CONNECTING THE SOUTH: FROM THE VIRTUAL WORLD TO REALITY

Marco Antonio Montes Flores
Centro ASFA
Departamento de Bibliografía Latinoamericana
Subdirección de Servicios Especializados
Dirección General de Bibliotecas
Universidad Nacional Autónoma de México

ABSTRACT: An analysis of the access of the Latin American countries to the Information Society and on their possible participation into the "New Economy" is presented. Emphasis is made on the risk that the use of new information technologies could have for increasing the gap between poor and rich people. Also, the governmental initiatives of the Latin American countries for promoting the use of new information technologies by the population and by public and private enterprises are reviewed. Finally, a proposal for the establishment of a net of marine sciences and fisheries libraries in Mexico and possibly in Latin America, with a special focus on the information dissemination to the productivity sector is presented.

From a review of the extensive discourse about the digital divide, it can be noted that most of the information and communication technology (ICT) initiatives start by encouraging nations to boost economic growth and increase e-commerce using these new technologies. Indeed, these initiatives will help countries growth and may contribute to poverty alleviation, but currently, it was observed that globalization and information technology development tend to increase inequality. Countries that seek a widespread welfare would focus instead on taking advantage of the opportunities that information technology offers for individual and social improvement and make them accessible to all citizens, and mostly, on applying information technology to empower and involve citizens into the national and local development initiatives.

Certainly, growth and an open trade regime help to reduce poverty, but the beneficial impact of growth is limited in countries where income inequality is high, which is the case of almost all Latin American countries. High inequality dampens the growth prospects of Latin America, and major structural differences, in educational attainment, geography, and ethnic differentiation, further diminish the impact that growth has on poverty.

From the time the concept of Information Society was established, the possibilities for information access grew in an exponential, almost infinite, way. Today, we can connect with almost all the libraries in the world, retrieve information from all around the world, we can exchange information and ideas, and more recently we can conduct commercial operations. All these advances have created a new economic structure for development,

which accelerates the growth of those who have access to this new world of informatics and Internet.

The term "New Economy" appeared less than two years ago for describing all the economic activities developed "online" and also the capitalization strategies followed by the governments and enterprises in their way to consolidate their position. In this new scenario most of the Latin American countries have great possibilities for success, but it is now clear that the conditions for social sustainability are required, and that the countries must try to close the gap between those who have easy access to the new technologies and those who have not, that is between the rich and the poor.

At the present stage most Latin American and Caribbean countries face significant gaps in access to information technologies. As can be seen in Table 1, the regional lag is important, this lag is mostly faced by private enterprises, but this effort would be frustrated if the problem of the economic and digital gap is not attended.

We can foresee that in Latin America, information technology development strategies must address the central challenge facing the region: poverty and persistent and pervasive inequality.

Table 1. Information technology indicators in Latin America and Caribbean countries 2001. - per 100 inhabitants –

Country	Internet Users	PCs	Main Tel. Lines	Mobile Subs.
Argentina	8.0	5.3	21.6	18.6
Bolivia	1.4	2.0	6.0	8.7
Brazil	4.6	6.3	21.7	16.7
Colombia	2.7	4.2	17.1	7.4
Costa Rica	9.3	17.0	23.0	7.6
Chile	20.0	8.4	23.9	34.0
Dominican Rep	2.1		10.8	12.4
Ecuador	2.5	2.3	10.4	6.7
El Salvador	0.8	2.2	9.3	12.5
Guatemala	2.0	1.7	6.5	9.7
Haití	0.4		1.0	1.1
Honduras	0.6	1.2	4.7	3.6
Jamaica	3.8	5.0	19.7	26.9
México	3.5	6.9	13.5	20.1
Nicaragua	1.0	1.0	3.1	3.0
Panama	3.2	3.8	14.8	20.7
Paraguay	1.1	1.1	5.1	20.4
Peru	11.5	4.8	7.8	5.9
Uruguay	11.9	11.0	28.3	15.5
Venezuela	5.3	5.3	11.2	26.4

Source: ITU indicators 2001. (http: //www.itu.int/ITU-D/ict/statistics/)

The economic feasibility of this challenge is difficult to assure, because the present stage is one of trial and error and also because constraints on information technology expansion throughout the region are daunting.

What is clear is that unless the issue of poverty takes center stage, new rich enclaves will arise and leave poverty largely untouched, and that the State action can help to determine the extent to which information technology benefits are broadly shared. Notwithstanding the inequality bias of information technology development, the new technologies offer extraordinary opportunities to reduce the costs of the provision of services to low income people. In many information technology related processes the marginal costs are close to zero. The cost associated with an additional telephone call or one more Internet user is minimal. Once produced, the cost of reproducing a CD-ROM is negligible. Once the content of a web page has been prepared, the number of visitors has practically no effect on the costs of maintaining or updating it. Governmental action to facilitate the provision of such services can therefore have a huge impact on the livelihoods of low-income people.

Connectivity to the Internet can enable low-cost access to governmental services, fisheries products and market information, projects and local investment opportunities, financial services, distance education, online health services, and community development networks.

In recent years the number of Latin American Internet sites and hosts grew more than those in Europe and Africa, but the total number of sites is still low, mainly because the growth began at a very low level. The electronic commerce of Latin America represents only 1% of the total world e-commerce. Of these 1%, Brazil contributes 88%, Mexico 5%, Argentina 2%, and the rest of the Latin American and Caribbean countries contributes 5%. Recently, most of the countries have developed regulatory initiatives that allow an effective access to the information society and also to the e-commerce activities. These individual initiatives along with those promoted by international organisms will surely contribute to improve the life quality of the individuals and communities of this region. Let's make a brief review of the initiatives of some Latin American countries.

Argentina
The first Internet service appeared in 1991 and it was provided by a consortium of governmental, academic and research institutions. Four years later, Startel S.A. a private company realized the first commercial offer of Internet services. From the beginnings the government has developed a key role for the Internet expansion. In this way, in 1997 a presidential decree established that "Internet is a matter of national interest for all the Argentina citizens." Most of the governmental initiatives are devoted to attain a higher efficiency of the Internet service, lower the fares and expand the use of these technologies to all the country. Among all the initiatives, it is worth mentioning the National Program for the Information Society, which fosters the massive use of new information technologies for improveing knowledge and increasing social exchange, creating a new "informative habitat."

Chile
In 1999, the government created the Presidential Commission of New Information Technologies, which considers three main objectives:
- To drive the expansion of the information access
- To develop new competitive abilities
- To modernize the public administration for the service of the citizenship
 Also the government established lower telephone rates for Internet users.

Peru
The government of Peru has created a strategy for expand the use of Internet based on five actions:
- Promoting the competitiveness, creating a legal frame for the regulation of the market
- Development of telecommunications infrastructure
- Lowering of accession rates

- Training
- Development of local contents

Colombia

The development of the Information Society in Colombia has been fostered by means of the National Connectivity Agenda, which establishes objectives and strategies focused on three sectors:
- Community: Promotion of the use of Information Technologies to provide equal access to education, job, justice, and culture opportunities.
- Productive sector: Fostering the use of Information Technologies as support for the growth and increase of competitiveness, facilitating access by the productive sector to the market, and also as a reinforcement of politics for job generation.
- Government: Provide the State with the connectivity that facilitates the operation of the governmental organs and supports the functioning of services devoted to citizenship.

Mexico

Until recent years the governmental regulation and promotion of Internet services in Mexico was scarce, only the Federal Commission of Telecommunications (COFETEL) created initiatives to promote the expansion of Internet access providers, simplifying the procedures for obtaining licenses and also establishing regulations on the fares. In the year 2000 the government launched the project e-Mexico which intends to expand the benefits of the Information Technologies to different institutions. This project will try to increase the coverage of these technologies in different sectors, such as education, health, economy, government, science and technology, and the industry, as well as in public services. The main objectives of this project are:
- To guarantee that the coverage, services and contents of the National System e-Mexico reach all the country and also are available for all the population.
- To drive the national software industry
- To offer new options for education and training
- To improve the national health care-program using services and contents specifically devoted to this aspect.
- To promote the competitiveness of small and medium enterprises
- To expand the coverage of the e-Mexico system to the different ethnic and handicapped groups
- To regulate the rates and create regulatory mechanisms respecting the handling of information
- To guide the financing resources for the development of the National System e-Mexico.

As we can see, most Latin American governments are interested in promoting the use of information technologies to expand economic activity, education and social welfare, but the results are poor. Nevertheless, despite the impressive growth of Internet users in Latin America, the penetration of the Internet in the population is still very low, even in the upper, middle classes. In spite of the great development of the information technologies

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in a good number of Latin American universities and research centers, the results and information products created by these institutions are too far away to match with most of the labor market demands, which, at least in Mexico, occur in most of the fishery industry. There have been some projects trying to connect research and publication, but these were small, isolated and independent. Very few projects have reached a major scale and fewer have established a basis for their sustainable financing. Poor people (farmers, artisanal fishermen) will never have access to these technologies if they must be the owners.

The lack of a good connection between publication and research frequently produces "bottlenecks" in the knowledge and information flow, limiting the efficacy of the research to contribute to the fishery development.

This obstacle can be overcome with the use of a method known as "integrated systems." These systems use the Information technologies as an instrument to improve communication between researchers and fishermen. We can recognize integrated systems as virtual nets, telecenters, etc.

Now I wish to talk about virtual nets, which have proved to be a powerful tool for the establishment of relationships between people and institutions. The major purpose of virtual nets is to improve communication between the research institutions and the institutions of fishery extension. Virtual nets are integrated basically by two components: first the human component which constitutes a net (e.g., the personnel of research institutions, of fishery faculties, personnel of extension institutions, and fishermen) those people concerned with collaboration, information diffusion and support to the fishery production. These nets are flexible and could expand to welcome more participants or contract to focus more on the needs of information and communication of specific participants. The second component of the virtual nets is technology, which allows the participants to communicate, elaborate, disseminate, store, and recover information.

The virtual nets could be consulted through the Internet alone or combined with other information device, such as a CD-ROM, following the specific needs of the members of the net.

The possibilities of audiovisual media in Internet provide numerous options for creation, dissemination, storage, retrieval and publication of the different information types (e.g., e-mail, discussion lists, discussion forums, etc.) These possibilities allow horizontal communication among the participants of the net for discuss the different problematics, propose solutions and coordinate local, regional, national or international activities. These nets could link with the abundant information resources of the Internet and in this way attain a continuous growth.

The first step for the establishment of a virtual net consists in organizing groups of participants, which could be, in our case, the university libraries involved in the area of marine sciences and fisheries, the research institutions, the technological institutions

devoted to the area of marine sciences and fisheries, the fisheries extension organizations, and properly the fishermen, either artisanal or industrial. If there is interest in creating a virtual net then the purpose, objectives, activities and functioning of the net must be discussed.

The technical component must be elaborated with the collaboration of the users, the functions to be realized will be projected based on the availability to improve the actual information dissemination and communication developments. The attention must concentrate on the needs more than on the technological capacities.

In this case I would like to invite you, specially the members of the Latin American marine sciences and fishery libraries, to take advantage of this meeting to establish the contacts for the creation of this consortium, which could be a virtual net, a net of telecenters or whatever device that allows a real information exchange among the participants and a real support for the potential users (fishermen).

Almost all the institutions here presented have at least the minimal equipment needed to connect to the internet, so the other component of this proposal will be your enthusiasm in participate in this project.

In Mexico there are some institutions, namely, the libraries of the Institute of Marine Sciences and Limnology of UNAM, the libraries of CIBNOR, of CICESE, of the University of the Sea, the National Fisheries Institute, the Marine Ministry and the ASFA center of the UNAM, that could be the columns that support this net and actively participate in the elaboration of the contents and also on the promotion and growth of this net.

I hope to hear a lot of cooperation proposals during these days, and I really expect to obtain good results, it's time to cooperate and really help to bridge the digital divide.

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