and examination-free goods. Customs takes measures to strengthen risk management, including pre-examination on price, pre classification and post checks. Thanks to efficient regulation, the implementation of the project shortens the time for customs clearance and promotes e-Commerce applications and paperless trading in cross-border trade as well. Now, the project is at the pilot stage and about 16 coastal Customs offices have taken part.

II. ISSUES

During the process of achieving paperless trading, the following issues need our consideration:

Firstly, the relation between enterprise application and government promotion should be clarified. Enterprises should be the principal actors in e-Commerce application. Enterprises should, in accordance with the market economy and technology development rules, and based on their own conditions and needs, conduct e-Commerce. But the government will play a key role in achieving the objective of paperless trading. Its work in this field is also an important part of the construction of e-Government. On one hand, the Government meets the needs of enterprises that apply for paperless trading, and on the other, it inducts more enterprises into the use of e-Commerce and paperless trading.

Secondly, a spirit of teamwork is a must among government departments in the promotion of paperless trading. Here, teamwork means that all the departments should take proper measures to create an environment for paperless trading, and at the same time, should guarantee interconnections within those newly constructed network.

Thirdly, the cooperation between different countries is necessary in promoting cross-border paperless trading in the Asian region. Cooperation should focus on removing barrier to cross-border paperless trading, coordinating related affairs in terms of laws, regulations and standards, and trying to bring enterprises and relative organizations' roles into play.

III. THE PROPOSED PROJECT

A. Purpose and Output

The proposed project is composed of a Study of Economic Benefits and Best Practices of Paperless Trading and a Symposium on Assessment and Benchmark of Paperless Trading, aiming at achieving the following objectives.

- To provide a detailed study on the latest status of paperless trading implementation in China;
- To provide a discussion symposium on all issues regarding paperless trading among Asian countries;
- To enhance understanding and sharing of strategy and technology on the latest status, impediments and solutions in achieving the goal of paperless trading via the presentation of actual practice and discussion of standards of paperless trading assessment;
- To reinforce co-operation and collaboration among policymakers and applied and technical departments in the customs and trade administrations;
- To explore and seek possibilities in technical and application cooperation in areas of e-documents, e-payment, and other electronic services among Asian countries.

This project will produce: 1) a final detailed report outlining best practices, challenges and solutions for achieving the target of paperless trading before the symposium; 2) a summary report on all issues for developing paperless trading; and 3) an initiative to propose a set of standards which will be used to assess the latest developing status of paperless trading in Asian countries.

B. Methodology and Key Activities

1. Detailed Study of Economic Benefits and Best Practices of Paperless Trading
   Length: half-year
2. Symposium on Benchmark and Assessment of Paperless Trading
   Length: 3 days

C. Cost Estimate and Financing Plan

Cost Estimate and Financing Plan
(US$ million)

Item	Government	Donors	Total cost
1. Consultants			
a. International consultants	0.01	0.06	0.07
b. Domestic consultants	0.00	0.01	0.01
2. Equipment and software			
a. Equipment	0.00	0.01	0.01
b. Software	0.00	0.00	0.00
3. Buildings and furniture			
a. Buildings	0.00	0.00	0.00
b. Furniture	0.00	0.00	0.00
4. Training, seminars, and conferences	0.01	0.1	0.11
5. Research, development, and surveys	0.01	0.04	0.05
6. Miscellaneous administration and support costs	0.005	0.04	0.045
7. Contingencies	0.005	0.02	0.025
Total	**0.04**	**0.28**	**0.32**

D. Implementation Arrangement

A plan for the publication and dissemination of the results of the project, includes:

a. The nature of the target audience

The Symposium is targeted towards high-level officials from all relevant government agencies including Finance, Customs, Quarantine, Transport, Communications, Attorney Generals and Trade. There will also be participants from the private and business sectors to ensure that delegates are exposed to private-sector perspectives.

b. Form and content

Detailed study report – A detailed study report containing the economic benefits and best practices in implementing and promoting paperless trading and capacity building of an e-Business environment.

Symposium summary report – Final report containing the key points and results of the three-day symposium, identifying barriers to the removal of paper requirements and providing solutions/recommendations for furthering promoting paperless trading among Asian countries.

Joint initiative or proposal – To outline measurements to further promote e-Commerce and paperless trading best practices in Asia.

c. Format (e.g. hard copies, floppy discs, internet uploading)

The project output will be provided both in a CD-ROM and hard-copy format (Symposium Directory). The detailed study will be made available on the Internet.

d. Number of copies for publication

The number of copies for the publication will cover the amount for government agencies, public/private sector, businesses and practitioners who are interested in paperless trading and collaborative e-Business.

e. A publicity plan for briefing the media about key components of the project

IV. BENEFITS OF THE PROJECT

By providing a detailed report and symposium on the assessment and benchmarking of paperless trade, this project will benefit all countries endeavouring to pursue the goal of paperless trading. The direct benefits will include an assessment report on paperless trading; experience sharing to intensify cooperation among Asian countries, and presenting the challenges and solutions for future work which will contribute to the establishment of a comprehensive cross-border paperless trading environment with the active participation of the public and private sectors in Asia.

The detailed study and symposium will deliver a report of economic benefits and best practice of paperless trading implementation and a summary report on all issues of developing paperless trading from the perspective of both the public and private sectors. At the symposium, standards of paperless trading assessment will be discussed to serve as a measurement. Enhancing capability in e-Commerce through economic and technical cooperation is needed to enable Asian countries to reap the benefits of electronic commerce.

Applying and Developing Intellectual Property Rights in Indonesia for SMIs through ICT

Proposer: **Sudarmanto**
Country: **Indonesia**
Date: **7 September 2004**

I. INTRODUCTION

While there are both national and international regulations on Intellectual Property Rights (IPR) that regulate standards for protection, there is a lack of regulations to guide and support IPR law enforcement. The culture and protection of IPR through law enforcement is important for encouraging investment, as IPR has commercial value and stimulates new innovations.

Hence, the lack of legal provisions for IPR enforcement can lead to misinterpretations owing to international trade. Further, a lack of IPR enforcement can have a negative effect on growth and innovation, as the piracy of copyrighted goods deprives companies of their IPR, making them less likely to invest in innovation in the future.

Furthermore, the growth of international competition across various sectors makes the issue of IPR important in relation to international trade and economic development. International companies and industrial-based countries have an absolute interest in integrating IPR into the multilateral trade system. This is based on the recognition that the existing trading system lacks protection standards or effective legal implementation measures to deal with IPR, causing loss to the right's owners, who should receive financial benefits from their creativity.

Indonesia also needs to respond to the challenge to IPR posed by globalization and the spread of IT. This is especially important for small- and medium-scale industries (SMIs), who require government to lead by developing policies to assist in accelerating understanding of IPR development and protection for innovators and those who use their innovations.

II. ISSUES

The development of IPR for SMIs has been undertaken intensively since 1998. An IPR consultancy committee was formed for small industry development by a Government Decree in 1998 (No.15/BAPIK/kep/V/1998). This was followed in 1999 by the Small Industry and Trade Decree

(Decree No.21/DJIK DK/KEP/VI/1999). This decree integrates the IPR activities of the Directorate General of IPR, Ministry of Justice and Laws with the Ministry of Industry and Trade. Operationally, the IPR consultancy committee implements IPR activities such as registration application services, advocacy for legal aid, promotion of IPR, and facilitator training.

IPR infringements are caused by three main factors: (1) low awareness and knowledge of IPR, especially among SMIs when developing their businesses, (2) limited facilities and infrastructure giving guidance for IPR, and (3) poor understanding of laws and lack of law enforcement. To address these problems, activities such as those listed below, have been undertaken since 1999:

- Around 210 IPR facilitators have been trained to carry out guidance and assistance on IPR application registration as well as other assignments in accordance with the IPR consultancy committee.
- IPR applications registered through the IPR committee totalled 125. In 1999, the total was just five applications demonstrating strong growth in IPR registration.
- Skills development – eight people were sent to Australia for training.
- IPR training has been conducted in 32 provinces by the Ministry of Industry and Trade in cooperation with the Ministry of Justice and Laws, and the Ministry of Cooperatives and SMI Development.

III. THE PROPOSED PROJECT

A. Purpose and Output

1. Raise awareness among small- and medium-sized enterprises of the benefits e-Commerce can bring, and motivate them to engage in e-Commerce.

2. Specifically target: (1) SMIs, to demonstrate how they can meet consumer demands for certifiable products with best service, (2) banks and merchants, to emphasize the importance of e-Commerce as markets globalize, (3) consumers, to demonstrate the potential to conduct purchases and transactions online and to receive online services.

Indicators of success include:

- SMIs accept the concept of e-Commerce as one of the ways to achieve company growth and profit in a timely fashion.

- SMIs are able to use e-Commerce to reach their markets.
- 150,000 SMIs are using e-Commerce (2004-2009).
- 500 facilitators were employed to train users of e-Commerce (2004-2009).

B. Methodology and Key Activities

Socialization:

- Provide national and regional seminars and workshops, conduct exhibitions and demonstrations, provide advice, education and training;
- Media including newspapers, TV, radio, etc, brochures, booklets, exhibitions, and billboards.

Tuition and Advice

- Identify potential e-Commerce-ready SMIs and consumers for training;
- Assess business and community needs;
- Prepare an Action Plan for consumers of e-Commerce

Creation e-Commerce Instructors/Facilitators.

- Training of e-Commerce instructors/facilitators to undertake activities at the provincial, sub-provincial and county level.
- Training of e-Commerce motivator to actively engage SMIs in the use of e-Commerce at the district level

Implementation period:

This activity can be implemented between 2004 and 2009.

Implementing Agency:

Project management will be undertaken by the Directorate General, Industry and Middle Small Trade. Activities will be conducted by a Technical Working Team which will consist of facilitators at the province, sub-province and municipal level up to district and sub-district with the following structure:

- Central working team: responsible for formulating curriculum, instructing at the national level and disseminating information related to the management of the activity in SMIs. They will also be responsible for monitoring and evaluation.
- Provincial working team: coordinates execution of e-Commerce activities in the provinces as well as training, monitoring and evaluation at a provincial level;

- Municipality and sub-province working team: oversees implementation of e-Commerce for SMIs and conducts monitoring and evaluation at the sub-province and municipal levels;
- District working team: applies e-Commerce in SMIs and conducts monitoring and evaluation at the district level.

Design summary	Performance indicators	Monitoring mechanisms	Assumptions and risks
Goal	Motivate SMIs to use ICTs for e-Commerce innovation by providing enforcement of legal protections for IPR	• Reporting on number of users; Quarterly development report • Report on implementation of Action Plan each semester	
Purpose	Use ICTs to raise awareness in SMIs of the importance of applying for and registering IPR in e-Commerce development	• Reporting on number of users and IPR users; • Report on quarter development; • Report on Action Plan each semester	Assumption: There no piracy of intellectual property by SMIs involved in the project
Outputs	SMIs motivated to progressively adhere to the execute rule agreed on in the Trade Related Aspect Intellectual Property Rights; The increasing of awareness of SMIs of the benefit of e-Commerce to intellectual property innovation; Effective legal enforcement of IPR.		Assumption: Opportunity and enabling environment is present
Activities	Socialization: • Provide national and regional seminars and workshops, conduct exhibitions and demonstrations, provide advice, and education and training:		

Design summary	Performance indicators	Monitoring mechanisms	Assumptions and risks
	• Media including newspapers, TV, radio, etc, brochures, booklets, exhibitions, and billboards. Tuition and Advise • Identify potential e-Commerce-ready SMIs and consumers for training; • Assess business and community needs; • Prepare an Action Plan for consumers of e-Commerce. Creation e-Commerce Instructors/ Facilitators. • Training of e-Commerce instructors/facilitators to undertake activities at the provincial, sub-provincial and county level; • Training of e-Commerce motivator to actively engage SMIs in the use of e-Commerce at the district level		
Inputs	The number of SMIs that apply for IPR registration; Numbers of facilitators and motivators		Assumption: Growing number of SMIs interested in e-Commerce; Energy and commitment of facilitators and trainers remains high.

Monitoring and Evaluation:

Evaluate the execution of activities and programmes, track progress, and assess constraints.

Reporting:

Reporting is needed for prospective users and IPR users. Reports will be prepared quarterly with a Report on Action Plans prepared each semester.

C. Cost Estimate and Financing Plan

Cost Estimate and Financing Plan
(US$ million)

Item	Government	Donors	Total cost
1. Consultants			
a. International consultants	3.00	5.00	8.00
b. Domestic consultants	1.00	2.00	3.00
2. Equipment and software			
a. Equipment	0.50	1.00	2.00
b. Software	0.50	1.00	2.00
3. Buildings and furniture			
a. Buildings	0.50	1.00	1.50
b. Furniture	0.50	1.00	2.00
4. Training, seminars, and conferences	1.00	2.00	3.00
5. Research, development, and surveys	1.00	2.00	4.00
6. Miscellaneous administration and support costs	0.50	1.00	1.50
7. Contingencies	0.50	1.00	1.50
Total	**9.50**	**19.50**	**29.00**

D. Implementation Arrangement

The substantive role of the Government in implementing this project includes providing information related to specific activities of SMIs, such as administration levying of goods, monetary, market information and marketing. The Government is also responsible for providing infrastructure, human resources (facilitators and motivators) for law enforcement of IPR among SMIs.

International consultants with technical expertise in production and IPR are required.

Reporting is needed for prospective users and IPR users (Plan, Do, Check, Action) as well as a Quarterly Development Report (Plan, Do, Check, Action) and a Report on the Action Plan submitted every semester (Plan, Do, Check, Action).

IV. BENEFITS OF THE PROJECT

The incentives provided to SMIs to engage in innovation, the key to the development of SMI e-Commerce and a key factor also in national development and economic growth.

Information available on innovations in other countries which can be useful for related industries in Indonesia.

SMIs are able to participate in the global marketplace by trading online, using e-Commerce.

New growth areas are developed in the economy, making Indonesia less dependent on the performance of individual sectors.

Developing e-Business in Kazakhstan

Proposer: **Saldenova Almagul**
Country: **Kazakhstan**
Date: **6 September 2004**

I. INTRODUCTION

Today, in the Republic of Kazakhstan, there are already a sufficient number of companies wishing to become "suppliers of electronic business systems," providing solutions and offering various packages for companies wishing to go online.

Statistics on the development of the Internet in Kazakhstan reveal an avalanche in the number of users for this new branch of telecommunications. In 2000, online Internet shops began to appear, conducting retail trade in consumer goods, with the number increasing each month.

In this environment, the task of developing e-Commerce across Kazakhstan is a priority. The creation of a national e-Commerce system requires the coordination of the complex interests of diverse clients (consumers of goods and services, trade organizations, banks and companies). The main regulatory requirements are licensing and certification of e-Businesses and their activities.

The following e-Commerce interactions are already taking place:

- Business-to-business (B2B);
- Business-to-consumer (B2C);
- Government-to-citizens (G2C);
- Business-to-government (B2G) e.g. tendering;
- Consumer-to-consumer (C2C) e.g. auction.

Electronic commerce can be successfully applied by both the private sector and government, as they all have the same goal—delivery of high quality and efficient services.

II. ISSUES

The development of electronic trade in Kazakhstan is inhibited by certain factors. Firstly, Kazakhstan has a population of only 15 million people. The circle of potential sellers and buyers is narrowed even further owing to poor equipment and lower levels of computer expertise and literacy (unfortunately no data is available on this). Therefore, large

capital investments in trading platforms and purchase of the software cannot be justified by real dividends, because there is a low demand for services.

The second factor hindering the development of electronic business is the cost associated with online purchases. Transactions using credit cards usually incur 2 to 3 per cent in charges and taxes. However, customers using e-Commerce want to save money, not pay additional charges. The second issue with online purchasing is security. Many people are concerned that there is an insufficient level of protection for credit card purchases online.

The system of payment should be convenient. Online payments should be able to be carried out faster than tradition payments. If this question of security and online payment is resolved, then e-Commerce will become as simple and effective as advertising in the newspaper.

The third factor is the speed and cost of delivery of goods. This is a major concern for buyers, but there are difficulties in establishing a uniform pricing system.

In the case of B2B, it may be possible to allow buyers to nominate the mode of delivery or provide their own delivery service. For B2C, deliveries are more complex. For example, there is no guarantee that the goods will correspond to the requirements of the customer. Further, the expense of delivery on cheaper items can exceed the cost of the order. However, increased volume can give business the ability to deliver items for customers at more competitive prices.

The fourth factor concerns B2B only—electronic commerce, as a rule, assumes a transparency of monetary-commodity streams.

A final factor is the reluctance of buyers to buy goods that they have not seen for themselves or been able to inspect.

III. THE PROPOSED PROJECT

The proposed project, "Developing e-Business in Kazakhstan," will be implemented jointly under the joint supervision of the Ministry of Industry and Trade, the Agency on Information and Communications and the Agency on the State Purchases of the Republic of Kazakhstan.

C. Cost Estimates and Financing

Cost Estimate and Financing Plan
(US$ million)

Item	Government	Donors	Total cost
1. Consultants			
a. International consultants	0.04	0.006	0.046
b. Domestic consultants	0.015	0.00225	0.01725
2. Equipment and software			
a. Equipment	0.08	0.0012	0.0812
b. Software	0.04	0.006	0.046
3. Buildings and furniture			
a Buildings	0.025	0.00375	0.02875
b. Furniture	0.015	0.00225	0.01725
4. Training, seminars, and conferences	0.105	0.01575	0.12075
5. Research, development, and surveys	0.13	0.0195	0.1495
6. Miscellaneous administration and support costs	0.065	0.00975	0.07475
7. Contingencies	0.035	0.00525	0.04025
Total	**0.55**	**0.0717**	**0.6217**

D. Implementation Arrangement

Since the project aims to act as an engine for sustainable economic growth both in productivity and efficiency, it also requires the assistance of the private sectors, i.e., the more assistance and support rendered by the private sector, the better outcomes will be achieved.

If there are any associations, agencies, or international non-governmental organizations that would like to fund a portion of the project, these funds should be used as reserve funds to be used for upgrade and maintenance of the overall system.

IV. BENEFITS OF THE PROJECT

The proposed project is expected to impart the following benefits:

- Minimum physical infrastructures developed;
- Internet access increased, information outreach to poor people;
- Computer hardware and software procured and developed;
- Private sector motivated and encouraged to participate in e-Commerce;
- Information bank developed;

Human resources capabilities (skills) increased.

Design summary	Performance, indicators targets	Monitoring indicators	Assumptions/ risks
Goal a. Provide information accessibility to rural people; b. Increase human resources capability; c. Trade expansion	- Physical progress; - Amount of money spent; - Number of training programmes; - Volume of trade; - Changes in lifestyles	- Financial reports; - Progress reports; - Survey	
Purpose a. Raise awareness level of people; b. Make the concerned persons understand that information is an asset that has productive capacity; c. Maintain fairness in e-Business transactions; d. Increase ministry's working capacity	- Checking the progress of programmes at the micro level; - Laws, rules, regulations drafting, implementation; - Changes in working style	- Internal and final audit; - Consultants reports; - Number of acts, processing level and steps; - Inspection	
Outputs a. computers, accessories procured; b. persons trained	- Field visits and inspection; - Progress reports	- Checking inputs outputs master plan	
Activities a. Procurements; b. Awarding contracts; c. Supervision; d. Monitoring & evaluation	- Progress reports; - Workshops, meetings	- Detailed action plans	Procedures if not delayed; Security if provided
Inputs a. Money; b. Different materials; c. Consultants services; d. Management services	- Amount of money spent; - Quantity supplied and used; - Quality of services provided	- Financial reports; - Work schedule; - Store checking; - Service quality	Loan agreement and disbursement in time

Action Plan for Implementation of the e-Economy in the Kyrgyz Republic

Proposer: **Dosaliev Bakytnur**
Country: **Kyrgyz Republic**
Date: **07 September 2004**

I. INTRODUCTION

In the Kyrgyz Republic, in recent years, the growth in the ICT sector has reached an annual rate of 20 per cent. However, the gross income from the sector is still small, at only 2.7 per cent of national GDP, or US$40 million (2001).

The development of electronic commerce in any country depends on growth in the number of Internet users, availability of hardware and software, and suitable information-communication infrastructure.

The IT infrastructure in Kyrgyzstan can be divided into two main forms: transport and communication networks. Data communication is implemented through satellite, radio relays, wireless and cable communications. The total extension of cable is 2,869,365 km. The number of Internet providers in the Kyrgyz Republic at present is 116, the leaders being Asia-Info, Elcat, Totel, and Aknet. Facilities for accessing the Internet are provided by the state joint-stock company Kyrgyztelekom, which is developing a project to create a National Network DATA Communication. As a whole, the Internet services sector is developing and taking on an impressive shape.

However, Internet access opportunities are mostly centred in large cities and administrative centres, while computerization and IT infrastructure in rural districts is rather low in practical terms. At the same time, in areas where there is sustained Internet availability, the quality and volume of the services grows year after year. The growing number of Internet cafes in the country is an indication of this, with prices going down in order to attract new clients thus enabling greater numbers of Kyrgyzstanis to access the potential of the World Wide Web. Regrettably, the majority of Internet users are concentrated in Bishkeke (75-80 per cent), while only 20-25 per cent are located in the regions. Simultaneously a large number of users have access to networks through free services provided by schools and donors organizations in the country. There are more than 70 commercial Internet centres and 113 public ones. In addition to Internet access, some commercial centres provide IP-telephony, which is also considered one of the most promising sectors in the ICT market.

Another challenge to IT growth in the Kyrgyz Republic is the low level of usage of licensed IT products. Unwillingness to use licensed products is largely due to financial constraints, with licensed software considered too expensive for many users. Also, licensed software quickly dates, with new versions arriving every one or two years, making the expense difficult to justify.

II. ISSUES

Based on the above, it is possible to draw the conclusion that the e-Economy in the Kyrgyz Republic possesses a certain potential. At the moment this potential is has not been fully developed, but there is reason to expect that in the future more efforts will be directed into this area. As the number of users grows each year, so too will the level of resistance to e-Business fall. The harbingers of e-Business in the Kyrgyz Republic are not only adopting the experience of foreign colleagues in the development of internal e-trade, but are also gradually expanding their use of e-trade to reach external markets. It is important that developments are implemented not only by specialists in the field but also by ordinary users.

Important factors for development of the e-Economy:

- Geographical location in the centre of Eurasia;
- Proximity to larger markets (China, Kazakhstan, Uzbekistan);
- Membership of the Kyrgyz Republic into the WTO;
- Low labour costs;
- High educational standards;
- Production of environmentally pure products;
- Accessibility and availability of up-to-date software and computer technology;
- Advanced status of ICT infrastructure in urban areas.

Notwithstanding these positive factors, there still exist a number of challenges for the successful development of electronic trade:

- Remoteness from the main global transportation routes;
- No access to seaports;
- Absence of appropriate legislation;
- Slow ICT development in rural districts and regional centres;
- Slow development of e-Finance infrastructure and electronic payment systems;
- Severe delays and high costs of product delivery;
- Low purchasing power of the population narrows the range of potential users;

- Small domestic market limits the scope and the pace of development in domestic e-Commerce;
- Absence of quality guarantees;
- Insufficient awareness of business of the marketing potentials the Internet/

III. THE PROPOSED PROJECT

First stage 2003-2007

The steps designed to stimulate the development of the e-Economy in the Kyrgyz Republic can be conditionally divided into two parts: steps that support the creation of a favourable environment for e-Commerce and steps that stimulate further developments and improvements.

The first category, among other things, includes the following actions:

- Legislating a temporary moratorium on the taxation of e-Commerce;
- Adoption of relevant laws to enhance the legal environment for e-Commerce.

Furthermore, the possibility of declaring the Kyrgyz Republic *an offshore zone for electronic commerce* will be examined.

The second group of actions, which are intended to give incentives to the further development and improvement of e-Commerce, are as follows:

- Conducting courses and seminars for entrepreneurs on the marketing possibilities of the Internet. These seminars can be conducted with grants from international organizations for trade and development (WTO, UNCTAD, UNDP, EBRD, ADB, etc.) and with the participation of international experts.
- Publicizing new e-Commerce and conducting relevant training seminars. This advocacy will not only improve computer literacy, but also increase the number of Internet business people and buyers.
- The creation of new delivery systems and improvement of existing ones will have enormous value. The main characteristic of these services is not only rapidity, but also preservation of the quality of the products.

- Inclusion of the Banner Network of the Kyrgyz Republic into the system banner exchange of other countries. Access will be provided to world trade networks operated within the framework of an international telecommunication alliance. The network created by ISP Asia-Info can become one of the first ways to introduce the Kyrgyz Republic's entrepreneurs to Internet trading in goods and services and assist them in becoming internationally competitive.
- Offering of incentives, such as the provision of free Internet connections for a fixed period, inclusion of local e-Store banners in the Banner Network of the Kyrgyz Republic or in the banner exchange system with other countries, placing proposed Internet projects on the most popular servers, and offering trade sites as incentives.

It is proposed that the possibility be considered of reducing the profit tax in 2004 to 10 per cent, and providing a complete exemption for the ICT sector in 2005. Other tax incentives are also possible.

Second stage 2007-2010

Commencement of the Mobile Economy project

Mobile commerce is commerce using mobile terminals: mobile telephones, pocket computers (PDA) and notebooks with wireless connections to the Internet and public mobile networks for accessing information and management of transactions to receive information, services and goods.

The mobile economy is realized through mobile commerce. The objective is to create a mobile economy in the short term (by 2010) with two million members or users. Components of a mobile economy are the same as for an e-Economy, with both supplementing the other. For example, e-Commerce is largely B2B or (Business-to-Business), with 90 per cent of transactions being B2B, and as such cannot be replaced by mobile commerce. However, in the case of B2C (Business-to-Consumer), such a replacement is not only possible, but inevitable.

Action Plan on e-Economy Development (2003 - 2007)

First Level: Government

1. The Government should create an enabling legal environment for the e-Economy through the adoption of new laws:

- Public Act on Electronic Digital Signatures;
- Public Act on Electronic Commerce;
- Public Act on making amendments to the Customs Code, in particular amendments relating to electronic submission of tax forms.

2. Public Act on the making amendments to Tax Code, in particular:
   - Review of VAT on export of e-Commerce services;
   - ?F&@$@O*,>4b CE 4 8@<B:,8HJ_V4, @H =)E, a Ha8r, &F, BD@(Da<<>Z, BD@*J8HZ;
   - ?F&@$@O*,>4b F,8H@Da 37G @H >a:@(a >a BD4$Z:\.
3. Legislative authorization of a temporary moratorium on the taxation of electronic and mobile economy.
4. Promotion of IT sector FDI.
5. Transition of tax and customs declarations into electronic form and introduction of public services through electronic payments.
6. Widespread discussion of strategy and promotion of ICT development in the country and abroad.

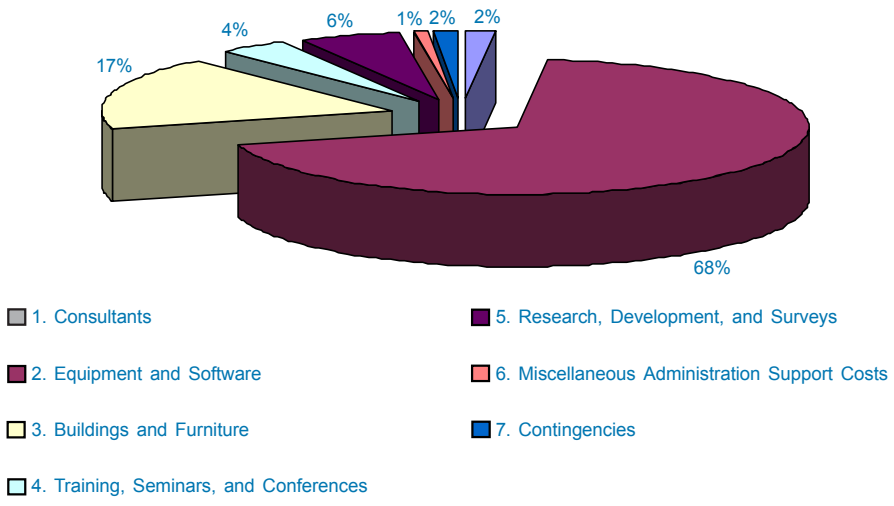
Second Level: Government, Institutions of Support and Development

1. Create a Fund for Public Access Point development and develop local content in regions;
2. Create IT Technology Park;
3. Completion of internal and transit backbone infrastructure;
4. Develop and implement electronic and online payments and purchasing of goods and services;
5. Create, under the aegis of the National Bank of Kyrgyzstan, a system for online payment, e.g. WebMoney;
6. Create a 24-hours/day, 365 days/year portal for hosting electronic and mobile transactions;
7. Examine benefits of making the Kyrgyz Republic an offshore zone for e-Commerce;
8. Create a processing and certification centre;
9. Conduct series of trainings and workshops for business on the potential of e-Commerce;
10. Conduct regional trainings on how to use the Internet, and conduct online banking operations;

11. Inspection and refinement of effluent disposal lines in Bishkek and other cities to increase cable capacity;
12. Building of fibre optic lines from Bishkek to Osh and to Ferghana valley (Uzbekistan) and Gornyi Badahshan (Tadjikistan);
13. Build inter-station cross-point B-9 in Bishkek city;
14. Installation of telephones in 540 rural villages;
15. Create a portal for transport, shipping, express mail, express delivery services, and monitoring of cargo traffic;
16. Create ICT portal of companies and services;
17. Promote the potential of e-Commerce, conduct appropriate training and seminars for citizens.

Third Level: Private Sector, Support and Development Institutions

1. Promote the potential of e-Commerce;
2. Create new systems of delivery and improve existing ones;
3. Create a unified system of goods delivery from Kyrgyz Internet shops to abroad;
4. Develop "Easy Pay" Project as a portal for payment for public utilities and other services, e.g., communications and electrical energy;
5. Meeting-point of "Easy pay" with e-Government, e-customs declaration, e-taxation and e-services portal;
6. Expand "Easy Pay" portal for juridical consultations, commercial analytical materials, reports and other information.



Cost estimates and Financing Plan
(US$ million)

Item	Government	Donors	Total cost
1. Consultants	**0.30**	**3.00**	**3.30**
a. International consultants	0.20	2.00	2.20
b. Domestic consultants	0.10	1.00	1.10
2. Equipment and software	**28.00**	**110.00**	**138.00**
a. Equipment	23.00	100.00	123.00
b. Software	5.00	10.00	15.00
3. Buildings and furniture	**2.20**	**33.00**	**35.20**
a. Buildings	1.70	30.00	31.70
b. Furniture	0.50	3.00	3.50
4. Training, seminars, and conferences	**2.00**	**6.00**	**8.00**
5. Research, development, and surveys	**1.00**	**10.00**	**11.00**
6. Miscellaneous administration and support costs	**0.50**	**1.00**	**1.50**
7. Contingencies	**1.00**	**2.00**	**3.00**
Total	**35.00**	**165.00**	**200.00**

IV. BENEFITS OF THE PROJECT

According to a preliminary estimation by experts, by 2010 the successful development of the e-Economy sector in Kyrgyzstan has the capacity to generate US$1 billion and can raise GDP by up to 25 to 30 per cent. In this regard, the ICT sector's share will be 8 per cent of GDP. At the same time, the average annual growth rate of the ICT sector will remain at 20 per cent and the total amount of foreign and local investments contributed to the sector will be about US$1 billion until 2010.

Increasing e-Business Awareness in the Business Community

Proposer: **Vilayvanh Vongxay**
Country: **Lao PDR**
Date: **6 September 2004**

I. INTRODUCTION

e-Business in Laos is in the early stages of development. There are a few B2C websites, but very little else. This is due to the poor IT infrastructure (both at a national level, and in the private sector), a shortage of trained and experienced IT technicians, and limited access for the general population (consumers) to the Internet due to a lack of technological awareness, and the relatively high access price.

The growth of e–Business in Laos will not be possible if the abovementioned issues are not addressed first. These issues are the result largely of a lack of funds. If e-Business is to take-off in Laos, then adequate investments must be made.

The local consumer market is not ready, culturally or financially, to embrace e-Business and its B2C (Business-to-Business) component. Therefore, efforts should be made to spur e-Business between local administration, local companies, and foreign companies representing the export market. Emphasizing Business-to-Business and Business-to-Administration transactions may be the best way to introduce e-Business into the Lao economy. If the benefits of e-Business can be demonstrated to executives and relevant government officials, investment in e-Business may be more quickly undertaken, enhancing the efficiency and operations of local companies and administration, and thus producing positive effects on the rest of the Lao economy.

II. ISSUES

- e-Business and e-Commerce are very new concepts to the Lao PDR. Little is known about the information culture and technologies. Therefore, it is very difficult for businesses and individuals to identify the potential benefits of engaging in e-Business and e-Commerce.
- Overall, Internet access and the number of users in Lao PDR is too low to justify the investment required to establish an e-Business and e-Commerce operation.

- There is a lack of IT expertise in Laos. Local businesses that do have web sites often use their sites only for advertising.
- There is little incentive for local businesses to extend their operations as market concentration is local.
- There is no credit card system or e-Banking or cyber laws.

III. THE PROPOSED PROJECT

With the goal of developing the country's economy, the Lao PDR has to stimulate and develop production to transform the economy from one based on primary sector production to one based on secondary and tertiary sectors; and to develop domestic markets, link to regional and global markets and improve the trade related infrastructure of the country. In order to achieve these objectives, enterprise has to become more productive and knowledge based. IT is an important tool in overcoming existing knowledge gaps and improving productivity.

The aim of the project proposed is to provide e-Commerce and e-Business awareness training to local companies so that they can take better advantage of the potential of the Internet and improve their business performance, and increase their opportunities in new markets.

As part of the project, around 50 local companies will participate in the training. Training materials and information packs will be produced and distributed among the participants and if possible, also passed on to the general public.

B. Methodology

As part of the project, the following activities shall be carried out:

1. Prepare plan for the training programme;
2. Produce training materials, prepare individual lectures and seminars on e-Commerce and e-Business;
3. Arrange training schedule;
4. Conduct the training or workshop;
5. Evaluate the training.

Project Framework

Design summary	Performance indicators/targets	Monitoring mechanisms	Assumptions and risks
Goal: local business can understand benefit of e-Commerce/ Business.	Skills for using the Internet or IT in business sector developed	Increase in the percentage of people using the Internet	Local businesses aware of e-Commerce
Purpose: Provide e-Commerce/ Business awareness to local business	Local business can improve their productivity, and services to their customers	Business sector's access to the Internet	Majority of business able to access the Internet
Output: Make enterprise more efficient	The selling price falls, increasing profit, sales up	Enterprise's access to the new market	That market access will be increased
Activities: Prepare training programme, produce training materials	Training seminar or workshop to be held	evaluation of workshop	
Input: Consultant (expertise), materials budgets	Number of materials provided, documentation, lecturer	Completion of the training	

C. Cost Estimate

Cost Estimate and Financing Plan (US$ million)

Item	Government	Donor	Total
Consultant		0.09	0.09
Equipment/software		0.15	0.15
Building and furniture		0.17	0.17
Training and research		0.22	0.22
Contingency		0.01	0.01
Total:		**0.64**	**0.64**

D. Implementation arrangement

- Executive Agencies

This project will be implemented by The Ministry of Commerce; Science, Technology and Environment Agency and the Lao National Chamber of Commerce and Industry.

- Implementation Schedule

This project will be implemented over one year, and training will be held every month, for one week. Participants must apply for the training, and about 100 will be accepted. Participants from other provinces will have their travel and accommodations paid for.

IV. BENEFITS OF THE PROJECT

The implementation of e-Business in Laos will not dramatically change the face of the Laos economy overnight. The main immediate or short-term benefit of e-Business will be increased efficiencies for the Laos government and private sector. However, more positive effects are expected in the long-term, as e-Business establishes itself and assists the economy to become more flexible, Laos businesses to be more attractive to customers, and their products more affordable.

In this project it is hoped that businesses will improve their productivity, particularly those already operating online, thereby reducing production costs and product prices, and increasing overall sales and profits. Thus investments and recruitment will in turn increase domestic demand, filling up order books, and so on.

As previously stated, investment (expertise, training and infrastructure) is the key to e-Business. As the Laos government and most Lao companies do not possess strong cash reserves, decision-makers will have to think twice before committing the necessary amount of funds needed to jumpstart e-Business operations in Laos. Therefore, businesses need to fully understand the benefits of e-Business, which is why awareness raising and understanding created through the training and workshops are so important, as they can demonstrate to business people the potential of e-Business to make their business or operations more efficient and more profitable.

Capacity Building for ICT and e-Commerce in the Maldives

Proposer: **Ibrahim Firushan**
Country: **Republic of Maldives**
Date: **6 September 2004**

I. INTRODUCTION

The development of information communication technology (ICT) is a priority area in the development strategy of the Republic of Maldives. Considerable investment has been made in ICT awareness and capacity building in human and infrastructure development. However, more needs to be done. The development of ICT and e-Commerce is crucial for economic development and for the Maldives to be a global player in the main industries being developed in the Republic.

e-Business in the Maldives is very new and its potential has yet to be fully explored. Currently, the Internet is used mainly for emailing, browsing and advertising. Actual sales transactions are conducted offline through other modes.

There is wide access to information technology and the Internet in the capital of Malé, as well as in resort islands and other high population centres in the north and south of the country, where telephone services are developed. The cost of IT setup and Internet access is relatively high throughout the Maldives.

The Government of Maldives seeks to increase the standard of living of the Maldivian population through the development of e-Commerce and information technology, which will enable it to use e-Business to reach the domestic market as well as global markets.

II. ISSUES

The price of Internet usage is high in general, and it is even more expensive to access the Internet outside Malé. At the same time, IT setup costs are extremely high for the average would-be user.

The Maldives' geographical setting, with its remote and scattered islands and atolls, most with only small populations, makes it difficult and expensive to develop the infrastructure and logistics needed for Internet access and for viable e-Business ventures.

The telecommunication system has improved dramatically in the Maldives in the last decade, but outside Malé, the majority of telephone systems are still almost exclusively voice transmission systems with limited capacity for data transmission.

Further, the current legal system does not provide sufficient security or regulations to accommodate sustainable e-Business ventures. There is no Internet payment gateway, very limited access to credit cards and no other convenient payment options, resulting in businesses developing websites to be used solely to advertise rather than sell. Hence, many of the local resorts and tour operators and other businesses rely on foreign agents for the collection of payments and reservations on their behalf.

Malé is the capital of the country as well as the centre of commerce, with an area of approximately two km^2. Most customers still prefer to shop directly at stores. As most customers need a visa card and access to the Internet to shop online, plus the additional cost of browsing for goods, direct shopping is considered more convenient by many at present.

The lack of a reliable, efficient transport system between the country's islands (except for the four regional airport atolls) also makes shipping very difficult, even if a solution for payment is found.

III. THE PROPOSED PROJECT

A. Purpose and Output

The Capacity Building for ICT and e-Commerce in the Maldives project aims to build the required capacity to support e-Commerce in the Maldives and make the technologies conveniently accessible to citizens and business at a reasonable price.

Output/Outcomes

- Foster competition and private participation in ICT infrastructure development and service delivery to minimize the digital divide between the capital/population centres and rest of the country by making ICT conveniently accessible at reasonable prices;
- Study ICT and e-Commerce legislation requirements and enhance the legislative and regulatory framework to facilitate development in the ICT sector and economy;
- Establish, support and secure an Internet payment gateway and assist in banking sector development to provide convenient and secured payment options for e-Commerce/Business transactions;
- Strengthen and expand the government network outside the capital and private sector participation for improved e-Governance and information sharing;
- Create a greater awareness of ICT among citizens and build human resource capacity to conduct and sustain ICT and e-Commerce services.

B. Methodology and Key Activities

Design summary	Performance indicators/targets	Monitoring mechanisms	Assumptions and risks
Goal Capacity Building for ICT and e-Commerce in the Maldives	Development of infrastructure and additional capacity	- Post project comparisons; - Impact assessment studies	Level of utilization of capacity
Purpose Development of infrastructure, legal and commercial environment for e-Commerce.	Development of infrastructure and additional capacity	- Post project comparisons; - Impact assessment; - community satisfaction surveys	May not meet the requirements of the community.
Outputs - Private sector participation in ICT development; - Improved legislative and regulations fostering e-commerce; - Convenient, affordable access to ITC for all citizens; - Internet payment gateway; - Greater awareness of ICT and HR capacity	- Level of private sector participation; - new laws and revisions; - Number of people trained; - the services of IPG; - Number of MCT's	- Post project comparisons; - Impact assessment studies; - community satisfaction surveys; - utilization of the service	Implementation of the new laws in time.
Activities - Identify areas for private sector participation and putting regulative framework in place; - Identify legislative and regulatory framework for enhancement;	- Field visits and inspection; - Progress reports; - Number of MCT's	- Impact assessment studies; - community satisfaction surveys; - utilization of the service surveys	

Design summary	Performance indicators/targets	Monitoring mechanisms	Assumptions and risks
- Establish multipurpose community telecentres in outer islands; - Coordinate research and establish an IPG; - Train citizens and HR capacity building.			
Inputs Institutional support; Private sector support; Finance consultancies	- Contribution of support; - Number of private sector firms; - financial reports; - reports and studies	Contribution of support; - Number of private sector firms; - financial reports; - reports and studies	Lack of commitment and support

C. Cost Estimate and Financing Plan

Cost Estimate and Financing Plan (US$ million)

Item	Government	Donors	Total cost
1. Consultants			
a. International consultants	0.20	1.80	2.00
b. Domestic consultants	0.50	0.80	1.30
2. Equipment and software			
a. Equipment	0.30	3.80	4.10
b. Software	0.20	1.80	2.00
3. Buildings and furniture			
a. Buildings	0.50	4.30	4.80
b. Furniture	0.40	1.60	2.00
4. Training, seminars, and conferences	1.00	3.00	4.00
5. Research, development, and surveys	0.40	1.00	1.40
6. Miscellaneous administration and support costs	0.60	2.80	3.40
7. Contingencies	0.90	2.10	3.00
Total	**5.00**	**23.00**	**28.00**

D. Implementation Arrangement

Role of Institutions

The project will require high participation across different institutions in the design and implementation, with participation of the private sector and the targeted communities in order to gain the maximum benefit. Some of the key institutions are as follows:

- The Ministry of Finance and Treasury: should contribute in the areas of loan negotiations and processing. It should also allocate local financing, and monitor the financial aspects of the project.
- Ministry of Trade and Industries: should contribute in the areas of trade regulation and interactions with the private sector to promote e-Commerce and their participation in the infrastructure development.
- Ministry of Atolls Administration: should contribute in the areas of prioritizing and coordinating MCT in islands and citizen training awareness programme of ICT and benefits.
- Ministry of Communication Science and Technology: should provide technical expertise in implementing new technologies and standards as well as providing policy direction and aligning all agencies involved.
- Ministry of Justice
- Maldives Monetary Authority: should coordinate the development of the banking sector.
- Private Sector: should participate in infrastructure development and service provision.

Consultancy Inputs

The project will require a range of international and domestic consultancies in the following areas to conduct analysis and support during the project as well as to conduct impact assessments of the project:

- ICT specialists and consultancies;
- Banking Sector consultancies;
- Legal consultancies;
- Development of e-Commerce;
- Construction and design;
- Project impact assessment studies.

IV. BENEFITS OF THE PROJECT

The project will foster competition and private participation in ICT infrastructure development and service delivery to minimize the digital divide between the capital/population centres and the rest of the country by making ICT conveniently accessible at reasonable prices.

The project will study the ICT and e-Commerce legislation requirements and enhance the legislative and regulatory framework to facilitate the development of the ICT sector and economy.

It will also establish, support and secure an Internet payment gateway and assist in banking sector development to provide convenient and secure payment options for e-Commerce/Business transactions.

It will strengthen and expand the government network outside the capital and encourage private sector participation for improved e-Governance and information sharing.

Lastly, it will create a greater awareness of ICT among citizens and build human resource capacity to conduct and sustain ICT and e-Commerce services.

Establishing a Unified Trade Database System across Mongolia

Proposer: **Oyundari Galsandorj**
Country: **Mongolia**
Date: **7 September 2004**

I. INTRODUCTION

In recent years, Mongolia has made considerable progress in developing its information and communications infrastructure, particularly in the availability of basic and cellular services. However, the majority of ICT services are located in the major towns and cities. Although there is basic Internet access, the population in rural areas does not have reliable and timely access to important trade-related information and data.

In regards to the supply and availability of important commodities, raw materials and services, there is currently an absence of a central trade and service information database that is linked to local regions.

II. ISSUES

During the period when the economy was centrally planned, Mongolia had a unified system providing trade information and data, and there was a system providing information and data on the supply and availability of basic commodities and raw materials. However, with the transition to a market economy in the early 1990s, the system was abolished.

One of the obstacles in the existing trade structure is the absence of a central data network between the urban and rural areas regarding the availability and supply of goods, raw materials and services.

Today, over 60 per cent of the population lives in the provinces. Due to the large distance between the regions, rural people, particularly herders, are isolated from general market information and services. As a result of this information gap, people in the rural areas end up purchasing their goods and necessities at prices that are 10-30 per cent higher than those in the cities. This results in a loss of purchasing power for these people. On the other hand, producers and suppliers in the provinces lack the necessary information regarding the demand and export potential for raw materials, goods and services. As a result of this, local people have weak bargaining power and usually end up selling their raw materials to middlemen at cheaper prices.

Ensuring that people living in the provinces have unrestricted access to information and the overall market is one of the crucial issues for promoting both domestic and international trade.

III. THE PROPOSED PROJECT

A. Purpose and Output

The proposed project aims to provide a one-stop information point for consumers and traders across the country regarding the availability and supply of goods and services. If successfully implemented, the proposed database will form the basis for providing information on the demand and supply of goods and services. By accessing the database, suppliers will benefit from obtaining necessary information on buyers and exporters and will have a better chance of purchasing their goods and necessities at market prices.

To achieve these objectives, e-Commerce support centres will be created in all 21 provinces of Mongolia, based on the existing local infrastructure.

The following results are anticipated:

1. Database promoting trade activity will be created and a database maintenance system implemented. The following databases will be designed:
   - Database on trade offers or commodities and raw materials availability (quantity, price and trade terms, delivery time etc);
   - Database on the demand of goods and materials;
   - Database on registration of customer requests and performance control;
   - Database on transportation service providers.
2. At the regional level, a trade information database will be created through an intra-network solution, applying the necessary hardware, software, and communication facilities to enable data exchange inside the provinces between wholesale centres and customers based on existing infrastructure.
3. Communication technology for high speed data transmission will be chosen and installed by strengthening existing communication facilities where necessary, in coordination with the Telecom Authority of Mongolia.

In addition, there will be at least three IT experts trained in the operation, maintenance and updating of the proposed database.

B. Methodology and Key Activities

The following activities are planned:

- Conduct a feasibility study on the current situation with trade services, giving more attention to provinces and the rural areas;

- Evaluate ICT by evaluating and improving existing communication possibilities;
- Design a trade-related database structure and its unification;
- Develop application software for database creation and maintenance;
- Define data exchange solution, hardware and software components for intra and Internet networks that shall be established;
- Install equipment and software component and site testing;
- Design and prepare training programmes;
- Conduct subject oriented training courses;
- Arrange international training for local trainers.

Project Framework

Design summary	Performance indicators/targets	Monitoring mechanisms	Assumptions and risks
Goal Reduce rural poverty by improving access of people to the trading network through better supply of information	Increase GDP by at least 1 per cent; Increase output of the regions	GDP data obtained from the National Statistical Office; Output data to be obtained from the Ministry of Industry and Trade	External factors such as environmental, financial and social that do not hinder economic development
Purpose Improved information access and use of information and data on trade, goods and services and supply chains, in particular, among rural people	Number of rural companies and individuals using the network; Increase regional GDP by at least 10 per cent	Data to be obtained from the Central database; GDP data to be obtained from the regional government	
Outputs - Database on trade offer or commodities and raw materials availability; - Database on the demand of goods and materials;	Volume of raw materials produced in the regions; Number of logistics companies operating throughout the country;	Ministry of Industry and Trade; National statistical Office Ministry of Infrastructure	An evident increase in the use of database among the population

Design summary	Performance indicators/targets	Monitoring mechanisms	Assumptions and risks
- Database on registration of customer requests and performance control; - Database on transport service providers - Regional database team established - Herders, traders and local companies able to access and utilize the database	Survey among service providers; Number of registered traders, suppliers and service providers		
Activities - Conduct feasibility study on trade services, focusing particularly on provinces and rural areas; - Design trade related database; - Develop application software; - Install equipment and software component and site testing; - Secure necessary funds; - Design training programmes; - Provide training.	Effectiveness of software installation; Number of training participants; Amount of training materials available		
Inputs - Financial resources; - Human resources - Private sector participation; - Political will both at regional and central levels; - IT infrastructure.	Grant of 1,962,000 40 persons in each region in IT expertise	By end of 2005	Financial resources secured

C. Cost Estimate and Financing Plan – Grant assistance

Cost Estimate and Financing Plan
(US$ million)

Item	Government	Donors
Activity I Feasibility study		
International consultant (1) 4 months		0.12
Domestic consultant (1) 4 months		0.02
Activity II Project management		
Central level:		
Local manager (1)		0.05
Local officers (2)		0.03
Administration staff (2)		0.025
Local level:		
Local manager (1)		0.05
IT Specialists (2 at each region x 21 regions)		0.1
Administration staff (2 each at each region x 21 regions)		0.1
Activity III Training		
Overseas training		
International trainer (12 months)		0.1
Domestic IT expert (21 people)		0.07
Overseas training for local trainers (21 people)		0.2
Miscellaneous expenses		0.05
Activity IV Software/database development		
IT Installation		
Database server (21 regions)		0.24
Application server		0.24
Protection facility (21 regions)		0.1
Equipment		
Communication server (21 x1)		0.21
Computers, Local provinces (21 x 4)		0.252
Consultants and trainers		0.03
Total		**1.962**

D. Implementation Arrangements

The main implementing and coordinating agency will be the Ministry of Industry and Trade. In addition, the local governments and trade promotion centres will play a crucial role in implementing the project. The Mongolian Technical University, with its supply of human resources and potential for software development and system analysis, is considered to be

one of the important project partners alongside the Chamber of Commerce and Industry with its resources in promoting foreign trade and investment. In addition and most crucially, ongoing assistance and technical support of donor agencies will be needed to introduce and sustain the proposed database.

IV. BENEFITS OF THE PROJECT

Through implementing the project, it is hoped that assistance can be provided for ensuring that an operational wholesale and goods information network is formed which covers all provinces, cities and rural areas, enabling real-time trade-related data exchange between suppliers and buyers and an e-Commerce environment the provides a gateway to the international trading network. The project will offer local companies and individual traders improved and reliable access to local and international markets.

More specifically, individual traders in rural areas, in particular herders, will have better access to information on the availability of goods and services and the market potential for their raw materials.

Regarding the return on investment of the proposed project, it cannot be measured through quantifiable terms only, but ROI must also be calculated based on qualitative measures, such as the impact of the provision of supply and demand information, access to markets and export markets, customer satisfaction and quality for local and international businesses and also individuals.

Accordingly, the Government Resolution in 2001 focuses on ensuring a sustainable supply of raw materials and goods between the provinces and a decrease in price differentials between these regions.

One of the major issues in the development of the wholesale network is the information component. The aim of the wholesale network is to arrange for participants of wholesale trading access to market information and exchanges between them in terms of trading data and market information.

Trade Information System Development Project

Proposer: **Zaw Zaw Aung**
Country: **Myanmar**
Date: **7 September 2004**

I. INTRODUCTION

The Trade Information System Development (TISD) Project has been prepared with the assistance of Myanmar Computer Company Limited (MCC), and advice from the of e-purpose committee formed under the Ministry of Commerce.

e-Commerce development in Myanmar is just in its preliminary stage. The Government of the Union of Myanmar provides funding for e-Commerce, and the private sector also hopes to see the development of a well-built e-infrastructure for the country.

With the amalgamated efforts of the Government and four major ICT-related NGOs in Myanmar—Myanmar Computer Federation, Myanmar Computer Industry Association, Myanmar Computer Scientists' Association and Myanmar Computer Enthusiasts' Association—more than 20 ministries in Myanmar are currently developing ministry Web sites to provide information to the general public.

Service oriented web sites will be developed for the citizens in the next phase for some ministries and government organizations such as the Ministry of Commerce, the Ministry of Agriculture, Yangon and Mandalay City Development Committee, etc.

II. THE PROPOSED PROJECT

A. Purpose and Output

The "Trade Information System Development (TISD)" project has been proposed to provide support and convenience for the Ministry of Commerce in carrying out all its tasks and duties.

As the Ministry of Commerce plays a vital role in implementing trade policy reform in line with the market-oriented economic system, as well as promoting internal productivity to increase exports, overseas trade and border trade, and supporting the export/import trading activities of the public and private sector, its efficiency, fast and smooth flow of information and activities have an impact on the country's economy as a whole.

The introduction of TISD and through it, the enhancement of existing human resource capacity, will increase productivity, save time and reduce paperwork.

B. Methodology and Key Activities

The Trade Information System Development (TISD) project has been categorized into three phases.

The First Phase includes installation of a departmental trade network (LAN), installation of an export-import division network and application systems development.

In order to install the departmental trade network, an EDP subdivision in the Policy and Statistics Division needs to be set up with a main server and five workstations. These five workstations can each be linked with main server in the following commanding offices.

- Minister's Office;
- Deputy Minister's Office (1);
- Deputy Minister's office (2);
- Director General's Office;
- Deputy Director General 's Office.

For Internet applications, a separate server unit will be set up at the Deputy Minister's Office. This will link with the main server unit.

With regard to the installation of the export-import division network, it is essential to set up a computerized operation unit with a server in the export-import division. The five workstations would then each be linked with the division server unit, so that the export-import division network would be integrated with the departmental trade network. For the application systems development, application sub-systems are to be developed.

Application sub-systems such as export-import (permit) licensing, license amendment, extension, copy reissuing, surrendering, processing, registration, business representative registration surrendering of GSP Certification, Country of Myanmar Origin Certification and ASEAN-CEPT Certification and others have to be included in development of Phase I.

In the Second Phase, an Intra Ministry Inter-Departmental Trade Network will be installed.

A wide area network interconnecting the Departmental Trade Network and the other two organizations within the Ministry of Commerce via the Myanmar Agricultural Produce Trading and the Department of Border Trade will be established. An additional workstation at each division in the Directorate of Trade for the Extension of the Departmental Trade Network will be needed.

A trade network is to be set up during this phase, and a personnel management system is to be developed as well.

Timeframe For Phase I

Sr. No	Activity	Oct 04	Nov 04	Dec 04	Jan 05	Feb 05
		1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
1	Project Planning & Approval					
2	Systems Development					
3	Systems Installation					
4	File Conversion & Database Set-up					
5	Education & Training					
	- Appreciation and Orientation					
	- Systems Training					
6	Systems Testing					
7	Actual Run					

Timeframe For Phase II & III

Sr. No.	Activity	Mar 05	Apr 05	May 05	Jun 05	Jul 05	Aug 05	Sept 05	Oct 05	Nov 05
	Phase II									
1	Installation of Intra-Ministry Inter-departmental Trade Network									
2	Extension of the Departmental Trade Network									
3	Setting up a Trade Database									
4	Application Systems Development									
	Phase III									
1	Expansion of Inter-departmental Trade Network									
2	Application Systems Development									

In the Third Phase, expansion of the Inter-Departmental Trade Network and application systems development will take place. The Inter-Departmental Trade Network, along with other organizations such as Department of Customs, Port Authority, Myanmar Investment and Commercial Bank (MICB), Myanmar Foreign Trade Bank (MFTB), Union

of Myanmar federation of Chambers of Commerce and Industry (UMFCCI), Central Statistic Organization (CSO), will be integrated first.

Following this, the International Trade Information System, Financial Management System, Executive Management Information System (Decision Support system DSS) and a system of Trade Net (e-Commerce) will be developed.

The timeframe for Phase II and III will be 14 months. Phase II is expected to takes five months and Phase III four months.

The change to TISD also involves training and educating activities to ensure that users are able to operate the systems with an acceptable level of understanding and efficiency. The following trainings are therefore needed:

(1) Appreciation Training:
- A three day (or) one training programme;
- All divisional heads or delegated persons are expected to attend.

(2) Orientation and System training
- A two-month training course (one month each for orientation and system training);
- Two staff members from each division and all other operations to be assigned in the operation of the planned system are to participate.

C. Cost Estimates and Financing Plan

Cost Estimates and Financing Plan
(US$ million)

Items	Government	Donors
1. Consultants (a) International Consultants (b) Domestic Consultants		 0.06 0.04
2. Equipment and Software		0.15
3. Buildings and Furniture		0.1
4. Trainings, Seminars, Conferences		0.1
5. Research, Development & Survey		0.12
6. Miscellaneous Administration & Support Costs		0.05
7. Contingencies		0.055
Total		**0.675**

This cost estimate is only for Phase I and II and only for the Ministry of Commerce. For Phase III other departments will also need budget assistance to connect to TISD project. Therefore, the cost estimates for whole project is US$675,000 multiplied by the seven Departments in the project, giving a total of US$4,725,000.

Since the TISD aims to be an engine for sustainable economic growth both in productivity and efficiency, it also requires the assistance of the private sector. For example, companies, corporations, or citizens who come to the Ministry of Commerce for an application or amendment or for business purposes, have to pay a US$20 compulsory fee. In this way, the capital will be returned easily.

Additional funding from associations, agencies, or international non-governmental organizations will be held as reserve funds to be used for upgrading and maintaining the system.

In the initial implementation period of the TISD Project, the lack of IT skills within the workforce and business will pose a challenge. To address this challenge, experts will visit network offices twice a week to monitor the process. Thereafter, servicing and maintenance will be supervised once a month for troubleshooting any seen or unseen problems.

The Government's role of participation and leadership will assist in the implementation of this project so that trade activities will not be a burden to the public. Through this project also, the Government motto of "Advance Forward through Commerce" will be fulfilled.

V. BENEFITS OF THE PROJECT

- Through TISD, a uniform trade policy for the whole country can be established.
- Licenses and administration of export/import procedures can be done online in a few minutes, compared to the previous system which often was slow and inefficient.
- Linkage with international trade organizations such as WTO, ASEAN, and BIMSTEC can be formed, allowing the conduct of trade matters globally.
- Human error can be reduced, efficiency and effectiveness of existing systems can be improved, and workloads can be reduced.
- The database system for licenses makes the decision making process easier and more transparent.

Strengthening ICT and e-Business in Nepal

Proposer: K.B. Baniya
Country: Nepal
Date: 7 September 2004

I. INTRODUCTION

Nepal is a landlocked, mountainous (snow, curved terraces) country which requires huge investment in physical infrastructure development and also in human resources. Nepal's literacy rate is 50 per cent overall and the IT literacy rate, though not surveyed, does not exceed 5 per cent. External as well as internal factors have forced the country to keep pace with the latest, modern technologies. As a least developed country, 147th member of the WTO, Nepal has had to undergo many development phases to meet the demands of globalization. Due to a low saving rate, domestic investments are weak. Most government revenue is spent on security. Little funds are left for development activities. The private sector's capability is also weak. Though liberalization is being implemented, the private sector needs to be encouraged and is seeking incentives

II. ISSUES

- Physical infrastructure is essential to IT development, and needs be constructed side by side with IT infrastructure being developed to cover district headquarters (15 out of 75 districts have no telephone connections).
- Energy needs to be generated through small hydro projects and solar panels as physical transmission is expensive.
- Internet connections need to be extended and increased for comfortable access and information outreach.
- Human resource capability needs to be developed and improved.
- Appropriate regulatory systems need to be implemented to encourage as well as enforce appropriate IT development.

III. THE PROPOSED PROJECT

The proposed project, "Strengthening IT and e-Business in Nepal" will be carried out under the joint supervision of Ministry of Science and Technology and Ministry of Physical Planning and Works. Other e-Commerce activities will be carried under the existing project, "Trade Information and Export Support Project" under the Ministry of Industry, Commerce and Supplies. This project is entrusted with the responsibility of developing e-Business in Nepal.

Project Framework

Design summary	Performance, indicators targets	Monitoring indicators	Assumptions/ risks
Goal a. Provide information accessibility to rural people; b. Increase in human resources capability; c. Trade expansion; d. Reduce poverty	- Physical progress; - Amount of money spent; - Number of training programmes; - Volume of trade - Changes in lifestyle	- Financial reports; - Progress reports; - Survey	Stakeholders' involvement if increased
Purpose a. Raise awareness level of people; b. Make the concerned persons understand that information is an asset that has reproductive capacity; c. Maintain fairness in e-Business transactions; d. Increase ministry's working capacity	- Checking the progress of programmes of micro level; - Laws, rules, regulations drafting, implementation; - Changes in working style	- Internal and final audit; - Consult. reports; - Number of acts, processing level and steps; - Inspection	Laws/ regulations if accepted and penalty if imposed
Outputs a. 100 km fair weather roads constructed; b. 50 km electric energy (hydro & solar) generated; c. 200 pieces computers, accessories procured; d. 10,000 persons trained	- Field visits and inspection; - Progress reports; - Public audit	- Checking inputs outputs master plan	
Activities a. Detail project report and loan agreement papers preparation; b. Loan agreement and disbursements; c. Procurements; d. Awarding contracts; e. Supervision; f. Monitoring & evaluation	- Progress reports; - Workshops, meetings	- Detail action plans	Procedures if not delayed; Security if provided

Design summary	Performance, indicators targets	Monitoring indicators	Assumptions/ risks
Inputs a. Money; b. Different materials; c. Consultants services; d. Management services	- Amount of money spent; - Quantity supplied and used; - Quality of services provided	- Financial reports; - Work schedule; - Store-checking; - Service quality	Loan agreement and disbursement in time

C. Cost Estimates

Cost Estimates and Financing Plan
(US$ million)

Item	Government	Donor	Total
Consultant	0.50	2.50	3.00
Construction	2.00	10.00	12.00
Equipment/software	0.0	3.00	3.00
Building and furniture	1.00	4.00	5.00
Training/research	0.50	4.50	5.00
Contingency	2.00	0.0	2.00
Total	**6.00**	**24.00**	**30.00**

IV. BENEFITS OF THE PROJECT

The proposed project is expected to achieve the following benefits:

- Minimum physical infrastructures to be developed in areas still deprived even of energy and telephone systems;
- Internet access to be increased, information outreach to poor people;
- Computer hardware and software to be procured and developed;
- Private sector to be motivated and encouraged;
- Information bank developed;
- Human resources capabilities (skills) increased;
- Sound regulatory system (legal framework) established;
- Help in poverty reduction.

ICT Platform for Small- and Medium-Size Enterprises

Proposer: **Fernando P. Cala II**
Country: **Republic of the Philippines**
Date: **7 September 2004**

I. INTRODUCTION

In the Philippines, the Government and to some extent, the private sector has taken bold steps in spreading the use of ICT in the country. Recently, President Gloria Macapagal-Arroyo unveiled a 10-point agenda which will guide her tenure as the country's leader in the next six years. In this agenda, she explicitly stated that the country's progress would depend on the infrastructure that will need to be built to inter-connect the archipelago and its people. Aside from the physical infrastructure such as highways and power plants, her agenda specifically mentions the roll-out of *digital infrastructure* to the whole country.

The country has already made some preparatory steps. President Arroyo established the Commission on ICT (CICT) as the base organization for a future Department of ICT (DICT). This organization will eventually organize most, if not all, of the ICT initiatives of the government and will be the lead agency in rolling out the digital infrastructure in the next six years. Several inter-government agency projects are underway. These include the implementation of ICT tools at the Bureau of Customs, creation of e-Community centres and the e-LGU (Local Government Units). Another project that was recently approved is the Philippine Business Information System which is similar to Australia's Business Entry Point project. Most of these projects will be online in the next year as part of the strategy to make government the anchor organization for e-Business in the country.

On the private sector side, the rollout of the infrastructure base for access to the Internet started during the deregulation of the telecommunications sector in the late 1990s. The telecommunications providers were required to roll out the necessary wiring of their franchise areas. This provided a good base upon which ICT resources can be deployed.

II. ISSUES

While there is a solid initiative from the Government to provide the basic infrastructure, the issues now revolve around capability building and knowledge dissemination on the advantages and use of ICT. Furthermore, there is a need to map out the evolution of e-Government initiatives into enabling systems for the Small and Medium-sized Enterprises (SMEs) in

the country. SMEs in the Philippines comprise around 90 per cent of companies, in terms of numbers and contribute around 15 per cent of the economic value of the country. There are currently 800,000 SMEs in the Philippines. Current initiatives barely scratch the surface in terms of upgrading the ICT capabilities of SMEs. Efforts and funding will be necessary to accelerate this activity alongside the development of the basic infrastructure and e-Government systems, in order for the two activity streams to integrate with each other.

In addition, the barriers preventing SMEs from becoming e-enabled are quite high. The price of personal computers is still restrictive, although access tariffs have been reduced considerably with telecommunications companies offering broadband connectivity at very attractive prices. However these tariffs are still quite restrictive. Furthermore, their knowledge and comprehension of ICT is still relatively basic and to a larger extent non-existent.

Efforts should be focused on the following:

- Capability enhancement through knowledge dissemination and training;
- ICT platform for SMEs as an extension of e-Government services.

These are the areas where the country will need financial assistance.

III. THE PROPOSED PROJECT

A. Purpose and Output

The project's purpose is to enhance the capabilities of SMEs through knowledge dissemination and training and through the creation of a technology platform. The expected outputs in the next two years will be:

- At least 30 per cent of all registered SMEs to be ICT-proficient; and
- An electronic platform which will package necessary ICT tools for SMEs to consolidate their presence on the Internet (e-SME)

B. Methodology and Key Activities

On the first objective, the main activity will be training and capacity building. This will be executed through a series of workshop and seminars across the country with modules ranging from basics to the management of e-stores. This campaign will run for a period of two years

and will utilize university graduates as the trainers. As such the project will have the indirect benefit of generating employment for graduating students entering the workforce. The major assumption of this methodology is that the quality of ICT education at the university level is already at an acceptable level. This will be addressed by preparatory activities designed to test and further enhance students' ICT knowledge – similar to a "train the trainers" programme.

To achieve the second output, the activities will focus on establishing a system for SMEs to have access for their business needs. SMEs' ICT capabilities will evolve at different paces. This is the major assumption going into the development of activities for this particular output. The platform will provide tools ranging from basic business applications to tools that will help them manage their presence on the Internet. The platform will also provide SMEs with the resources to set up a presence on the Internet. This particular platform will link with the other e-Government project focusing on business facilitation, thereby opening access to the domestic, regional and global markets.

The sustainability of the platform will be based on a subscription scheme for SMEs. The goal is to make the platform self sustaining at the onset.

Project Framework

Design summary	Performance indicators or targets	Monitoring mechanisms	Assumptions and risks
Goal Enable the SMEs to significantly contribute to the country's economic performance	Increase of SME value-added from 15% to 30%.	Economic indicators and SME monitoring schemes	Assumption is that through ICT, the country's SMEs will integrate well into the global economy.
Purpose e-Enable the SMEs	Usage of ICT tools of SMEs	Regular surveys and monitoring	One risk is the SMEs' openness to embracing ICT tools.
Outputs 1. Elevate the ICT knowledge of SMEs;	30% of SMEs will be ICT-literate after two years;	Regular surveys;	

Design summary	Performance indicators or targets	Monitoring mechanisms	Assumptions and risks
2. e-Business platform for SMEs (e-SME)	20% of SMEs utilizing the e-SME platform	Usage metrics built in the system	
Activities ***Output 1:*** 1. Conduct training and workshops; 2. Continuous education for SMEs ***Output 2:*** 1. Infrastructure setup for e-SME platform; 2. System development of e-SME platform	 Train at least 50% of SMEs; e-SME data and application centre operational in one year; e-SME system operational in one year.	 Project plan monitoring; Regular surveys	

C. Cost Estimates and Financing Plan

(US$ million)

Item	Government	Donors	Total cost
1. Consultants			
a. International	0.0	0.5	0.5
b. Domestic	0.1	0.25	0.35
2. Equipment and software			
a. Equipment	0.0	3.0	3.0
b. Software	0.0	2.0	2.0
3. Buildings and furniture			
a. Buildings	0.0	0.0	0.0
b. Furniture	0.0	0.2	0.2
4. Training, seminars and conferences	0.15	2.0	2.15
5 Research, development and surveys	0.15	1.0	1.15
6. Miscellaneous administration	0.15	0.5	0.65
and support costs		0.25	0.25
7. Contingencies		0.3	
Total	**0.55**	**10.0**	**10.55**

D. Implementation Arrangement

The main agency that will manage this initiative will be the Small and Medium Size Enterprises Development Group (SMEDG) of the Department of Trade and Industry. As mandated by President Arroyo, this Group will be the focal point of all activities with regards to SMEs in the Philippines.

Inter-agency cooperation will be necessary to fully implement the project. In particular, the Commission on ICT will be involved as well as the Local Government Units.

The expertise necessary to augment the capabilities of the SMEDG will be that of knowledge in best-practice areas of similar successful initiatives in other countries. This will complement the implementation and local knowledge of the SMEDG.

IV. BENEFITS OF THE PROJECT

This project is geared towards enhancing the capabilities of the SMEs in the Philippines. The SMEs in the Philippines represent a fertile base upon which the economic development of the country depends. By enhancing their capabilities in ICT, these SMEs will be able to take advantage of operational efficiencies and access to expanded markets that are the basic promises of new technologies. This should result in a higher economic value added which should translate into robust economic growth for the country. Furthermore, the SME base can now be transformed into a sector that can contribute innovative ideas thereby diversifying the source of economic progress of the country. Economic diversity opens new entrepreneurial opportunities for the greater population and slowly but surely addresses the most urgent of social issues, poverty.

Philippine e-Government Portal

Proposer: Juliana E. Sudario
Country: The Philippines
Date: 07 September 2004

I. INTRODUCTION

The passage of Republic Act 8792 or the Electronic Commerce Act on June 14, 2000 was a major milestone in e-Commerce development in the Philippines. The law gives validity and legal recognition to electronic documents, electronic signatures and electronic transactions. The law likewise served as an important catalyst for e-Government in the country by requiring government to be the model user of e-Commerce. It directed government agencies to develop the capability to engage in electronic transactions by 2002. It specifically directed government agencies to accept documents, issue permits, licenses or approval, accept payments and issue receipts – all in electronic form.

To meet the two-year deadline given to government, several government agencies have undertaken projects to enable them to have online transactions. The following are some of the key government services that are available online:

- Renewal of passports
- Filing and payment of taxes
- Application for business name
- Registration of business for corporations and partnerships
- Application of civil registry documents (birth, marriage, singleness, death)
- Application of Tax Identification Number (TIN)
- Checking of SSS[23] contributions, work history and loan eligibility
- Checking of GSIS[24] membership information, policies, loan and claims
- Cargo booking, customs clearance and payment of taxes, duties and other fees

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[23] Social Security System (SSS) is the government agency that manages the welfare and benefits system for employees in the private sector.

[24] Government Service Insurance System (GSIS) is the government agency that manages the welfare and benefits system for employees in the public sector.

To further comply with the Electronic Commerce Act, government agencies were required to establish web presence. As of 31 July 2004, 99.5 per cent of the 375 national government agencies had websites. Using the criteria for "Five Stages of e-Government" set by the United Nations and the American Society of Public Administration to measure the country's progress in e-Governance, six agencies are at Stage 4 (Transactional Web Presence), 116 agencies are at Stage 3 (Interactive Web Presence), 167 agencies are at Stage 2 (Enhanced Web Presence), and 84 agencies are at Stage 1 (Emerging Web Presence). Meanwhile, all 189 provinces and cities, 1,496 municipalities and 124 state universities and colleges also have their own websites.

II. ISSUES

Although significant progress has been made in the area of e-Government, there remains a need to improve access to government frontline services by citizens and other stakeholders. The problems with the current situation are described in the following section.

In general, the ICT initiatives of government agencies are solely for their own frontline services. Transactions with these agencies may be available online, but there are no interconnections or linkages among agencies which have related functions. As a result, citizens who need a service from one agency, which require the submission of documents from other agencies, have to secure all the necessary documents first before they can apply for the service they need. If the systems of these agencies were interconnected, then citizens would no longer have to secure the necessary documents before applying for a specific government service.

In an effort to provide a common gateway to the different services offered by the Government, the official portal of the Government of the Philippines (www.gov.ph) was launched in October 2001. This portal contains information on the different government agencies and their services, news about the Government, and information about the Philippines. Although the existing portal contains much information about the Government, it is an agency-centric portal, i.e., it is designed through the perspective of government agency functions. As a result, users of the portal need to know how the Government is organized and which specific agency is responsible for providing particular services and information. This limits the usability of the portal.

Thus, there is a need to develop a portal that is citizen-centric or user-focused. This means that the design and contents of the portal should be organized based on the needs and interests of citizens or customers. The model for this proposed portal is the e-Citizen portal of the Government of Singapore.

III. THE PROPOSED PROJECT

A. Purpose and Output

The overall goal of the proposed project is to make it more convenient for citizens to use government services. Specifically, the project aims to provide a single entry point for citizens to easily access information and services from the Government

The output of the proposed project is an e-Government portal that is citizen-centric and customer-service focused. The data architecture of the portal will be organized in a most efficient and effective way to help citizens, businesses and other users find information and services more quickly. Some features of the portal are as follows:

- A list of government services, presented according to key life events, in the main navigation area.
- Content organized according to targeted groups, such as students, government workers, senior citizens, overseas Filipino workers (OFWs), etc. so that particular users can be directed to user communities or other websites catering to the needs of these groups.
- Portal and the applications accessible through PCs and mobile phones.
- Portal personalization features to enable users to customize the portal to reflect his/her content preferences.
- A quick search facility to enable citizens to quickly locate and access the information and services that they need.
- A user feedback form where users can give feedback, comments or suggestions for improving the portal.

B. Methodology and Key Activities

Project Framework

Design Summary	Performance Indicators/ Targets	Monitoring Mechanisms	Assumptions and Risks
Goal To make it more convenient for citizens to get services from the government	- No. of users of the portal - No. of successful transactions	- Hit rate analysis - Analysis of transactions done thru the portal	- Resistance to new technology
Purpose To provide a single entry point for citizens to easily access information and services from the government	- No. of frontline government services offered thru the portal	- Monitoring of government services accessible thru the portal	- Incapability of government agencies to connect to the portal
Outputs An e-government portal that is citizen-centric and customer-service focused.	- Launching of the portal - Regular maintenance of the portal	- Periodic monitoring of the functionalities of the portal	- Lack of resources to properly maintain the portal
Activities • Design a prototype portal to include key government services that are currently web-based • Expand the portal to include other government services • Develop an e-payment facility • Integrate the systems of government services that are related • Promote the use of the portal	- Launching of the portal - No. of govt agencies included in the portal - Availability of e-payment facility - No. of visitors to the portal	- Monitoring of govt services accessible thru the portal - Periodic monitoring of the functionalities of the portal - Hit rate analysis	- Incapability of govt agencies to connect to the portal, e.g. due to budget constraints - Resistance to new technology

Design Summary	Performance Indicators/ Targets	Monitoring Mechanisms	Assumptions and Risks
Inputs • Funds from government and donor agencies • Project management services • Technical services • Consultancy services • Participation of government agencies that provide frontline services to citizens	- Amount of funds available - Timely implementation of project plan	- Preparation of periodic reports	- Availability and proper management of resources for the project - Availability of resources so that other agencies can participate in the project

C. Cost Estimate and Financing Plan

COST ESTIMATES AND FINANCING PLAN ($ million)

Item	Government	Donors	Total Cost
1. Consultants			
a. International Consultants	0.00	2.00	2.00
b. Domestic Consultants	0.05	1.00	1.05
2. Equipment and Software			
a. Equipment	0.36	4.00	4.36
b. Software	0.18	3.00	3.18
3. Outsourcing Services			
a. Development of the portal	0.09	0.00	0.09
b. Development of web applications	0.29	2.00	2.29
c. Development of e-payment gateway	0.89	1.00	1.89
d. Hosting and other services	0.04	1.00	1.04
4. Training, Seminars, and Conferences	0.02	3.00	3.02
5. Miscellaneous Administration and Support Costs	0.06	2.00	2.06
6. Contingencies	0.02	1.00	1.02
Total	**2.00**	**20.00**	**22.00**

D. Implementation Arrangement

The National Computer Center (NCC) shall be the lead implementing agency of the project. It will formulate a framework that will provide policy and work guidance for government agencies to be involved in the project. The NCC shall be responsible for the overall management of the e-Government portal.

The participating agencies in the project are those agencies that are responsible for providing key services to the citizens. These agencies shall be requested to support the project in terms of content management and awareness campaign, as well as the integration of their systems with those of other agencies with related services.

IV. BENEFITS OF THE PROJECT

This project is expected to provide the following benefits:

- It offers a new way for government agencies to deliver their services and disseminate information to the general public.
- The availability of the e-Government portal will help lower the direct and indirect costs incurred by citizens and businesses when they transact with the Government. For example, by providing application forms online, citizens will not be inconvenienced by having to go to the agency and waiting in long lines to file their application forms. They can simply download the form from their home, office or Internet café and submit this online.
- The availability of the e-Government portal will help citizens, businesses and other users in quickly finding and accessing the information and service that they need, without having to know how the government is organized and which specific agency is responsible for providing the service or information that they need.
- The portal will provide a two-way interactive communications channel for the Government and citizens that will help bring about an empowered citizenry.
- Awareness and usage of the portal would lead to a better appreciation of the Internet and e-commerce by the citizens.

Deployment of a SME portal and a regional Network

Proposer: **T K J Sandagomi**
Country: **Sri Lanka**
Date: **6 September 2004**

I. INTRODUCTION

The Sri Lankan Government has recently launched an initiative to use ICT to develop Sri Lanka's economy, alleviate poverty, and improve the quality of life and opportunities for all Sri Lankan people. The initiative is widely known as e-Sri Lanka.

The Government, private sector and other stakeholders in the nation's development share a belief that ICT is a basic medium for the equitable distribution of opportunity and knowledge and a key determinant of the competitive advantage of nations. This has led to a vision of an *e*-Sri Lanka – a vision that envisages the dividends of ICT being taken to every village, to every citizen, to every business and also to transform the way in which the government works.

"By the year 2007, e-Sri Lanka will be better known as the e-Sri Lankan Miracle – a model achievement drawing global recognition, in the deployment of ICT towards the achievement of Social and Economic Development."

The Government of Sri Lanka is aggressively pursuing a policy to achieve the status of a model nation through the harnessing, delivery and exploitation of ICT. To this end it is committed to building the necessary connectivity infrastructure throughout the country to connect villages and towns to the world; creating an enabling environment including the enactment of regulatory reforms together with the acceleration of enabling laws for e-Government and e-Commerce; development of human resources at multiple levels; modernizing the public sector and delivering citizen services through e-Government constructs; addressing the bridging of the digital divide with applications aimed at poverty reduction and social development.

In this context, integrating small and medium scale enterprises (SMEs) to the ICT revolution is essential, as the Sri Lankan economy receives a substantial contribution from the SME sector.

The overall development of SMEs, and the establishment of linkages between them and the other sectors of the economy, particularly the rural sector, is important if Sri Lanka is to reap the benefits of an export-led growth strategy. In this context, the development of the SME sector engaged in diversified fields of activities constitutes an appropriate base for establishing the required linkages. The more advanced countries in the Asian region such as Japan, South Korea, China, Taiwan, and Malaysia have attributed an important role to the SME sector in this direction. The SMEs can also play a vital role in fields such as the services industry, information and communication technologies, for exports linked with large firms. Subcontracting arrangements through SMEs to foster exports can take place in such areas if a conducive environment is created.

A medium scale enterprise has been defined as an enterprise with asset values not exceeding Rs 50 million, excluding land and buildings, and a small scale enterprise as an enterprise whose asset values do not exceed Rs 20 million, excluding land and buildings. Currently, SMEs encompass agriculture, manufacturing and service sector establishments. Within the manufacturing sector alone, small and medium scale industries (SMIs) account for 96% of industrial units, 36% of industrial employment and 20% of value added.

For SMEs to be globally competitive through an entrepreneurial culture committed to sustainable growth, the SME sector must be dynamic, robust, innovative and technologically driven, within an enabling business environment.

II. ISSUES

Major Constraints for Conducting e-Business for the SME Sector:

(1) Lack of funds

The development of e-Business, especially in the SME sector, has been hindered by the lack of funds. However, due to generous grants from the donor countries and with the help of the World Bank, IMF, etc, the government and other organizations have initiated many IT projects and implemented them to a satisfactory level during the past ten years.

(2) Poor information dissemination

It has been observed that the SME sector of the country lacks proper access to product and market information. Timely information on new market demands, new trends, product and price information have not been properly disseminated among the SME sector.

(3) Poor technology transfer and diffusion

Most SMEs still use traditional technologies and techniques in their businesses. New technologies must be transferred to the sector to make their business more efficient and effective.

(4) Trust on e-security and resistance to change

Trust in Internet-based transactions has still not developed to a substantial level among the general public of Sri Lanka. Senior business clusters tends to use traditional business processes even though e-Business services are adequately available. Resistance to change from the systems used is another factor hindering the deployment of e-Business.

III. THE PROPOSED PROJECT

Developing a SME Portal and Regional Network

A. Purpose and Output

It has been suggested that the SME sector can benefit highly through an e-Business environment. The purpose of the project is to create the required enabling environment.

The project will be two-fold:

(1) Deployment of an SME Portal

A dedicated nationwide SME portal will be developed with the provision of information and trading facilities.

(2) Deployment of a regional network

Regional centres will be established throughout the island. The centres will act as hubs between the SMEs of the region and the portal. SMEs can get the information and other business development services from the centre and the centres will be input providers of the region to the hub.

B. Methodology and Key Activities

Design summary	Performance indicators/ targets	Monitoring mechanisms	Assumptions and risks
Goal Deployment of SME portal and Regional network	Popularity of the portal; Number of transactions successful	Hit rate analysis (Freq. visitor averages, most freq. visited page etc.); Through manager tool and IPG	Risk of duplicity; Deriving the true objectives through need analysis
Purpose 1. Enabling and promoting e-Business environment in the SME sector; 2. Harnessing the potential of e-Business and e-Commerce to the SME sector; 3. Developing one-stop information portal for the Sri Lankan SME sector; 4. Capacity building for supporting environment	Level of database inquiries; No. of business leads generated; Rate of updating information; No. of information providers	Managerial supervision; Local and global popularity ranking; Managers too	Monitoring consistency of info. flow form input providers; Monitoring site popularity & trustworth-iness among SMEs
Outputs 1. Timely access to market, product and price information locally and globally; 2. Up-to-date information database on SMEs; 3. Provision of Web presence to each enterprise; 4. Buyer/seller matching and trade leads	No. of subscribers to the information database; No. of individual Web site submissions	Information auditing; Validity and credibility cross-checking on the info. portal; Managerial supervision	Degree of information accuracy; Generating & sustaining revenue streams profitably

Design summary	Performance indicators/ targets	Monitoring mechanisms	Assumptions and risks
Activities 1. Nationwide survey to collect SME information; 2. Identifying SME potentials and input providers; 3. Design and development of information portal; 4. Establishment of regional network and promotion; 5. Content uploading and management through regional network; 6. Awareness building and promotion	Rate of establishing regional network; No. of SMEs enrolment to the portal through regional network within specified period	Information auditing on quality, credibility and security aspects etc.; Managerial supervision	Competitiveness from similar Business Development Services providers; Maintaining continuous input flow from input providers
Inputs 1. Technical: - Regional network deployment; - Portal design and development; - Content management interface; 2. Managerial: - Project coordination; - Recruitment, staffing and training; - Fund management; 3. Information: - Content input providers, (banks, chambers, tech. Assistance, etc.) 4. Financial	Time period taken for deployment of the portal: Rate of SME submissions to the portal after the launch	Managerial supervision: Audition procedures	Sustainability of regional network as a profitable business model; Proper management of resources and funds

C. Cost Estimate and Financing Plan

Cost Estimate and Financing Plan
(US$ million)

Item	Government	Donors	Total cost
1. Consultants			
a. International consultants	0.0	4.00	4.00
b. Domestic consultants	0.5	2.5	3.00
2. Equipment and software			
a. Equipment	0.0	6.00	6.00
b. Software	0.0	6.00	6.00
3. Buildings and furniture			
a. Buildings	10.00	2.00	12.00
b. Furniture	5.00	5.00	10.00
4. Training, seminars, and conferences	2.00	6.00	8.00
5. Research, development, and surveys	1.00	2.00	3.00
6. Miscellaneous administration and support costs	5.00	2.00	7.00
7. Contingencies	2.00	0.0	2.00
Total	**25.50**	**35.50**	**61.00**

IV. BENEFITS OF THE PROJECT

The Governments policy on IT is clearly spelt out in the ICT development road map, which states that all benefits of ICT should penetrate to the grassroots level of Sri Lankans. The proposal will clearly adhere to the above strategy harnessing the real benefits of ICT to the SME sector of the country

- Capacity building on e-Business potential and opportunities;
- Creating a new channel for business transactions;
- Improved productivity and efficiency;
- Increased business opportunities.

Creation of a Base for e-Business in Tajikistan

Proposer: V.H. Gamzatov
Country: Tajikistan
Date: 7 September 2004

I. INTRODUCTION

Tajikistan is very small, poor country. Computerization in the republic is at a very low level of development. Further, there is no non-cash payment system and, most importantly, there is no basic legal or regulatory system for electronic business and e-Commerce.

II. ISSUES

The most important issue is the lack of a legal system or framework for e-Commerce. To address this challenge, firstly, Tajikistan must look beyond short-term solutions. However, in creating the appropriate government and private sector structures, much time and money will be needed, including the employment of legal and technical experts for the preparation of governmental decrees, but even then, success is not guaranteed. Therefore, special attention should be paid to monitoring the process.

Secondly, developing an e-Commerce infrastructure will be costly, because of the mountainous geography of Tajikistan. Developing a mobile communication systems may be useful in addressing this problem.

III. THE PROPOSED PROJECT

The proposed project, "Creation of a Base for e-Business in Tajikistan" will be implemented simultaneously under the joint supervision of the Agency of Informatization and Ministry of Communications.

IV. BENEFITS OF THE PROJECT

The proposed project is expected to achieve the following benefits:

- Minimum physical infrastructures developed in areas deprived of energy and telephone services;
- Internet access increased, information outreach to poor people;
- Computer hardware and software procured and developed;
- Private sector motivated and encouraged;
- Information bank developed;

- Human resources capabilities (skills) increased;
- Sound regulatory system (legal framework) established;
- Help in poverty reduction.

Design summary	Performance indicators and targets	Monitoring indicators	Assumptions and risks
Goal a. Provide information accessibility to rural people; b. Increase human resource capability; c. Trade expansion; d. Reduce poverty	Physical progress; Amount of money spent; Number of training programmes; Volume of trade; Changes in lifestyle	Financial reports; Progress reports Survey	Stakeholders' involvement if increased
Purpose a. Raise awareness level of people; b. Make concerned persons understand that information is an asset that has reproductive capacity; c. Maintain fairness in e-Business transactions; d. Increase Ministries' working capacity	Checking the progress of programmes at micro level; Laws, rules, regulations drafting, implementation; Changes in working style	Internal and final audit; Consultants reports; Number of acts, processing level and steps; Inspection	Laws/regulations if accepted and penalty if imposed;
Outputs a. 100-km fair weather roads constructed; b. 50-km electric energy (hydro + solar) generated; c. 200 items of computers, accessories procured; d. 10,000 persons trained	Field visits and inspection; Progress reports; Public audit	Checking inputs outputs master plan	

Design summary	Performance indicators and targets	Monitoring indicators	Assumptions and risks
Activities a. Detailed project report and loan agreement papers preparation; b. Loan agreement and disbursements; c. Procurements; d. Awarding contracts; e. Supervision; f. Monitoring & evaluation	Progress reports; Workshops, meetings	Detailed action plans	Procedures if not delayed; Security if provided
Inputs a. Money; b. Different materials; c. Consultants services; d. Management services	Amount of money spent; Quantity supplied and used; Quality of services provided	Financial reports; Work schedule; Store-checking; Service quality	Loan agreement and disbursement in time

C. Cost Estimates

(US$ million)

Item	Government	Donor	Total
Consultant	0.50	2.50	3.00
Construction	2.00	10.00	12.00
Equipment/software	0.0	3.00	3.00
Building and furniture	1.00	4.00	5.00
Training/research	0.50	4.50	5.00
Contingency	2.00	0.0	2.00
Total	**6.00**	**24.00**	**30.00**

Improvement of Capacity Building for Government Officials of Timor-Leste

Proposer: **Eusebio da Costa**
Country: **Timor-Leste**
Date: **7 September 2004**

I. INTRODUCTION

Timor-Leste is a new country, born at the beginning of this millennium, with formal recognition of its independence taking place on May 20, 2002 in a handover of power from UNTAET to the people of Timor-Leste. This newly independent country is considered one of the poorest countries in the Asia Pacific region. For this reason, the Government, in its National Development Plan, has set two main goals:

1. To reduce poverty;
2. To develop equitable and sustainable economic growth.

One of the major objectives which can contribute towards the achievement of these two goals is capacity building and development.

II. ISSUES

As a new country, Timor-Leste faces many issues and problems. Some major issues include:

- Poverty;
- Dependency on foreign donors;
- Lack of human capacity;
- Lack of infrastructure;
- Poor governance.

III. THE PROPOSED PROJECT

This Project is proposed to provide assistance to the Government of the Democratic Republic of Timor-Leste to build its public administration capacity through:

- Training, courses and seminars;
- Adviser's assistance;
- Information technology.

This project proposes the provision to the Secretariat of Commerce and Industry of nine IT advisers to provide technical assistance to its three divisions. Each Division will get three advisers to assist their counterparts. The nine advisers will assist their national counterparts for a term of one year, which can be extended.

The cost will be fully funded by donor countries, regional and international institutions such as ADB and the World Bank. The cost will be estimated according to the regulations of UNDP in Timor-Leste in consultation with donor countries or institutions.

IV. BENEFITS OF THE PROJECT

This Project will assist the Government of Timor-Leste:

1. To improve the capacity of civil servants in public administration;
2. To share their experiences with their counterparts;
3. To gain knowledge and skills from their advisers that can be shared with their colleagues and community.

Introduction and Development of e-Commerce in Turkmenistan

Proposer: **Abdurahman Ovezov**
Country: **Turkmenistan**
Date: **6 September 2004**

I. INTRODUCTION

Turkmenistan is located in central Asia. Its neighbouring countries are Uzbekistan, Kazakhstan, Afghanistan, Iran, and on the west side is the Caspian Sea. The population is six million and the area is 4881 km^2. Turkmenistan gained independence on October 27, 1991. It is a developing country, and 81 per cent of the country is desert. The main sources of industry are natural gas, oil, cotton, and electricity. Gas, water and electricity are provided for free for Turkmen people, and this will continue up to 2020.

Currently, the Government of Turkmenistan is changing all telecom lines and stations to a new digital system for fast communication. The Internet has been available in Turkmenistan since 1997. There is only one Internet provider in the country, which is a government organization called 'Telecom'. Internet connection speed is very slow. Public knowledge of e-Commerce is very low. About 50 per cent of the population in the capital uses the Internet. However, the public is not ready to apply e-Commerce processes.

II. ISSUES

Government organizations (ministries) use the Internet, and development towards e-Government is taking place. There is a government website which contains information and news about Turkmenistan, but there are no e-Business sites. All education buildings are computerized and universities, colleges, high schools are online. Turkmenistan does not produce any IT technology but is doing business with IT technology offline. Government (banks and ministry) workers are paid with cards from the bancamat.

The other challenge to the establishment of e-Commerce is gaining the trust of people. If users trust these processes and understand what e-Commerce is, this will be a step towards the development of e-Commerce. For this to occur there must first of all be privacy protection in place for users of IT. Another problem is that people do not have enough money to purchase IT (personal computers). The solution is to have Web servicing places such as Internet cafés, or to open up supermarkets which provide online services so that users can do shopping from anywhere where Internet access is available.

A fast-connection Internet and more Internet service providers (to create competition) are needed if Turkmenistan is to successfully move towards e-Commerce. However, at this stage the Government does not plan to privatize the telecommunications industry or open it up to competition.

III. THE PROPOSED PROJECT

This project will introduce and develop e-Commerce in Turkmenistan. It will provide training courses, and access to computers and some peripheral devices. The courses will demonstrate what e-Business is and how it works and train people in e-Commerce. By advertising the course on television and in the newspapers, awareness of e-Commerce will also be raised to potential users beyond those attending the course.

A security policy for online transactions must also be developed, to generate trust in the system for both buyers and sellers, and particularly to protect the rights of users. A solution for online payment must also be devised, particularly for customers who do not have a credit card. The Government should collaborate with banks to develop a suitable system. It is the role of government to create the necessary infrastructure for e-Commerce, and create an enabling environment which will encourage B2B and B2C transactions.

A. Cost Estimates and Financing Plan

(US$ million)

Items	Government	Donors	Total Cost
1. Consultants			
a. International consultants		2.0	2.0
b. Domestic consultants		0.7	0.7
2. Equipment and software			
a. Equipment		1.5	1.5
b. Software		0.03	0.03
3. Buildings and furniture		3.0	3.0
4. Training and research		2.0	2.0
5. Miscellaneous administration and support costs		2.0	2.0
6. Contingencies		1.0	1.0
Total		**12.23**	**12.23**

IV. BENEFITS OF THE PROJECT

- People will be able to do more in less time.
- Cash money circulation will decrease.
- People will be introduced to the basic concepts of the Internet.
- People will have the ability to buy goods not only from domestic markets, but from other countries as well.
- It will assist the Government to implement e-Government.
- Circulation of money in banks will increase.
- Economy of energy.
- Increased productivity of workers.

Developing the e-Commerce Environment in Viet Nam

Proposer: Nguyen Thi Thu Huong
Country: Viet Nam
Date: 27 September 2004

I. INTRODUCTION

1.1. Background

e-Commerce, a component of the digital economy, represents the use of electronic procedures and devices to conduct various commercial activities operating on a foundation of information communication technology (ICT), consisting of computing, communication, and security.

In preparation for the application and development of e-Commerce, Viet Nam's Government has assigned responsibility for e-Commerce to the Ministry of Trade (MOT) in collaboration with other ministries and agencies. In regards to its trade mandate and in the course of integrating into the global economy, Viet Nam has been taking an active part in activities deploying e-Commerce within the framework of APEC, ASEAN, ASEM of which Viet Nam is a member, and is preparing for the same activity within the framework of WTO, which Viet Nam is asking for admission to. The Ministry of Trade has been acting as the country liaison point for these activities since 1998.

1.2. Justification

In order to carry out these tasks, the Department of e-Commerce of the Ministry of Trade was founded in November 1998 and operates independently under the Minister of Trade. This department is a unique organization, playing a coordinating role among agencies for the deployment and development on e-Commerce in Viet Nam. One and a half years after its establishment, the roles of the organization were changed, affecting its operations and main tasks. Several decrees have recently been issued to clarify its mandate, one of which relates to e-Commerce and unifies its management. In order to promote e-Commerce in Viet Nam, along with that mission, the e-Commerce Department has been restructured.

Since February 1998, the activities of the Department of e-Commerce have included:

- A basic study of e-Commerce, completed in March 1999, and published in book form, entitled *Electronic Commerce*; (re-published in December 1999);

- Preparation of a paper, "A Project on the Establishment of a National Council for e-Commerce", with comments from more than ten ministries and agencies and submitted to the Prime Minister, coupled with the above basic study, in late March 1999;
- A campaign for enhancing the awareness of e-Commerce in various agencies, organizations and businesses in the more than fifteen provinces and cities across the country;
- International seminars on e-Commerce;
- Cooperation between the Ministry of Trade and other agencies, organizations, enterprises in the development of e-Commerce;
- Securing of funds (one billion Vietnamese dongs) from the National IT programme and to the Ministry of Trade for e-Commerce (detailed programme now underway) named: "Technique of Electronic Commerce"[25];
- After the project "Technique of Electronic Commerce" was completed, a report on e-Commerce in Viet Nam was submitted to the Government;
- A survey assessing the current status of application of e-Commerce in Viet Nam was done in August 2003 and submitted to the Minister of Trade;
- Development of an ordinance on e-Commerce for submission to the Government.

The e-Commerce Department has significantly contributed to the development of an enabling environment to support entrepreneurs and individuals in Viet Nam applying e-Commerce, following the mandate of the Department[26].

II. ISSUES

In spite of all the abovementioned efforts, the Ministry of Trade is encountering difficulties;, some are listed below:

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25 Particularly ones on important infrastructures such as technology, legal and regulation framework, automated payment, industrial standardization, trade standardization, protection of intellectual properties in network trade, consumer protection, national security, and cultural security in connection with the digital delivery of content.

26 Assisting the Minister of Trade in the creation of policy, and strategy on e-Commerce; Developing and managing projects related to e-Commerce; Assisting the Minister of Trade in deployment and application of IT programmes in the trade sector; Implementing and transferring the new technology of IT into the trade sector; Researching, deploying e-Commerce in Vietnam and trade sector; As a unique focal point of Vietnam and Ministry of Trade, cooperate with internal and external (Multilateral, Bilateral) bodies on e-Commerce.

- The Ministry of Trade officers still lack a comprehensive knowledge of e-Commerce.
- At high levels there still exists a lack of consensus on the urgent need to deploy e-Commerce in a rapid and systematic manner.
- Basic studies to guide the development of a national strategy and a master-plan for e-Commerce are hard to find.
- Lack of experience and vision at the national level for enactment of pilot projects.
- Lack of the methodology for conducting surveys in this field.

Foreign inputs can help the Ministry of Trade to overcome these challenges. Its knowledge and experience in training personnel and supporting development policies and legislation in order to facilitate the policy and legal environment could be most useful.

III. THE PROPOSED PROJECT

A. Purpose and Output

Short term

The project aims to contribute to the process of establishing a facilitating environment conducive to the development of e-Commerce in Viet Nam such as: e-Commerce (e-Transaction) laws, policies and regulations, a national e-Commerce strategy and Master Plan 2005-2010 and an e-Commerce Viet Nam Portal (Business Online).

Long term

To create, further to the achievement of the short term objective, the use of e-Commerce as a foundation for effective economic development and integration into the region and the world.

Expected outputs

- A Draft e-Transaction Law;
- An e-Commerce Viet Nam Portal Site;
- An e-Commerce Strategy and Master Plan (2005-2010).

Outcome

The outputs will be of help to the Ministry of Trade (implementing agency) in its efforts to create an e-Commerce environment in Viet Nam.

B. Methodology and Key Activities

The main activities of the project

Items		Time	Remarks
1	Draft e-Transaction Law	2004-2006	
2	e-Commerce Viet Nam Portal Site		
	- Establishing e-Commerce Viet Nam Portal Site	end 2005	
	- Implementation e-Business online	From 2005-2007	
3	e-Commerce Strategy and Master Plan from 2005 to 2010	2005	

Methodology

- Formulate a Strategy for step-by-step deployment of e-Commerce;
- Formulate an e-Transaction Law;
- Phase in the establishment of a legal environment for e-Commerce;
- Accelerate activities to raise social awareness and promote skill building in e-Commerce;
- Establishing technology standards to protect the security of e-Commerce transactions;
- Support focused e-Commerce applications with cooperation between the State and the private sector (Working closely with private sector);
- Develop a competent force of e-Business solution providers to service the domestic market, especially Public Key Infrastructure software, which is crucial to the provision of secure online transactions and fundamental to e-Commerce development (Developing e-Commerce Environment for doing business Online);
- Organize experts in various fields of study and businesses in e-Commerce related areas to conduct research in oriented priority, avoiding overlap and enhancing the capacity of e-Commerce;
- Learn from the experience of other countries in implementing and developing e-Commerce (Study Tour).

C. Cost Estimate and Financing Plan

Cost Estimate and Financing Plan
(US$ million)

Item	Government	Donors	Total cost
1. Consultants			
a. International consultants	-	2.50	2.50
b. Domestic consultants	0.00	0.50	0.50
2. Equipment and software			
a. Equipment	0.50	1.50	2.00
b. Software	0.50	2.50	3.00
3. Buildings and furniture			
a Buildings	2.00	-	2.00
b. Furniture	0.50	1.00	1.50
4. Training, seminars, and conferences	0.00	2.00	2.00
5. Research, development, and surveys	0.00	5.00	5.00
6. Miscellaneous administration and support costs	0.00	1.00	1.00
7. Contingencies	0.50	1.00	1.50
Total	**0.00**	**16.50**	**20.00**

D. Implementation Arrangement

- Implementing Agency: Department of e-Commerce and Information Technology of the Ministry of Trade: responsible for supplying human resources to implement the project.
- Participating Organizations: (1) responsible for collaborating with the Implementing Agency in work related to the project and in connection with their professional responsibilities; (2) other Agencies: National Assembly, Ministry of Science and Technology, Ministry of Post and Telematic; Viet Nam Chamber for Trade and Industry, Vietnam Information Technology Association Processing (AVAIP), Viet Nam Legal Association, Companies (in IT and physical goods).
- Supporting Organization: ADB support in (1) Consultative experts (local experts and foreign experts); (2) Training experts (local experts and foreign experts); (3) Organization of study

tour; (4) Financing the project (including logistics expenditures); Financing for survey of the project in Viet Nam; Organize the workshop for high level and Official level and CEO.

IV. BENEFITS OF THE PROJECT

To be helped:

- Government;
- Business in all sectors;
- Establishment of a database for research, policy-makers, economic activities, etc.;
- Foreign companies.