II. E-COMMERCE MODEL FRAMEWORK FOR LEGAL AND REGULATORY LANDSCAPE

The pace at which a country or multinational organization achieves network connectivity and moves toward becoming an information and knowledge-based society depends on its own particular situation and special characteristics. To predict the potential for success of e-commerce, these conditions must be assessed relative to other national entities using an objective measuring system.

The following e-commerce Model Framework provides an overview of the conditions necessary to promote the growth and development of e-commerce. The Model Framework, illustrated in Appendix 1, is derived from a "building blocks" concept. The "building blocks" concept describes the foundations upon which a country's e-commerce capabilities are built and fully illuminates the strengths and weaknesses of the e-commerce environment in that country. Each building block builds upon the results of the previous one. Thus, the strength of the e-commerce Model Framework depends upon the sum of all its parts.[3]

The Model Framework is divided into three tiers to reflect the interconnectedness of the telecommunications, Internet and e-commerce sectors. The success of a country's e-commerce environment is largely dependent on its Internet capacity, cost and access which, in turn, depend on low-cost and widely available telecommunications infrastructure and services in that country. Within each tier, certain regulatory, technical and operational factors influence e-commerce readiness.

A. TELECOMMUNICATIONS REGULATORY FACTORS

Regulatory Authority

The price of telecommunications services and the extent to which universal service coverage has been attained, both of which must be considered when assessing a country's progress toward becoming a knowledge-based society, depend on how the regulatory framework is designed and what role is assigned to the regulatory authorities.

The independence of the regulatory body in overseeing the telecommunications industry is vital to the success of the infrastructure. An independent regulatory body not susceptible to political pressures will be able to perform its functions consistent with the interests of the industry and the public. In some countries, the key regulatory functions may be shared with or under the control of the ministry for that sector, thus limiting the independence and negotiating power of the regulator. Often, the independence of a regulatory body is more apparent than real.

Government regulators in the telecommunications industry must strike a balance that will allow for the proper development of the market in the new economy. In many instances, where privatization has taken place, state-run monopolies have been replaced by private monopolies or dominant, government-supported "national champions." In these cases, the regulators must take appropriate steps to open the market to new, possibly smaller providers and supervise the

[3] The Model Framework used in this paper is based on one developed by Rudy Baca of the Legg Mason Precursor Group. "The Building Block of Growth in the 'New Economy'", Spring 2000.

dominant firms to ensure healthy competition. The regulator should prevent anti-competitive and price-fixing practices of the monopolies and operate as a counterweight to large conglomerates of domestic and transnational corporations.

At the same time, minimizing regulatory intervention in the telecommunications industry also promotes the public interest. Minimization of regulations allows for competition and is considered necessary for innovation and development. In order for the telecommunications infrastructure to adapt to the increasing demands and needs of its customers, the regulatory environment must be flexible enough to promote convergence of telecommunications technologies. Burdensome regulatory restrictions that strongly favor a nation's incumbent telephony provider or restrict product development stifle innovation and entrepreneurship. Barriers to entry and high access costs must also be limited in order to spur growth of e-commerce.

Licensing

Throughout the world, the government licenses participants in the telecommunications industry. The ease or difficulty with which a license can be obtained, the transparency of the licensing system and the fees imposed on licensees are factors influencing who can and who will participate in the industry. In addition, the degree to which the licensing system is used by the government to control participation in and development of the infrastructure will impact the development of competition in the market.

Accounting System

In telecommunications, the existence of an accounting system for providers and the degree of transparency in that system provides stability and viability for telecommunications providers that is necessary to create a competitive environment. In an effort to extend telephony to a greater proportion of its population, a government may impose a universal service requirement on telecommunications providers. The terms of such a requirement and the scheme established to pay for it may help or hinder the development of e-commerce.

Local Competition

Growth in the telecommunications sector will come in the form of increased competition, by allowing large companies as well as those with minimal capital and resources, to offer a full package of services. The availability of interconnection, the ability of a new provider to use the resources of an established local telephone company, greatly enhances the growth and innovation of the telecommunications infrastructure. Innovation will be promoted by allowing specialized companies to remain focussed on their own research and development efforts. The tariff terms imposed on interconnection and the degree to which tariff terms favor the incumbent provider will also influence the growth of the telecommunications infrastructure.

Available Services

The development and availability of new technologies designed to provide access to communications and the Internet will greatly influence e-commerce growth. Fixed landlines provide a major means of access but are often limited by high costs for the consumer. Where alternatives including mobile wireless telephony and cable television exist, access costs are expected to decrease and Internet usage and e-commerce are expected to increase.

Foreign Competition and Ownership

In order to protect local or national providers or maintain government control over access and content, many governments restrict the level of foreign competition and ownership in their telecommunications sector. More and more, however, countries are recognizing that foreign competition and ownership provide funding through investment and access to new technologies that are vital to developing a strong telecommunications infrastructure and greater services.

B. TELECOMMUNICATIONS TECHNICAL AND OPERATIONAL FACTORS

Spectrum Efficiency and Management[4]

Spectrum efficiency and spectrum management are absolutely crucial to the burgeoning demands being placed upon the telecommunications infrastructure. Although fiber and wireless represent two viable alternatives to constructing a wireline infrastructure, a host of other obstacles remain. One of these, the failure to manage spectrum, will result in interference issues that will likely limit the usefulness and capability of telecommunications technologies.

Network Architecture

The existence of an open network architecture or a telecommunications architecture that promotes access for anyone on equal footing promotes competition and encourages new entrants. With the existence of competition and new entrants, prices will drop from artificially high levels. Additionally, an open network architecture will provide manufacturers with the information necessary to create variations and improvements upon existing technology.

Infrastructure and Rights-of-Way[5]

The efficient and accelerated construction of an advanced telecommunications infrastructure capable of delivering Internet technologies relies upon the utilization of exiting infrastructure. The railroad and electric infrastructures provide a large number of necessary rights-of-way that the telecommunications infrastructure needs in order to provide Internet bandwidth.

C. INTERNET REGULATORY FACTORS

Regulatory Authority

The chilling effect that a regulatory body can have upon the growth and development of the Internet can be significant. Due to the vaunted "borderless" nature of the Internet, if one country establishes regulations perceived as unnecessary or burdensome, Internet providers and businesses may simply relocate to a more hospitable environment. Therefore, a country should establish an Internet-friendly reputation if it wishes to achieve and maintain a significant degree of Internet market participation.

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[4] Spectrum management and efficiency is a key factor toward a country's overall wireless telephony and e-commerce success. A strong regulatory body within a country must administer the continuous range of frequencies so that overlapping does not occur.

[5] The terms railroad and electric infrastructures generally refer to the utilities ownership of poles, ducts and conduits that telecommunications service providers generally lease or own in concert with the other utilities.

Cost of Access
Again and again, in the countries surveyed, a significant factor in the growth of Internet usage and e-commerce is the cost of access to the Internet. Cost of access includes the price of computer equipment; the cost of alternative means of access including mobile phones, wireless and cable television; and the cost of connecting to the Internet via an ISP which can include a connection fee and an hourly rate for access to the Internet.

Labor and Immigration Policies
Innovation of the Internet requires sufficiently knowledgeable individuals to create, support and repair products and services. Maintaining a talented pool of individuals within a country may necessitate relaxation of immigration policies, allowing the free flow of information. The easing of a country's immigration policies can come in a variety of forms including reducing visa restrictions, academic waivers and IT-specific exemptions.

Government Incentive Programs
Although regulations are often perceived as a governmental proscriptive tool, regulations may also provide a vehicle for promoting specific technologies. Under the "universal service" model used in the United States, the government subsidizes telecommunications providers, allowing them to provide services to customers who would not normally be serviced. The "universal service" model represents one of many models that could be used to extend access to the Internet and the benefits of being connected to everyone.

Content Control/Censorship
Censorship of pornography, anti-government topics and other controversial topics may have wide-ranging impact upon Internet usage. Traditional laws and regulations also have the potential of affecting a country's Internet development through content control. Filtering programs and government monitoring will likely result in decreased usage or attempts to subvert restraints.

D. INTERNET TECHNICAL AND OPERATIONAL FACTORS

Protocol Standards and Development
Although the Internet relies heavily on the technical and operational factors of the telecommunications infrastructure, a number of Internet-specific technical and operational factors are of some consequence. Technical issues surrounding protocols including open development allowing for adequate testing and analysis, flexible or mandatory implementation and government involvement in development are crucial for software manufacturers in maintaining compatible and current software.

Language Barriers
The reluctance of a particular country or government to accept multiple languages for Internet applications will not only limit the availability of content to the public, but will also stifle the growth and development of the country's own Internet industry. A country's web designers, ISPs and information technology (IT) manufacturers will be limited to producing products that are only beneficial to customers that are literate in that country's language.

Skilled Labor Force

When an economy undergoes a transition as complex and potentially far-reaching as the transition to the New Economy, businesses will change the way they operate so that some employment opportunities are created and some are lost. The shift to higher technologies will thus require retraining and migration of skilled labor so the work force can adapt to the demands of the new technology. Where a skilled labor force is already available, the development of the Internet capability will be greatly enhanced.

Government Incentive Programs

Many believe that the government has a role in adapting the workforce to the new economy. Retraining the present workforce and establishing programs aimed at providing whole populations with greater education and access to the Internet and e-commerce opportunities are ways the government can promote public awareness and encourage Internet use and e-commerce growth. Moreover, the extension of Internet access in some regions of the world, where the middle and lower segments of society have relatively low levels of income, will depend more on the involvement of the government in subsidizing the dissemination of information and communications technologies.

E. E-COMMERCE REGULATORY FACTORS

Taxation

One of the most critical building blocks for e-commerce is the level of regulatory involvement and intervention in development of the new system. The most visible e-commerce regulatory issue is whether to tax goods and services sold over the Internet. Although the most successful e-commerce countries have placed a moratorium on e-commerce taxes, the effects upon the tax base have not gone unnoticed. In the United States, it has been reported that state and local governments are losing US$170 million in potential tax revenues each year due to e-commerce sales. However, an e-commerce tax moratorium provides a powerful financial incentive for certain businesses and individuals, otherwise reluctant to venture into the electronic marketplace, to go online.

Privacy

The ability to access a great wealth of information with a few keystrokes has, in some cases, suppressed the growth of e-commerce. Apocryphal stories of data mining and the selling of personal information cause consumers to envision an Orwellian society where personal data is sold to the highest bidder. A country must strike a delicate balance between preventing private and governmental abuse of personal information and giving industry the tools necessary to tailor its products and services to meet consumer demands.

Content

Content policy issues include the extent of government involvement in controlling content on the Internet and the liability of ISPs and companies for content posted and transmitted on their networks. Limiting both government involvement and provider liability will encourage participation in e-commerce.

Content - Intellectual Property Rights (IPRs)

The growth of the Internet heightens traditional intellectual property concerns (e.g., unlicensed copying of copyrighted material, trademark violations) because of the ease with which copyright and trademark laws can be circumvented online. There are also entirely new concerns as laws suited to the non-Internet world often have unforeseen technical ramifications. Distributors such as telecommunications and Internet service providers wish to transmit material without worrying about whether it is crossing national borders or infringing on laws other than those of their home country.

The application of trademark and copyright law to e-commerce must be resolved against the fact that these authorities are largely country-specific. For instance, while one country may allow for automatic copyright, another country may require copyright registration. Therefore, in order for a country to be successful, its laws should be consistent with the major e-commerce countries' copyright and trademark legal authorities or with provisions of the international agreements governing IPRs. The major international agreements are the World Intellectual Property Organization (WIPO) Copyright Treaty, the WIPO Performances and Phonograms Treaty and the WTO Trade-Related Intellectual Property Rights (TRIPS) Agreements.

Security - Encryption and Authentication

In any secure verifiable electronic transaction, some methods of encryption, authentication and repudiation are all necessary. The laws and regulations that govern these activities must bring the same level of assurance to consumers as if the transaction had occurred in the brick-and-mortar world. Digital signatures, a form of authentication and repudiation, must be considered the equivalent to a written signature in order for e-commerce to flourish. Additionally, laws and regulations must allow for encryption programs that are compatible (e.g., technology-neutral) with other countries' standards in order to be considered viable e-commerce technology.

Security - Payment Mechanisms

Governments can encourage participation in e-commerce by providing policies to recognize and develop secure electronic payment mechanisms. Knowing that security mechanisms are in place, businesses are more likely to offer products and services in that country and customers are more likely to use available forms of payment to purchase through the Internet.

Participation in New International Standards Development

In addition to international agreements addressing IPR issues, other standards agreements aimed at promoting Internet capability and e-commerce development are under consideration by multinational bodies such as the WTO, the UN and other regional bodies. Where a country is actively engaged in developing international standards and is willing to adapt its own laws and policies to comply with those standards where possible, e-commerce in that country will benefit from greater market access and ease of transactions throughout the border-less e-commerce world.

F. E-COMMERCE TECHNICAL AND OPERATIONAL FACTORS

Protocol (Standards) Making Process
A well-established telecommunications and Internet infrastructure provides many of the necessary building blocks for development of a successful and vibrant e-commerce marketplace. An open protocol standards-making process will contribute to the technical development of e-commerce.

Product Restrictions
Restrictions upon purchasing certain legal products (e.g., prescription drugs) may have the unintended effect of forcing consumers to purchase restricted products and, incidentally, other unrelated products in other countries. Other products may be restricted for political or cultural reasons with similar effect.

Delivery Infrastructure
Successful e-commerce requires a reliable system to deliver goods to the business or private customer. Customers may be attracted by the convenience of ordering online but if their purchases are not delivered in a dependable and prompt manner, this advantage of e-commerce may be lost. The development of the transportation and postal infrastructures of a particular country will impact e-commerce heavily on this point.

Availability of Payment Mechanisms
Secure forms of payment in e-commerce transactions include credit cards, checks, debit cards, wire transfer and cash on delivery. The availability of these forms of payment, the development of new forms (e.g., smart cards, Internet banking accounts) and public confidence in using them are all factors in how quickly e-commerce will become part of a country's commercial environment. The absence of methods of secure forms of payment will prevent true "virtual" transactions from taking place.

General Business Laws
The application of general business laws to the Internet will serve to promote consumer protection by insuring the average consumer that the Internet is not a place where the consumer is a helpless victim. E-contracts should have the force of law, dispute resolution forums should be available and grievances should be remedied. Securities laws and financing regulations should allow for ease in obtaining investment to develop e-commerce businesses.

Public Attitude to E-Commerce
The public attitude toward using e-commerce in daily life is a significant factor in the success of e-commerce. In some societies, face-to-face dealing and bargaining at the point of sale are traditional elements of retail transactions. Shopping may be valued as an opportunity for social interaction where more than just goods and payment are exchanged. Even the age of the general population may influence e-commerce development, though many differ on how it might do so. A younger population may be more open to using the new technology while an older population may be better able to afford access to the Internet and the goods sold through e-commerce.

Business Attitude to E-Commerce

The willingness of companies to move away from traditional ways of doing business and develop methods and models that include e-commerce is essential. E-commerce-friendly business laws, including securities laws, financing laws and commercial contracting laws must be in place to encourage these sorts of changes in business attitudes.

Governments and businesses wishing to encourage and develop e-commerce must be aware of less tangible cultural factors in business and society at large. Since these factors often are particular to a country or region, a more localized and flexible approach will be necessary to fully exploit market opportunities.