



# The Transition Toward A Knowledgeable Society In Latin America and the Social Responsibility Embedded In Its Mechanism

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## ABSTRACT

*In Latin America the proliferation of regional and multilateral agreements with integration as a purpose have generated a high flow of goods, services, and investments among these countries. From the economic perspective, the outcome is trade and, therefore stimulus to economic growth. Information technology is a relevant parameter in this endeavor. The 'digital gap' between industrialized and less developed countries (LDC) is greater than the 'standard of living' between them. The uneven distribution of wealth among and within countries, and the lack of communication infrastructure and computer based power, situate them at transitional stage within the 'knowledge-based society' which emanates social changes and therefore new roles to be achieved by private and public institutions within the framework of social responsibility.*

## INTRODUCTION

In Latin America, regional as well as multilateral integration schemes have a predominant role within integration agreements. Good representations of the above include MERCOSUR: Brazil, Argentina, Uruguay and Paraguay. The Andean Community (AC) is composed of Bolivia, Ecuador, Colombia, Peru, and Venezuela and the Group of Three (G3): Colombia, Mexico, and Venezuela. These organizations have the intent to establish, among other components, free trade areas, customs unions, common markets, and economic unions; all covenants that, in the future, may evolve into a political union (13).

Under the scheme of regional integration, a high flow of goods, services, and investments among the countries will be originated primarily under the format of foreign direct investments (FDIs). From the economic perspective, the outcome is trade and, therefore, stimulus to economic growth. By the year 2000, Latin America's regional agreements AC and MERCOSUR, without considering other regional pacts with Chile have a potential market of 310 million consumers (14). Chile's contribution alone is 15.2 million potential customers. It should be emphasized that the AC countries will have, by the period 2000-2005, an average increase in population rate of 17.98 per thousand while MERCOSUR will have 13.96 and Chile 11.8 per thousand increases respectively (15).

The research literature concurs in the importance of technology as main factor imbedded in the productivity equation. The "digital gap" between industrialized countries and less developed countries (LDC) is greater than the one built by economic indicators such as productivity; and socio-economic ones like 'standard of living'. In March 2000, the number of users on the Internet was approximately 304 million. The United States of America and Canada have 45%, Europe 27%, The Asia-Pacific region 23%, and Africa and the Middle East 1.5%. Latin America and the Caribbean hold 8% of the world population, but only 3.5% of Internet users and less than 1% of the global e-commerce. Although in the year 1999, a noticeable increase in Internet host computers was extant. The growth rate has been the highest in the world, and the number of users is 14 fold within the 1995 to 1999 period (18).

The growth of e-commerce in the 1990s has occurred primarily by virtue of improvement in underlying technologies (7). Nevertheless, there are other factors associated with the developments, which include, but are not limited to the role and social responsibilities of the public and private sectors in driving and sustaining infrastructure development. Currently businesses that transact on the Internet have had relevant cost reduction, and an increase on revenues. A high correlation does exist between the growth of benefit and the increase of businesses performing such transaction within the network (19). E-

commerce has shown a rapid development in Latin America. Brazil reached 4 million users in 1999. This represents 50% of the interconnected population - Mexico with 18%, Argentina 12%, and Chile 4%. It is necessary to emphasize the fact that 80% of electronic commerce is realized within six realms: supermarkets, books, hardware and software, electronic equipment, music, and financial services (17).

Another 'gap' present in Latin America that has a great repercussion on the digital economy, is the one that could be defined by its components: socio-economics, and technology. Further, there is an uneven distribution of wealth between countries, and within them. A large price differential regarding telecommunications cost and coverage exists. There is fundamental lack of human resources, and managerial level staff with the expertise needed for an inevitable digital economy. The latter generates a negative impact on the development of such economy (2).

The governments of the region have accomplished basic strides so the mass population will have access to the Internet. Peru has created The Peruvian Scientific Network, known by its Spanish abbreviation, RCP. The network is composed of 1000 public centers that provide service to 40% of the network. In Argentina, the program [argentina@internet.todos](mailto:argentina@internet.todos) has approximately 1000 tele-centers located in low income and remote areas. Brazilian commercial banks are offering free access to the Internet, and Costa Rica is one the first countries in the world that provides free e-mail to its citizens through estate agencies (18).

The position of the Latin American countries within the framework of a 'knowledge-based society' could be described as a transitional one. To acquire the objective of one, State intervention through laws and regulations, and furthermore, private and public actions will be essential in view of the peculiar contrasts in the region. It will be wearisome to expect the market forces alone to furnish the needed mechanisms. Also the implementation of adequate legal framework which determines the rules and regulations, not only for the suppliers of services, but to compensate power concentration generated by the technology in the hands of the industrialized countries, and multinational enterprise (MNE) are imperative (9).

The literature concurs that computer information systems is a function of various parameters and among them we could identify the ones related to communication and diffusion: cost of telephone service, and the structure and behavior of the market that compose the Internet services. There are least five relevant parameters in the market of information transmission that will be identifiable, which contribute to shape the Internet, 1) the carriers, 2) the access providers, 3) the service providers, 4) the content providers and 5) the end users. These schemes generate conflict and competition. Interna-

tional firms cover the first two levels, meanwhile the rest are national enterprises within country members of regional or multilateral agreements. (17).

One of the circumstances causing great impact in the realm of computing is convergence taking place with computing and telecommunications, because firms perceive the capabilities of combining the hegemony of computer based information and telecommunications networks (3). The rapid evolution of the Internet and Intranet extant play a preponderant role in this new array.

In the last decade, the telecommunication sector in Latin America has grown enormously. Privatization and the development of new technologies have performed a critical role in this process. During the decade of the 90s, 2/3 of the countries of the region totally or partially privatized the telecommunication domain. Uruguay and Costa Rica are examples of the fact that privatization is not *sine qua non* condition to modernize or acquire new technology - competition is. At the same time, the arrival of new technologies such as cellular telephones, and cable television has generated substantial changes in the sector. During 1990, 100,000 cellular telephones were in use; 3.5 million during 1995, increasing to 38 million in 1999. The case of Venezuela and Paraguay deserves special attention due to the fact that there are more cell phones than conventional ones (18).

In Latin America only 1/3 of all homes have telephone service. The growth and coverture of the telecommunication sector are functions of the regulatory framework in which they are developed, as well as the influence of the responsible regulatory agency. In many cases, monopolies have been created. During the '80s, 100 people, were served by seven telephone lines in the region - Argentina 12, Chile 10, and Mexico 50 each (per 100). Installation of services took an average of 5 years, and repairs took 15 days. The last decade Argentina and Chile users ratio was increased to 22%. Other good indicators of improvement in the sector are the digitalization of the telephone systems, an increase in the number of public telephones, and the improvement of repair time (18).

Social factors have to be taken in consideration regarding the infrastructure of telecommunications, 25% of the region population live on an income of \$1 a day. The access to the Internet services in absolute terms is less than the U.S. although it is prohibited to the great majority of the population due to poverty. Government involvement could provide a solution to the problem subsidizing services and the necessary hardware and software (17). It has been stated that contrary to popular perception, the Internet revolution represents more of a challenge than an opportunity for many developing countries and the main factor is intellectual capital not scarce finance (11). There is not a lack of intelligence to utilize what the Internet provides, but there is a lack of financial resources that causes the inequity. This has created the notion that the Internet revolution would narrow the gap between the world's rich and poor. The evidence shows that the opposite could happen and many developing countries are located on the wrong side of a widening knowledge gap if they do not act almost immediately. The industrial nations use different approaches to deal with the digital divide. The US approach comes out of the "trade vector" because US corporations have large investments in the New Economy. Therefore, they seek aggressively market expansions. Europe, where there is an emphasis on state responsibility and sustainable development, has a slower approach that is extant and comes out of the "state vector". At the operational level between the northern and southern hemisphere countries a discontinuity exists. The northern hemisphere "donor states" are focused on how to target their investments and what might be the most cost-effective way to manage scarce funds. The southern hemisphere, "host states" do not accept the scarce resources model and are concerned with how to attract investments that could generate growth and therefore, jobs that will help to reduce social inequities (4).

Social responsibility could be defined as a firm's obligation beyond that required by the law and economics, to pursue long-term goals that are good for society (12). Also social responsibility is the obligation of decision makers to take actions that protect and im-

prove the welfare of society as a whole along with their own interest (10). Business takes responsibility first for its own short-term profitability (shareholder interest), and only a little energy overall is invested in the larger concerns of the community. Business expects government to keep up the infrastructure and make sure that all supportive non-business systems are functioning well (1). The corporate social policy process (CSPP) is defined as a concept to provide the tools and operational framework to assist business managers in the consideration of social policies in the decision making process. The foundation of CSPP is the internalization within business organizations' key elements from business ethics, corporate social responsibility and corporate social responsiveness. From the corporate social responsibility view, business organizations and their leaders have to be aware of the consequences of organizational policies and behavior on not only internal stakeholders, but also the external ones. It is further emphasized that the focus is on the products of corporate action. Like other social institutions, corporations exist to fulfill societal purpose and the furtherance of the common good or community is the ultimate rationale for their continued existence (5).

Brazil, member of MERCOSUR, has the privilege to count within its information technology assets with The Committee for Democracy in Information Technology (CDI). A not-for-profit organization that has as its goal to reduce the "digital gap" affecting individuals of low-income communities not only in the country but throughout the world. In addition to bringing information technology (IT) to the less privileged CDI promotes notion of human rights, literacy, ecology, health, and non-violence among other important social teachings that will help to cover the social responsibility vacuum created by the lack of domestics, MNEs, and public and private institutions. Currently, Brazil has 19 regional CDI centers with 311 schools of information technology and citizenship. Internationally CDI operates 25 centers located in Chile, Colombia, Japan, Mexico and Uruguay, for a grand total of 336 schools. The Japan Center located in Tokyo, is mainly used to collect hardware that later is sent to LDC. CDI was created in 1993, by a young professor of information technology, Rodrigo Baggio with an initial slogan "Computers for everyone" (6).

United Nations' Economic and Social Council based on the decision 1999/281, resolved that the high level segment of the agenda for the year 2000 would be dedicated to "The Development and International Cooperation in the XXI Century: The Function of Information Technology in the Context of a World Economy Based in Knowledge". Therefore, representatives of Latin American and Caribbean Countries met in the town of Florianopolis, Santa Catarina, Brazil on June 20 to 21<sup>st</sup>, 2000; to issue the guide-lines to design and implement the necessary mechanism to move these countries into the 'knowledgeable society' (16).

The mechanism of social responsibility will need to be based on an agenda that will contain several public policies to increase the efficiency and equity during the transition to a knowledge-based society. These include, but are not limited to cost of telecommunication services, access to the digital network, and cost and accessibility to the computational structure. Education of the users at any level is necessary and access must be provided to the mass population with scarce financial resources for the information society. To reach the latter, the establishment of terminals in public places and community centers is necessary. All the above have to be performed within a legal framework that provides the essential elements to guarantee electronic transactions and therefore the ability to generate a large volume of trade using this media.

## CONCLUSION

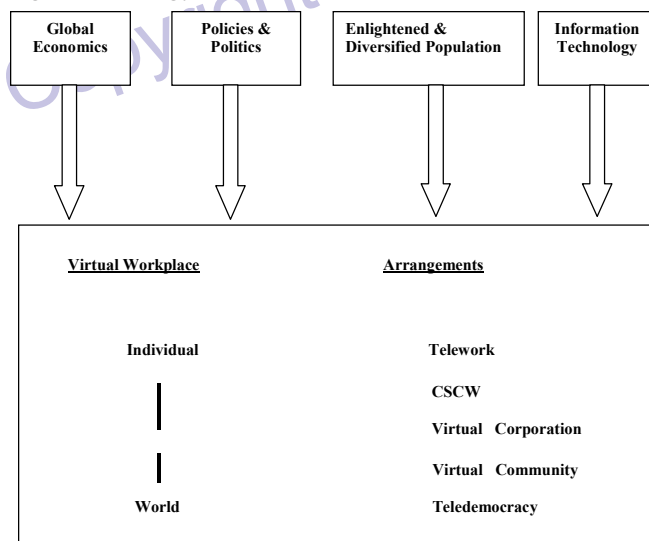
Driving Forces Model Figure 1 depicts the framework in which the virtual society evolved (8). The regional trading block already in place in Latin America will generate an expansion of business into global markets creating a global economy in which new standards for trade will be present which include, but not limited to, electronic payments like e-cash, and electronic data interchange (EDI) among busi-

ness located elsewhere. Due to economic and social factors in Latin America the role of regional governments to provide oversight for this new arrangement is not only preponderant but could be controversial. Elements such as the amount of control to be adopted by the government, regulations, and privatization will be relevant to the development of the knowledge-based society within the legal framework - same as the education and exposure of the population to the new virtual society. Any new policies should contain essential provisions addressing the importance of social responsibility and accountability. This will aid in reaching the goals of helping in the realm of social inequalities. Pertaining to the technology realm a component that will exert large influence is the volatility of the communication sector due to the availability of new technology and changes thereof. The workplace arrangements such as tele-work, computer-supported cooperative work (CSCW), among others described in the Model (Figure 1), are elements that will change the way business is done conventionally and will cause a great impact in social and cultural values within the context of society.

In summary, the above gives rise to the following questions that have direct relevance to the solution of how to close the existing digital gap:

- 1) Should the countries transact within the framework of regional and/or multilateral agreements to obtain the necessary endowment to develop the infrastructure required for a virtual society? If so, does this synergism contribute to dissipate the concentration of power originated by the technology in the hands of the industrialized countries and multinational enterprises?
- 2) What kind of agenda should be implemented to avoid the uneven distribution of wealth among countries, and within them that allows the creation of the necessary information technology infrastructure?
- 3) How will the countries implement an agenda to address and prioritize the issues of social responsibility with regard to the implications inherent in the cultural diversity and the existence of economic and social inequality pervasive within the countries and among them?

Figure 1: Driving forces



## REFERENCES

1. Adams, J. D. (2000). Dominant Institutions and Their Responsibility. *The Futurist*, Vol. 34, No. 2, 65.
2. Applegate, L. M., McFarlan, F. W., & McKenney, J. L. (1999). *Corporate Information Systems Management: Text and Cases*. Fifth edition. New York: Irwin McGraw-Hill, 404-417.

3. Carr, H. H. & Snyder, C. A. (1997). *The Management of Telecommunications: Business Solutions to Business Problems*. New York: Irwin McGraw Hill, 680-682.
4. Conhaim, W. (2001). *The Global Digital Divide*. *Information Today*, Vol. 18, Issue 7.
5. Epstein, E. M. (1998). *Business Ethics and Corporate Social Policy*. *Business and Society*, March 1998, Vol. 77, Issue 1.
6. The Committee for Democracy in Information Technology (CDI). *Institutional Profile*. (<http://www.cdi.org.br>).
7. Huff, S. L., Wade, M., Parent, M., Schneberger, S., & Newson, P. (2000). *Cases in Electronic Commerce*. New York: Irwin McGraw-Hill, 62-63.
8. Igbaria, M. (1999). *The Driving Forces in the Virtual Society*. *Communications of the ACM*, Vol.42, No.12, December 64-70.
9. Katz, J. & Ventura-Dias, V. (2000). *América Latina y el Caribe en la Transición Hacia Una Sociedad del Conocimiento. Una Agenda de Políticas Públicas*. Informe, LC/L.1383/E, Junio, 1.
10. Keith, D. & Blomstrom, R. (1975). *Business and Society: Environment and Responsibility*. New York: McGraw-Hill, 39-31.
11. Persaud, A. (2000). *The Perils of Neglecting The Net*. *The Financial Times*, London May 17, 15.
12. Robbins, S. & Decenzo, D. (2001). *Fundamentals of Management: Essential Concepts and Applications*. Third edition. New Jersey, Upper Saddle River: Prentice Hall, 59-60.
13. Secretaría de la Comunidad Andina (S.C.A.), Cooperación Francesa y CEPAL. *Multilateralismo y Regionalismo*. Seminario efectuado en Santa Fe de Bogotá, 26 de Mayo 1998, 1-2.
14. UN-CEPAL (Comisión Económica para América Latina y El Caribe). (1999a). *América Latina: Población Total, Urbana y Rural y Porcentaje Urbano por Países*. Cuadro 11. *Boletín Demográfico*, No. 63, Enero, 1-6. (<http://www.eclac.cl/publicaciones/Poblacion/2/LCG2052/BD63.11.html>).
15. \_\_\_\_\_ (1999b). *América Latina: Tasa de Crecimiento de la Población Total, Urbana y Rural por Países*. Cuadro 12. *Boletín Demográfico*, No.63, Enero, 1-3. (<http://www.eclac.cl/publicaciones/Poblacion/2/LCG2052/BD63.12.html>).
16. \_\_\_\_\_ (2000a). *Declaración de Florianópolis. Reunión Regional en Tecnología de Información para el Desarrollo*. Brasil, Junio 21-22, 1-9.
17. \_\_\_\_\_ (2000b). *Latin America and The Caribbean in the Transition to a Knowledge-Based Society: An Agenda for Public Policy*. LC/L.1383, June, 5-25.
18. Unión Internacional de Telecomunicaciones: UIT. (2000). *Indicadores de Telecomunicaciones de las Américas 2000. Resumen Ejecutivo*, Abril, 1-22.
19. U.S. Department of Commerce (1998). *The Emerging Digital Economy*. (<http://www.ecommerce.gov>), 2, 4, 21, 23, 35.

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