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INTELLECTUAL PROPERTY, THE INTERNET AND ELECTRONIC COMMERCE
INTELLECTUAL PROPERTY, INTERNET AND E-COMMERCE
DEVELOPMENTS IN SRI LANKA

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BACKGROUND

In all parts of the world today businesses are examining ways in which they can benefit from the new economy and in particular from electronic commerce. The fundamental difference between the old economy and the new economy is how the business models are built. The business models in the new economy are built on Information Technology (IT) infrastructure (Figure 1) so that they can interact electronically with other businesses worldwide seamlessly. In order to benefit from the new economy, we must examine how our business models are built today and if they are not built on ICT infrastructure, their foundation will have to be changed or the businesses have to be transformed. This in today's terminology is a paradigm shift. This is applicable to any business or industry. However, when the businesses are transformed and transactions are carried out on the Internet in an integrated global interactive environment, a host of other issues must be addressed. Issues such as cross-border trading bypassing gatekeepers, intellectual property and copyright concerns must be addressed. In addition to these in developing countries issues such as availability, accessibility, and affordability of ICT infrastructure, education, training and skills development issues and legal and business environment issues must be addressed. This paper will examine the essential issues for the development of electronic commerce in developing countries, Sri Lankan experience in moving into the digital economy and some of the projects that we have embarked on.

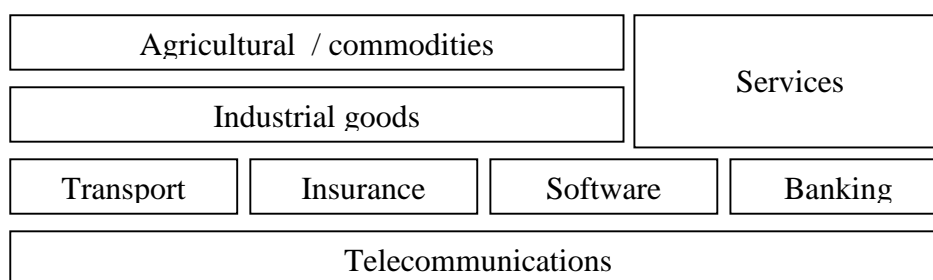


Figure 1: The New Business Paradigm

The underlying assumption of the modern business model is that doing business on the net is much more economical than doing it the traditional way. In order for this to be true the telecommunications services, on which the models are run, must be cost effective.

MAIN ISSUES TO BE ADDRESSED

In order to develop, promote and popularize electronic commerce the following main essentials have to be addressed:

1. People – Skills – Know how ;
2. Connectivity- Access – Infrastructure;
3. Environment- Trust – Confidence.

People – Skills – Know how

In order to develop electronic commerce or IT as an industry so that products and services can be exported, or to develop systems/solutions that will increase effectiveness and

the efficiency of other systems, or to develop a society with a culture that can benefit from the developments of the IT and the Internet, people must be trained/educated or skills must be developed in the following 5 categories.



Sri Lanka currently produces about 750 top quality professionals a year from the existing universities and higher education institutions. These professionals can be employed in the upper segments of the above list after providing short-term professional development programs.

With the establishment of the Sri Lanka Institute of Information Technology which currently trains 400 in the 2nd year and 650 in the 1st year, and with plans to increase the intake to 1,000 next year the numbers in the 2nd and 3rd segments will be substantially increased. Private sector Institutes will also cumulatively contribute similar numbers so that the annual output in the near future will increase to about 2,000.

There are a large number of nonstandard private sector institutions that run basic level IT courses. These institutes somewhat address the IT user segment. But these programs are not very coherent and proper methods must be developed to assess quality and to standardize the programs.

If Sri Lankan organizations both government and private sector are to benefit from the use of Internet and electronic commerce, their employees must be equipped with IT skills. This requires training and transforming of existing workers to knowledge workers. As an immediate solution, conversion programs and continuing professional development programs must be designed and conducted so that the workers can fit in to the new environment. As a long-term measure of achieving this end Ministry of Education is making arrangements to introduce IT as a subject to the school curriculum to equip future generations with the necessary IT foundation.

Since there is a large volume of IT enabled services such as call centres and transcription services that can be out sourced to Sri Lanka, private and govt. sector training institutes should be geared to handle this type of custom training programs for large nos. For example, a typical call centre could have about 250 seats, which has to be occupied 24 x 7 requiring over 1,000 employees.

There are no institutes in Sri Lanka that conduct research level postgraduate programs in IT to address the Technology creation sector. However, recently established Sri Lanka Technology Incubator also known as ConceptNursery.com provides a commercial R&D environment while aiding start up companies to successfully establish themselves in the IT industry.

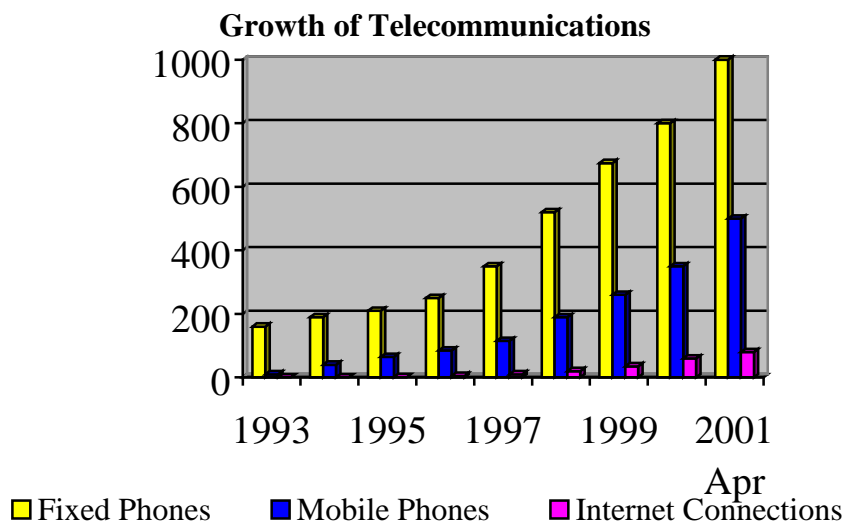
In order to develop a sustainable IT industry and to establish an e-business environment we must have at least 10,000 IT professionals within the next 2-3 years and about 25,000 in about 5 years. Annual output of professionals should be increased to about 5000 within

5 years. The Board of Investment of Sri Lanka forecasts that the demand for IT professionals in Sri Lanka will be in the region of 200,000 by year 2010.

Connectivity – Access – Infrastructure

Five years ago Sri Lanka government took a very bold step in privatizing the main telecom operator, Sri Lanka Telecom, by selling 35% of its shares to NTT of Japan. Also, deregulation of the telecom sector resulted in two other landline operators and four mobile operators emerging into the market. Since the privatization of the main operator, the number of fixed telephone lines in the country has quadrupled and about 500,000 new mobile connections have been given. Although this sector is growing rapidly the teledensities still remains relatively low. The average teledensity of the country excluding the mobile connections is 5/100 and this number is 10/100 in the cities and 1/100 rural areas.

The use of Internet is also becoming very popular among the business community and the individual users. The number of Internet connections given at present stands at 75,000 with an estimated user population of 200,000 giving density of about 1/100. The number of PCs on the other hand per 100 inhabitants is estimated to 1.5. This is a direct result of removal of import taxes from all IT equipment. Currently there are about 50,000 PCs brought into the country every year.



Today in Sri Lanka there are over 25 organizations that have been issued licenses to provide various types of data communication services including Internet, Switched and non-switched data services. Of these providers 6 or 7 have been granted infrastructure license, which permits these organizations to operate their own infrastructure facilities.

Currently Sri Lanka has four primary operators with regard to Internet. There are about 20 ISPs in the country with hosts per 10,000 inhabitants at 1. The main operator, Sri Lanka Telecom, owns the main optical fibre submarine cable gateway including access to the SE-ME-WE 3 cable. Although, the other operators have been granted licences to operate their own satellite earth stations to enable direct connectivity to and from Sri Lanka to overseas countries directly via satellite connections, fibre access is only possible through

Sri Lanka Telecom. One of the inherent issues in using satellite service is satellite delay. While services provisioned through satellite are suitable for many applications they are not suitable for delay sensitive applications. Much better quality intentional services could be provided through the submarine fibre optic cables bypassing the cables. Provision of service via cable is very cost effective especially over the long term

This access limitation to cable capacity has retarded Internet e-commerce development in Sri Lanka where services such as Advance Digital Subscriber Line and Digital Subscriber Line (ADSL/DSL) services are not available. Today many countries including some developing countries are using these type of services to enable huge internet capacities to be made available to offices, schools, training centers and even homes and opening up opportunities which were not even dreamt of a few years back.

The following table provides the Bandwidth Requirements for Next Generation Applications.

Small-group online games	64 Kbps
Basic animation services, enterprise-size games	100 Kbps
Video Conferencing	128 Kbps – 3 Mbps
MPEG Video	1.5 – 20 Mbps
Shared high-resolution imaging	8 – 100 Mbps
Virtual Reality	10 Mbps – 1 Gbps

Table 1: Source: Internet (NASSCOM)

Environment – Trust – Confidence

In establishing an environment conducive to the growth and development of e-commerce and IT industry in Sri Lanka, environmental components such as legal infrastructure and business environment must be put in place. While paving the way for the business sector to lead adopting ethical and self-regulatory means to conduct businesses through e-commerce, both business sector and government sector must work together in creating a conducive business environment in which e-commerce and IT industry can develop unhindered. Therefore, necessary business related infrastructure such as financial infrastructure and the legal framework must be shaped accordingly.

Creating a complete legal environment is an extremely difficult task due to many reasons. The main reason being the fact that e-commerce transactions can be carried out at anytime, anywhere, by anyone no one single government or authority can develop a framework that will suit everyone. Since these businesses cross-many country borders bypassing gatekeepers, creating the business environment including taxation structures has also become a difficult task. Therefore it is also necessary for the governments to work together in creating an evolving environment, which will provide sufficient confidence for businesses to use and profit from Internet economy.

Business Environment

In order to create the necessary business environment for the development of e-commerce and IT industry Sri Lankan government and private sector have taken several initiatives. One major initiative that the government undertook about two years ago is the

establishment of the Cyber Trader, an e-business incubator at the Sri Lanka Export Development Board. Private sector in collaboration with the public sector and financial sector also started another incubator known as ConceptNursery.com to incubate technology and e-business companies.

Cyber Trader

Cyber Trader, the e-business arm of the Sri Lanka Export Development Board was established in May 1999 to empower Sri Lankan business community with e-business tools so that they will be competitive in the global market place. It has professionally developed a range of services including provision of business intelligence, web-based marketing/promotion/image building, e-infrastructure provision, awareness building/competence creation, business advisory/incubator services, and trade information services. These services are offered to a member clientele of small, medium, and large-scale companies, government and foreign buyers and investors.

- **Business Intelligence Services** – Provision of business intelligence and advice by experienced business information professionals on markets, products, pricing and tariffs, and networking with business intermediaries.
- **Information Services** - Provision of electronic trade information including product profiles, company profiles, market and country profiles, trade statistics, trade policies, standards and regulations, investment opportunities and internal and international trade events through web sites and buyer seller matchmaking.
- **e - Promotion Services** - Web advertising, web linking, banners, multimedia services such as CD ROM preparation and pre-planning of business visits for Sri Lankan entrepreneurs to overseas markets.
- **e - Communication Services** - Internet and email, video conferencing and e-fax at an affordable price with the objective of popularizing use among small and medium enterprises.
- **Incubator Services** – Awareness programmes, advisory services, business analysis, entrepreneurship development and mentoring.

Cyber Trader is currently developing a B2B portal (electronic market place) that can support fully integrated electronic commerce transactions. The B2B portal will host web stores for the member companies and will also certify them depending on their supply position, credit worthiness, business strengths and business practices.

ConceptNursery.com

In a day and age where seemingly everything ends in “dot-com”, what really matters to those looking to build successful information technology empires is funding, strategy, design, marketing and technology. No one doubts the value of these services. Many companies can deliver any one of them. ConceptNursery.com is a technology incubator that delivers all of them. The incubator closely works with each of its partners so that their success is ensured.

The incubator selects entrepreneurs and start-up companies that have innovation, good business plan and people with skills and provide them with (a) access to infrastructure and basic services including dedicated Internet services, quality regulated power, communication facilities, office furniture and equipment, secretarial Services and financial services, (b) access to human resources including technical experts, researchers, developers, business analysts, strategists, and international promoters, (c) access to funds including venture capital and business plan development to seek funds from other sources, (d) access to the right environment including entrepreneurship training, seminars, workshops, technical training, business skills development, monitoring and mentoring, market analysis and marketing of resident companies, market plan formulation, networking with other incubators worldwide, networking with global companies and linking up with universities and industry.

Legal

Sri Lanka has taken several initiatives to create a business friendly legal environment to support the growth of electronic commerce and IT industry. In this regard, the Code of Intellectual Property Act of 1979 has been amended to protect intellectual creations on information technology. This amendment came into effect in July 2000 and this is currently tested in Courts of Sri Lanka with the first case involving an Indian National who has allegedly stolen source code belonging to an Indian company and attempted to license and implement in various companies in Sri Lanka. The courts have already issued an enjoining order against the individual.

Legal authorities in the country are currently drafting the Electronics Transactions Act, which is based on Model Law on Electronic Commerce formulated and approved by the United Nations Commission on International Trade Law. This Act covers wide range issues relating to electronic commerce including legal recognition of electronic records, acceptance of electronic documents in place of documents required in writing, legal recognition of electronic signatures, use of electronic records and electronic signatures in Government and statutory bodies, retention of electronic records, legal acceptance of electronic contracts, attribution, receipt and acknowledgement of electronic documents, and liability of network service providers. It is at present being finalized and will be sent to the Legal Draftsman Department soon.

Other legislation that is being drafted includes Data Protection Act based on the British Data Protection Act of 1998 and Computer Crimes Bill, which will soon be presented before the Parliament. Legal authorities in Sri Lanka are examining WIPO Internet treaties and have indicated that some of the contents of these have already been included in the existing law.

In order to fast track the legislation required for the development of electronic commerce and IT industry several projects and commissions have been established and entrusted. These include the Computer and Information Technology Council (CINTEC) Law Committee under the Ministry of Higher Education and Information Technology Development, Legal and Judicial Reforms Project, a World Bank funded project under the Ministry of Justice, and the Law Commission a Government statutory body.

CONCLUSION

In building a competitive electronic commerce environment and transferring the commercial sector to an IT platform, both the government and the private sector will have to

make a significant commitment for technology, human capital, legal framework and other supporting components of this revolution. While the private sector will have to make individual development plans for each respective commercial unit, the government will have to formulate an integrated national plan. The government must play the role of the facilitator and the private sector must take the lead, exercising self-regulation, in taking the industry forward successfully. The job at hand is certainly not an easy task. But two factors make it essential that we approach it quickly and with serious conviction. Firstly, we cannot ignore global forces that are clearly signaling a future built on the new IT revolution. Secondly, the age-old problems that we as a developing nation are thriving to solve demand that we adopt a concept that offers much promise for a vibrant future for Sri Lanka.

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