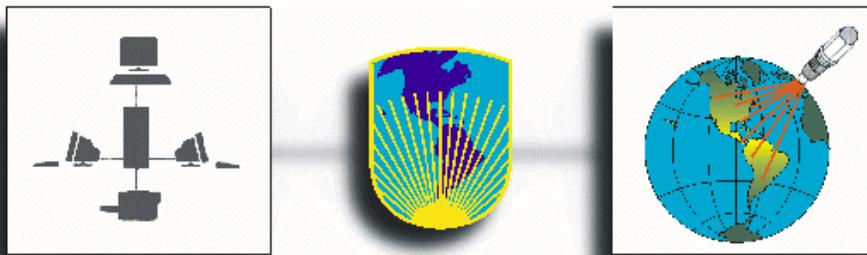


**INTER-AMERICAN DEVELOPMENT BANK**

**INFORMATION TECHNOLOGY FOR DEVELOPMENT DIVISION**



**ELECTRONIC COMMERCE AND DEVELOPMENT  
IMPLICATIONS FOR IDB ACTION**

**Antonio Ca' Zorzi**

**November 2000**  
Washington, DC

## **ELECTRONIC COMMERCE AND DEVELOPMENT IMPLICATIONS FOR IDB ACTION\***

### **EXECUTIVE SUMMARY**

1. Electronic commerce<sup>1</sup> is transforming the world economy: the network revolution is not only forging a new marketplace, but it also has a profound impact on how business is conducted. Leading the change in the introduction of the new economy may provide for businesses and governments alike an early advantage for seizing future rewards of the new marketplace in terms of market share and business competitiveness.
2. Information Technology is also reshaping other sectors that are crucial for the civil society and for the development agenda: these include education, health and public administration. IT applications foster efficiency, reduce costs and expand the outreach of these services.
3. In a “knowledge-based” economy information technology is an essential tool for processing, ordering and acceding information that is vital for decision taking, while facilitating communication and interaction, streamlining procedures and processes. Information and knowledge are an increasingly weighty component of the value chain.
4. The potential impact of electronic commerce on the private sector of developing countries draws increasingly the attention of governments and international organizations. The main concern expressed by many commentators is that, with electronic commerce, the economic and social gap between the have and have-nots may widen. For instance, Latin American economies represent 7% of the world economy, but generate only 1% in electronic commerce. According to a recent survey, in the near future electronic commerce will remain a highly concentrated sector with 12 countries sharing 89% of online sales in 2004.
5. IT will contribute to the future of developing countries and underestimating its importance may ultimately increase the gap with industrialized countries. Electronic commerce is not to be considered as a quick fix for fundamental social and economic inequalities affecting developing countries, but it is nevertheless necessary for the competitiveness of the private sector and offers significant potential rewards for the community as a whole.
6. It is vital for Latin American countries to speed up their integration in the knowledge based economy. In order to prevent greater income and growth disparity between North and South in

---

\* This paper was prepared by Antonio Ca' Zorzi (SDS/ITD) as a contribution to the IDB informal group on e-commerce. Comments on preliminary versions were made by members of the group as well as by IDU colleagues, in particular Guillermo Montero, Robert Vitro and Francisco Proenza. Special contributions came also from Rubens da Costa and José Dion de Melo Teles.

<sup>1</sup> For the scope of this document we use the term of e-commerce in its broader meaning, that would encompass commercial transactions carried over the Internet as well as business operations that make extensive use of network technologies.

A practical definition of both concepts has been developed by the Jan/Feb EXEC review this “E-commerce is the buying and selling of products, information and services over the Internet. E-business, on the other hand, represents the transformation of an organization's business and functional processes through the application of the technologies, philosophies and computing paradigms of the new digital economy. E-business includes merchandise planning and analysis; order entry, tracking and fulfillment; warehousing and inventory management; shipping, returns and other logistics; pricing and promotions; financial accounting and reporting; customer service and customer relationship management; and knowledge management.”

Other network services, such as communication tools and telecommuting, that increase productivity could also be included.

this hemisphere, there is an urgent need to support these efforts at national and, increasingly, regional level.

7. The thriving force behind electronic commerce is the private sector. However, this does not mean that governments are out of the picture: even in the most liberal economies, as it is the case for the US, the government has played an important role in backing up the creative force of private investment while addressing issues of inequality or intellectual property. Government support has also been crucial for early technological breakthroughs in the Internet and the use of e-commerce facilities by the government is a strong stimulus for the private sector too.

8. The Bank involvement to date in e-commerce programs or projects has been limited. There is a growing interest on the part of the Bank's borrowing members to take action to enhance their participation in e-commerce. The Bank could support these efforts, either through specific operations or acting as a catalyst for regional coordination. Given the pace of change of electronic commerce the Bank would have to periodically review its strategy, closely monitor the evolution of e-commerce in the region and set-up flexible financing mechanisms.

9. Bank should direct its support towards those activities ensuring that a) proper conditions are met for the electronic commerce to flourish and b) that the outreach of the new economy be expanded to include hereto marginalized sectors and communities, including small and medium sized enterprises (SMEs).

### ***The explosive growth of electronic commerce***

10. The growth of e-commerce in the past few years has been remarkable: it is estimated that worldwide e-commerce transactions have grown from US\$22 billion in 1997 to US\$180 billion in 1999. Projections expect the value of e-commerce transactions to attain US\$6.9 trillion in 2004 and represent 8.5% of global sales of products and services<sup>2</sup>. The change will also have a lasting effect on the labor market. By 2006, predicts the US government, almost half of the US workforce will be employed by industries that are either producers or intensive users of information technology products and services<sup>3</sup>.

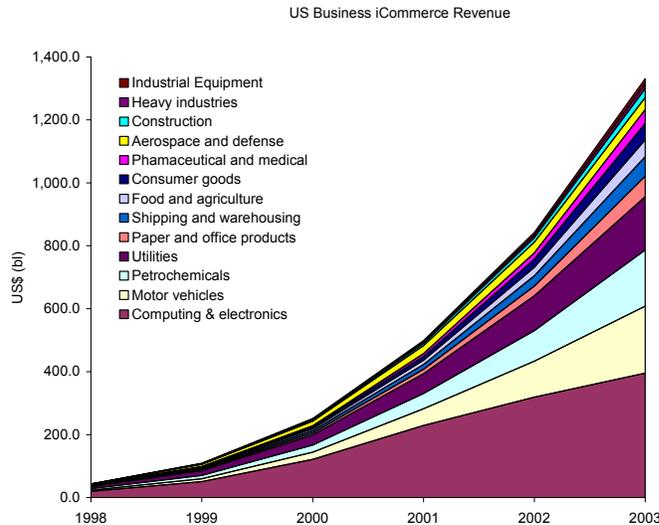
11. The Internet based market is dominated by the United States, which accounts for over 90% of commercial transactions (some of which are non US originated), 62% of web sites and over 50% of Internet users (NUA, 1998). As Europe and Asia invest heavily in the New Economy, by 2004 the US share will fall to 50% of worldwide e-commerce.

12. The biggest share in the e-commerce market is represented by B-B transactions: these accounted for 70-80% of all e-commerce activities in 1999. B-B operations will spur the growth of Internet in the next few years: transactions that are carried out with traditional means are being shifted to the electronic medium in order to improve efficiency, customer service and productivity, to reduce costs and to reach new customers.

---

<sup>2</sup> Forrester Research, April 29, 2000.

<sup>3</sup> US Department of Commerce, *The emerging digital economy – II*, 1999.



Source: Forrester Research Inc. 1999

### ***The private sector spurs the growth of electronic commerce...***

13. Business investment in the Internet, especially in the form of seed and venture capital, has quickly transformed the network into a fully-fledged marketplace. A number of early players in the Internet economy, mostly based in the US, are now dominating the Business-to-Business and Business-to-Consumer markets.<sup>4</sup> A second wave of investments in the B-C area involves also more traditional businesses willing to integrate their distribution channels and to compete in the new markets with smaller and leaner Internet based competitors.

14. Network technologies that enable electronic commerce open new opportunities for SMEs that were previously limited to larger companies using EDI solutions. Electronic commerce solutions in the B-B and B-C segment improve the ability of a company to manage production and distribution processes, insuring adequate quality control and customer service and, crucially, dramatically reducing the cost of transactions: depending on the sector, e-commerce in business to business segment can reduce costs by 10 to 34% (Goldman Sachs, 1999). E-commerce also impacts the ways in which businesses operate: streamlined business processes and reduced hierarchies may improve the efficiency and flexibility of the organizational structure as well as its ability to innovate<sup>5</sup>. Moreover, the new economy is characterized by an increased cooperation between businesses.

15. Electronic commerce may also be crucial for SMEs in their marketing strategy. In the first place, setting up an Internet store with electronic commerce features is less expensive than opening retail outlets. Secondly, in a knowledge-based economy, where information access and handling is a crucial factor for competition, electronic commerce allows companies to access and to manage valuable information to gain access to new markets.

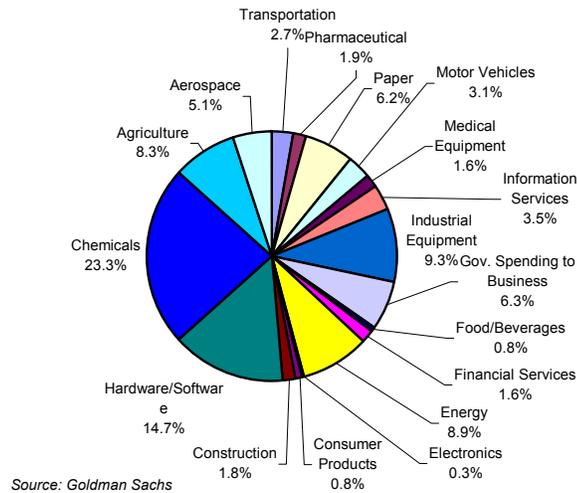
16. SMEs will have an important role in the digital economy: to a certain extent it is their participation to the electronic marketplace that will make the new economy. In their search for

<sup>4</sup> Yahoo, Lycos, Infoseek, Geocities and others in the content and service sector, Amazon.com and CD-NOW respectively in the book selling and music selling business, e-Toys in toys, Charles Schwab in the financial brokerage... Many of these players have developed a strong brand and have started operations in other countries (and languages).

<sup>5</sup> See also *Electronic Commerce – Opportunities and Challenges for Government (The “Sacher Report”)*, OECD, 1997.

new market opportunities, SMEs could bring more flexibility and creativity, by developing niche markets, to the electronic commerce practices. Due to the pricing and organizational convenience of the electronic marketplace, SMEs will also be major purchasers of services and products over the Internet.

**Share of Internet B2B by Industry - 2004**



**But Governments are not inactive**

17. Since the G7 Ministerial Conference on the Global Information Society (1995) governments in OECD countries have recognized the potential impact of electronic commerce and have engaged in policies meant to facilitate its growth. Areas of government intervention include support to R&D programs, regulation of e-commerce transactions, government use of Internet technologies and reform of the telecommunication sector.

18. It should be noted that e-commerce also applies and implies changes to certain government services, as a means to improve their efficiency and transparency and to enhance the development of the new technologies. Many governments are implementing Internet technologies in business related areas such as procurement of goods and services and tax filing.

19. The US government is promoting e-commerce both for government and business use. The General Services Administration embraced Internet and smart card technologies to reform the purchasing procedures by federal agencies, especially for small value transactions (which represent 98% of operations but only 10% in value). The Internal Revenue Service (IRS) introduced online tax filing. The National Information Infrastructure program (NII) played a key role fostering e-commerce technology research and standardization. The Department of Commerce, through its National Institute for Standards and Technology, and the Small Business Administration (SBA), through its Small Business Innovation Program, are actively supporting Electronic Commerce related activities or projects. Furthermore, the US government is seeking to expand Internet use in schools and libraries and in rural or poor areas. It is also promoting telecommuting in special arrangements by the Federal Government.

20. In Europe the European Commission coordinates e-commerce policies, e. g. for the definition of a legal framework, and supports the adoption and innovation of electronic commerce solutions by the private sector. EU-funded R&D Programs, such as IST, spur electronic commerce innovation by consortia of private enterprises and universities. Recently the Commission

proposed to Member States a 10-point coordinated program, eEurope, to foster the expansion of the Internet Society with a variety of measures in areas such as education, innovation, e-government, health, infrastructure regulation and e-commerce. Europe is late in government use of electronic commerce processes, especially in the area of procurement for goods and services in which an effort promoted by the Commission has been less successful than in the US. At national level, many European countries have adopted specific policies and programs to support e-commerce. Other OECD countries including Japan, Australia and Singapore have been actively promoting the expansion and use of e-commerce.

21. As e-commerce advances to become a significant component of the global economy, developing countries are giving a closer look to the sector: they are focussing principally on legal framework and measures aimed at supporting the competitiveness of their economies in the new marketplace. Many countries already support R&D and innovation projects related to the use of Information Technology by SMEs (Taiwan and Argentina among others) or have introduced specific measures to back software businesses (f. i. Brazil, Costa Rica and India). In Latin America and the Caribbean the majority of the countries have focused on issues such as taxation, data protection and law enforcement arising with the new economy. Countries like Colombia, Argentina, Peru, Brazil, Mexico and Ecuador have already adopted (or are in the process of doing so) specific regulations for e-commerce transactions. Governments have also recognized the crucial role of the telecommunications sector for the expansion of electronic commerce and have embarked in privatization and/or liberalization of telecom markets. Mexico has introduced an electronic system that allows potential bidders to get information and download needed documents on government tenders (COMPRANET). Surprisingly, however, only a few major e-commerce initiatives have been launched so far in the region. The most noteworthy are perhaps those in Chile (use of e-commerce by SMEs), in Panama (set-up of a Public Center for Signature Certification) and in Colombia (UNCTAD trade point for custom clearance and market information)<sup>6</sup>.

### ***E-commerce & Development***

22. Most of the content or use that defines today's Internet world is meaningless for people who cannot satisfy basic needs for education, health and nutrition and who "will never make a phone call in their lives". Moreover, the gap in information and telecommunication infrastructures is so large that reversing this situation would require financial resources well beyond the reach of poor countries. Another point of potential distrust versus the information society in developing countries is the predominance of corporations from the industrialized countries, which are quickly taking foot in new markets. Is electronic commerce, and broadly speaking, the Internet society a positive factor in economic and social development? If yes, to what extent and how can they fulfill their promises?

23. Trying to replicate the Internet phenomenon, as it is blooming in the US or other countries, in developing countries is not feasible as these countries are still addressing basic social needs for education and health and are fighting poverty. But this does not imply that the Information Society does not carry potential rewards both on the economic and the social side.

24. It appears that the new economy is not to be an exclusive realm of large and powerful companies. Smaller businesses and companies based in developing countries may look at opportunities arising from the new marketplace. Not to mention the more pervasive and enduring

---

<sup>6</sup> In Chile the Corporación de Fomento (CORFO) has promoted SME use of Internet in a program that, according to an interim study, met only partially expected results. The study invoked various reasons for the performance, including a timing factor – Chilean companies were not ready to effectively enter the digital economy – as well as the design of the project, in which to much weight was possibly given to hardware acquisition with respect to value added services to the users. The project in Panama, which was backed by the IDB within the S&T program, has proceeded smoothly but there is a lack of business users so far.

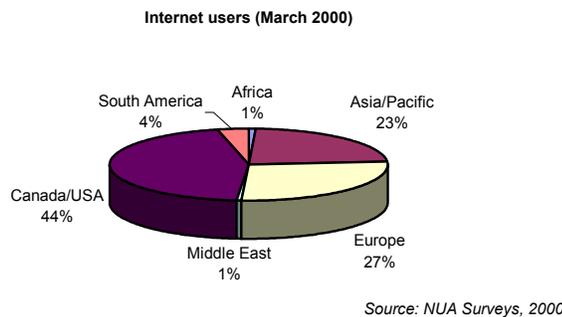
effects of e-commerce and e-business on their business organization: adopting Internet based technologies to attain lean production systems and improve on distribution efficiency can greatly enhance the competitiveness of smaller enterprises in developing countries. Thus the introduction of electronic commerce does carry a potential benefit to developing countries as it allows their economies to integrate the global economy and to compete with more developed countries<sup>7</sup>.

25. Social benefits will also be more evident with the growth of the “content” industry, which is particularly important for the sustainability of the Internet. As non-English contents grow - in a few years the share of English-written content will decrease below 50% of web pages - the Internet media becomes a more attractive source of information for a variety of users. The development of Internet content will spur the creation of specialized companies, mainly SMEs, which will provide local or sector specific information over the Internet.

**The “digital divide” issue**

26. Since 1995 the US government monitors the access of American households to the Internet. According to this review, depending on factors such as revenue, education and race, there is evidence that the access to the Internet is unequally distributed among social groups in the US and that the divide has been widening in recent years. Closing the “digital divide” is one of the priorities of the US government in the Internet area: in an effort to counter the trend, it introduced in the 1996 Telecommunication Law a special provision designed to reduce costs for Internet access in schools and libraries. Further initiatives are being taken to address the issue, such as expanding Community Technology Centers in low-income urban and rural neighborhoods, measuring the extent of the digital divide, and helping low-income workers gain the skills they need to compete for high-paying information technology jobs.

27. The digital divide affects also developing countries. In 1997 the share of Internet users of the richest 20% of world population was of 93.3% while the remaining 80% shared 6.7% of Internet access<sup>8</sup>. However, middle income countries are experiencing rapid growth in Internet use. Internet connection is surging in Latin America: in 1999 the Internet hosts in the region grew 130%, by far the fastest growth rate in the world, while the number of Internet users in the region attained 10.5 million (ITU, 2000).



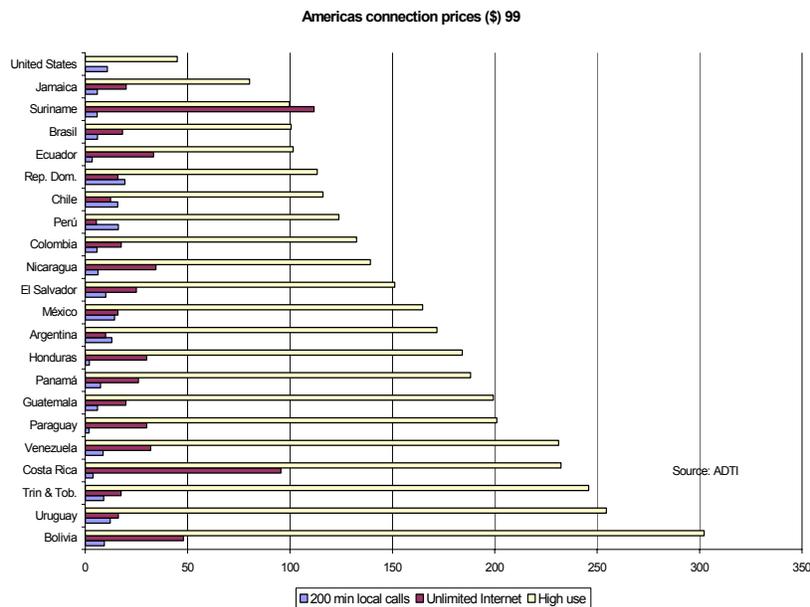
28. Within the developing countries, Internet access is still limited to a tiny elite. The portion of Internet users over the total population in the US attained 40 percent, the percentage in the Latin

<sup>7</sup> There are a few examples of increased competitiveness of developing countries due to their ability to embrace Information Technology: India is becoming a major service provider not only for “back-office” type of operations, but also for software and Internet applications development. In the LAC region, Costa Rica and Brazil have, to a different extent, developed a dynamic software business sector. Traditional businesses in developing countries may find exporting opportunities over the Internet and take full advantage of their relative price competitiveness.

<sup>8</sup> Human Development Report Office.

America drops to 2.1% and to less than 1% in Africa. There is no question that the “digital divide” reflects the relative strength of competing national and regional economies. Acquiring the needed equipment or accessing the network is in most developing countries a luxury: the average cost of a computer and a modem is US\$1500, while the average GDP per capita does not reach US\$1000.

29. Despite recent downwards trends the divergence in communication prices in the Americas is still very high: North-American households can buy an unlimited local call package for \$3 a month and get free access to the Internet via a dial-up service. In the Southern hemisphere ISP unlimited services cost around \$20 while a 200 min local phone call costs approximately \$13 in Argentina, \$14 in Mexico and \$6 in Brazil. In case of a relatively intensive usage of different telecom services by a consumer, the gap between North and South increases substantially: for a package of unlimited Internet access, 1500 minutes a month of local calls, 200 minutes of domestic long distance calls and 60 minutes of international calls, the monthly bill will reach ca. \$45 in the US, \$171 in Argentina, \$100 in Brazil, \$165 in Mexico, \$302 in Bolivia and \$80 in Jamaica<sup>9</sup>.



<sup>9</sup> Edelman & Mountford, 2000.

## AREAS OF POTENTIAL SUPPORT BY THE IDB

### *The IDB's involvement in IT*

30. Due to its role in the region the Bank can facilitate the development of electronic commerce either by lending or investment operations or by providing a regional forum and technical assistance to shape national and regional policies in this area.

31. Given the entanglement with other policies and the rapid and continuous evolution of electronic commerce in the LAC region the Bank may need to:

- foster regional and international coordination, following the agenda of the July 2000 ECOSOC meeting, including the set up of an observatory on Latin American e-commerce
- periodically review its strategy in this area, and
- adopt flexible financial instruments.

32. Moreover, there should be a close coordination with other policies of the Bank, from education to state modernization, to health and Science & Technology.

33. In its operations the Bank should take into consideration the following priorities:

- Extending the outreach of electronic commerce, including, among other things, the incorporation of SMEs and other economic operators, such as communities, in the new economy and the use of the Internet for government services
- Creating favorable conditions for the development of electronic commerce, in the regulatory field as well as in the infrastructure (including rural telecommunications, broadband, transportation)

34. Special consideration should be given to the additionality of the Bank's investment with respect to the private initiative. Following criteria could be applied to determine the choice of financial instruments to be used by the Bank in these areas:

- Lending: to support government investments for IT applications in traditional areas such as education, health and transportation as well as specific projects, including public procurement
- Innovative lending: to support smaller or pilot IT driven projects aimed, for instance, at broadening the use of Internet by the population in general or improve access to public services
- Technical assistance (MIF): to support SME related projects as well as regulatory reforms
- Investments funds (MIF and/or IIC): aimed at channeling capital resources to start up companies operating in areas that are relevant to SME and social development
- Direct financial support (IIC): for larger investments by private operators that could improve connectivity access and pricing as well as other relevant infrastructure.

### ***Policy support***

35. Addressing electronic commerce implies dealing with a variety of policy issues in areas that include tax, trade, finance and banking, intellectual rights protection, consumer protection, labor, telecommunications, education and others. The complex task of engaging together diverse ministerial and governmental bodies responsible for specific regulations and hammering out a coherent strategy is even more complicated by the rapidly moving world of electronic commerce. Seeking the participation of the private sector and other organizations of the civil society in shaping a specific policy for electronic commerce is particularly vital. Furthermore, as many government in OECD and developing countries face similar challenges with respect to the digital economy, there is clearly a scope for a greater coordination at international level.

36. Activities that could be supported by the IDB include:

- Surveys aimed at analyzing the current framework of electronic commerce in order to determine possible areas and priorities of government action. Areas of investigation include:
  - (i) the state-of-art of legal framework for electronic commerce transactions, consumer rights and taxation;
  - (ii) adequacy of information and telecommunication infrastructure and services;
  - (iii) the potential interest and/or awareness of the private sector for electronic commerce;
  - (iv) the availability of professionally trained resources;
  - (v) the real contribution of local/national technology innovation;
  - (vi) the use of Internet in socially valuable sectors, such as education and health and other public services.
  
- Regional and international meetings as well as Internet fora in which governments can discuss policies and best practice experiences in LA&C related to electronic commerce and, eventually, coordinate their efforts in specific areas related to international trade, arbitration, and others. Information gathering and publishing on policy issues, in sensitive areas such as external trade regulation, payments and intellectual property.

### ***Creating a legal framework – building trust***

37. Like all commerce, electronic commerce requires high levels of trust from participants in the marketplace. But, purchasing online is a different experience from buying the same good facing another person from a retailer or superstore. As cultural approaches to trade vary from country to country, governments will need to adopt and enforce legal frameworks that are secure and reliable and build consumer confidence in the digital economy. This requires dealing with a number of issues linked to online trade including recognition of electronic signatures, contract enforcement, taxation, transportation, intellectual propriety rights, privacy and consumer protection and payment systems.

38. An effective approach to address these policies may be developed by working together with businesses and consumers advocates and to build up from work carried on in international fora, such as Free Trade Association of the Americas (FTAA), United Nations Commission on International Trade law (UNCITRAL), United Nations Conference on Trade and Development (UNCTAD), International Telecommunications Union (ITU).

39. IDB financial and non-financial assistance would focus on the generation of an enhanced legal framework, facilitating the dialogue between government and business and civil society organizations, the drafting of pertinent laws and regulations and the promotion of regional and international cooperation.

40. Initiatives aimed at building trust and creating a legal framework could be expected in following areas:

- ❑ Certification of digital signatures: recognizing the validity of digital signatures is a basic requirement for carrying out electronic commerce transactions. The appropriate regulation could be based on the UNCITRAL model law and should allow for alternate and privately run authentication services.
- ❑ Contract enforcement: based upon certification of digital signatures, laws should entitle to contract enforcement, as it is the case for other legally recognized contracts.
- ❑ Trade policy: strengthening and coordinating the trade policy throughout the region with measures aimed at supporting, through awareness building activities and training, the negotiation efforts at international, regional and sub-regional level.
- ❑ Taxation and custom duties: the taxation system should not discriminate electronic commerce as opposed to other commercial practices or to rules in other countries. An effective way to ease international trade, to be stimulated by electronic commerce, is to introduce specific measures aimed at easing custom duty clearance and payments.
- ❑ Electronic payments: a major hurdle to electronic commerce in Latin America is the cost and insufficiency of adequate payment systems in the region; rules governing credit card payments over the Internet or payments by other electronic means should be eased.
- ❑ Security and data protection: this is an issue that is often raised by consumer advocacy groups and other players where legislative as well as technical services (to be provided by private or public organizations) may be needed.
- ❑ Consumer protection: a cross-sectoral aspect which involves data protection, fraud, security and other should be addressed in private-public fora at national or regional level.
- ❑ Intellectual property rights: a particularly sensitive area in the international debate in which strong coordination should be pursued.
- ❑ Infrastructure: improving reliability of logistics, including road infrastructure and regulation of delivery services.

### ***Telecommunication and Information Infrastructure***

41. A basic prerequisite for electronic commerce is an appropriate and accessible telecommunication and information infrastructure. Latin America and the Caribbean still have a gap to fill: for instance, main phone line penetration per inhabitant is below 14% in the region, but it attains 65% in North America<sup>10</sup>. To secure improved services at lower costs Latin American countries started to implement significant reforms by liberalizing telecommunication markets and/or privatizing telecom operators.

42. The privatization/liberalization process did not facilitate investment in telecom access in rural and marginalized areas. In most countries private and public telecom companies invest predominantly in more profitable urban areas; thus other less affluent segments of the population are increasingly left behind in the race to connectivity. A promising countertrend, that involves also private companies, may come from Telecenters. The basic principle lies in the development of a connectivity service for entire communities, as opposed to the prevailing model of individual connection. Telecenters have been set up successfully in different countries in Latin America and experience show that they can be financially sustainable as they offer services to citizens, businesses and local or national governments. Telecenters have the advantage of requiring significantly reduced investments for building the communication infrastructure if compared to universal access solutions: the highest costs of investments in the universal access model is given by the connectivity of each and individual home to the network. Telecenters will be instrumental to channel in efficient and inexpensive way public services for education, health and disaster preparedness.

---

<sup>10</sup> Source: ITU, 2000.

43. Apart from basic telephony, other telecom infrastructures are essential for electronic commerce: these include broadband services (including cable TV and satellite), which allow for fast access to Internet operations, and international interconnections, which are constitutive for a country's overall capacity to access the Internet. The region still suffers from the hegemony on international backbones by a few telecommunication operators that are able to impose their pricing policies on leased lines. Furthermore, with e-commerce transactions involving increasingly multimedia applications, high speed (as opposed to dial-up) access to the Internet becomes vital<sup>11</sup>. Alternative Internet access infrastructure to the basic dial-up system that use basic phone lines (ISDN or DSL), cable TV or satellite are on the starting blocks and may provide a valid solution for countries characterized by a low teledensity. Some operators have already started to invest in mobile phone Internet access and services.

44. Another area of business that is crucial to Internet access is the ISP (Internet Service Provider) sector. In many countries ISP are privately owned businesses and no particular government rule limits the competition in this market. However, some countries do have limitations on the market access and allow a de facto monopoly by a few Internet Service Providers, which may have a negative impact on the development of electronic commerce because of quality and pricing of services<sup>12</sup>. In general, Internet access cost in LAC countries is higher than in the US or other OECD countries.<sup>13</sup>

45. IDB's involvement in this area may include following actions:

- Telecommunication sector reform: as past experience has shown, telecommunication reform is an effective way to improve the conditions for universal access to networks. By setting rules for the liberalization of telecom markets (including concessions) and, when needed, privatizing public operators, government can provoke an increase in capital investment and in price competition that may spur the use of the Internet. An annexed area of potential reform is the provision of Internet access services by ISP in which the availability of competing services may be beneficial to the increased access to the Internet. The Bank may support reform plans and regional coordination for this purpose.
- Interoperability, broadband services, Network Access Points and international backbones are decisive for the development of electronic commerce. The Bank could support governments in introducing regional and international standards and lend to projects aimed at strengthening international backbones and other private or public networks and broadband services. Strong emphasis should be given to the additionality of the Bank's investment in these areas.
- Funding infrastructure enhancement and technical innovation to increase access to telecommunication services in rural and geographically isolated areas and poor neighborhoods. The Bank may lend money for public Universal Access Funds, as created in Brazil and Chile, to anticipate infrastructure consolidation for these areas and for the set up multipurpose Telecenters.

### ***Private sector development***

46. The thriving force behind electronic commerce is the private enterprise. Only the business sector may mobilize the huge financial resources needed to strengthen the telecommunication

---

<sup>11</sup> For high speed access navigators may use basic telecommunication infrastructure (e. g. ISDN and DSL), Cable TV and satellite.

<sup>12</sup> According to ITU the ISP market in many countries is still controlled by a few, mainly telecom, players: in Mexico Telmex controls 50% of the market and in Chile two companies, CTC and INTEL, command 95% of Internet access.

<sup>13</sup> According to a recent review the average monthly cost of a ISP Service (telecom connection excluded) in selected LAC countries may vary between US\$12.5 in Peru and 54.35 in Venezuela. However, market competition in Brazil and other countries, is rapidly putting a downward pressure on prices in some cases eliminating altogether the ISP fee.

and information infrastructure or to develop the content industry. There are, though, a number of specific areas in which governments and international organizations may be effective in facilitating the adoption of electronic commerce by small businesses or in the development of technological innovation.

47. When it comes to SMEs and electronic commerce we may distinguish between following typologies:

- a) “brick and mortar” companies, that produce tangible goods that are not digitally reproducible, companies that are operating in the service sector where electronic commerce penetration may vary in function of the ability to streamline operations (e.g. finance and travel),
- b) companies active in the software industry, and
- c) companies that operate in the media industry either in traditional media or directly on the Internet. We may define the companies of the last two groups as “digital” companies (or “digital SMEs”). It may be noted that the development of digital SMEs has acted as a stimulus for other industries to enter the Internet.

48. The economies of Latin American countries are typically characterized by a predominance of small businesses. This predominance is not reflected in the actual digital economy, which is characterized by a significant presence of larger national and foreign corporations. With the expansion of electronic commerce small businesses will move in the new economy and become a major factor for innovation and job creation. However, as of today SMEs in developing countries lack the financial, human and technical resources to swiftly adopt the new technology and compete in a global market. Even more, they may not have access to the technical and business knowledge needed to assess the opportunities and threats that their businesses face in a global economy.

49. The rapid evolution of the new marketplace requires new skills and entrepreneurial conduct that allow the businesses to compete in the digital marketplace and swiftly react to change. As it has been the case in the US, the development of electronic commerce in the LAC region is breeding a new generation of predominantly young and well-educated Internet entrepreneurs.

50. Technology plays a vital role in the development of electronic commerce: open networks, such as the Internet, and the world wide web are breakthroughs that have spurred the development of electronic commerce. Moreover, new technologies are released daily to improve Internet based operations, to refine the quality of image and texts, manage large databases, improve the speed for downloading, strengthen security, perform business operations, such as payments, order placements, Internet-Intranet solutions, customer services and others.

51. But the most important aspect of electronic commerce is the new business environment that it helped to create. As a growing number of companies launch new Internet-based business lines, many of the new technology advancements are in conjunction with the carrying out of business transactions over the Internet. Comparatively few technological innovations are therefore helping to revolutionize the business sector in a way that never had occurred in the past centuries. Under this respect technology is not a mere add-on of previous innovations, but induces a set of new economic and social relationships. The critical factor of the Internet is the development and experimentation of new business models. It is not the technology by itself that makes or breaks an Internet venture, but the underlying innovation and adequacy of the adopted business approach.

52. In the early stages of the New Economy, e-businesses are financed predominantly with equity. The investment fever that characterized the US Internet ventures in the past few years has finally spilled over, albeit in a more selective way, to the LAC region. The number of M&A transactions involving in Latin American Internet start-ups has grown from 2 in 1998 to 79 in the period between January 1999 and March 2000 (CCS, 2000). Due to the relative lack of venture capital funding in the region, Latin American investors are still only starting to invest in the New

economy: capital investment is primarily originated from the US which covers 67% of transactions, followed by Argentina (14%), Spain (8%) and Brazil (6%). The investment is directed to the most promising areas, such as ISPs, portals and business to business. The lower attractiveness of capital investment in “socially responsible” areas hampers the ability of traditional small businesses and micro-enterprises to access productivity tools and market opportunities offered by the Internet.

53. Effective ways to promote SMEs’ entry into electronic commerce include:

- ❑ Raising awareness: there are some complaints in the LAC region that very little information is made available to the private sector and, especially to SMEs, on the opportunities and threats of electronic commerce. A relatively effective way to raise awareness would be to support privately lead initiatives for seminars and other dissemination tools.
- ❑ Strengthening the human resources factor: another area, in which IDB-backed schemes may effectively support the nascent industry, is in the education and training sector. Special initiatives to improve the professional profile of workers in the IT industry of LAC countries have already been launched by the Bank.
- ❑ Science & Technology: within the context of existing S&T programs or in other programs specifically aimed at the IT industry, the Bank could continue to support, with matching grants, innovative projects presented by SMEs or consortia of businesses and universities, including the set up of electronic marketplaces by consortia or trade associations.
- ❑ Content industry and Internet services: the IDB could support specific private or public services that are instrumental for the development of electronic commerce, such as e-commerce services, web-quality seals and litigation arbitration services. Furthermore, information services could be backed that help to share, process and transfer knowledge from and to the communities. These activities can be related to specific sectors, such as the rural economy, tourism or a particular industry.
- ❑ The Informal sector and the Third sector: the support to the private sector should also encompass what is called the informal economy as well as non profit oriented private or semi-private organizations. Under this respect we believe that a central role could be played by local communities (rural villages and poor neighborhoods) which may promote the production of local content or the sale of traditional products. Further initiatives may be aimed, as it is already the case, at specific groups, such as women and youth.
- ❑ Government incentives: temporary moratorium on taxation of commercial transactions over the Internet, assistance in custom related matters (e.g. introducing the UNCTAD-backed trade point for customs clearance; or other specific procedures, as in the case of Brazil).
- ❑ Venture Capital: capital is mostly adequate for the backing of particularly promising initiatives by start-up companies that focus on Internet-related technologies and services. The Bank’s effort should be geared towards easing the flow of such resources to the less “connected” and socially more relevant areas. The Bank should look at particularly innovative approaches in this area, including incubators and community investment funds.

### **Government use**

54. Information technology provides major tools for the public administration. Governments are introducing IT in critical areas to improve relationship with citizens, ease access to and provide information on public services, ameliorate internal processes, reduce costs and increase efficiency and accountability.

55. On the other hand it is widely accepted that governments’ offer of services and content over the Internet is a crucial factor for fostering the use of Internet by the general public and the business sector in particular.

56. Several government activities are relevant for the business sector, including tax administration, taxpayer’s information inlet/outlet and services centers, procurement and business information.

57. Investments in government use of electronic commerce methodology should be consistent with the overall access to Internet in a specific country so as to avoid to set up Internet services that are futile for the majority of the population and that further increase social inequality with technological barriers.

58. Investments in E-Government that may be backed by the IDB include:

- ❑ Fiscal modernization: electronic commerce could be used to ease taxpayer's access to information on tax rules, allow downloading of forms and even online tax filing.
- ❑ Public procurement: introduce smart cards, online catalogs and other electronic commerce solutions for government purchases. Use of Internet based procedures may reduce dramatically the cost of purchasing goods and services, speed up procedures, and increase competition among suppliers.
- ❑ Business information: local and foreign businesses could be informed on a variety of issues including the business environment of a specific country, trade opportunities, standards, intellectual property rights and other industrial regulations, financial incentives.
- ❑ Business services: improving public services in business related areas such as customs and business registration.

***Other related areas***

59. Other activities involving public authorities do also contribute to the development of the of the new economy. The most prominent is education: various experiences in the region and abroad have shown the educational effectiveness and overall impact on communities of introducing the Internet in the learning process. Another sector to be mentioned is the transportation infrastructure

## Bibliography (partial)

- A quantitative Assessment of Electronic Commerce, Ludger Schuknecht & Rosa Pérez-Esteve, WTO Staff Working Papers, September 1999 (Schuknecht & Pérez Esteve, 1999)
- Emergence of Electronic Commerce in Spanish-Speaking Latin America, Charles Davis, University of New Brunswick, 1999 (Davis, 1999a)
- Algunos desafíos para el desarrollo del comercio electrónico en la América Latina de habla hispánica, Charles Davis, University of New Brunswick, Saint John, Canada, 1999 (Davis – 1999b)
- E-Commerce and Development. Can E-Commerce Be an Engine for the Integration of Developing Countries in the Global Economy?, [Bruno Lanval], UNCTAD Regional Meeting on Electronic Commerce and Development, Lima, 4-5 August 1999 (Lanval, 1999)
- IDC Research: over 2 million Net Users in Argentina by 2005, NUA Internet Survey, July 2, 1999 (NUA-Survey, 1999a)
- Argentina Limpes to E-Commerce, Declan McCullagh, Wired News, May 15, 1999 (McCullagh, 1999).
- Internet Indicators: Q1 '99 See's 127 Percent Growth in Ecommerce, NUA Internet Survey, October 27, 1999 (NUA-Survey, 1999b)
- IDC Research: Latin American Ecommerce to Top USD 8 Billion, NUA Internet Survey, June 23, 1999 (NUA-Survey, 1999c)
- Boston Consulting Group: Brazil diving Latin America, NUA Internet Survey, July 27, 1999 (NUA-Survey, 1999d)
- Latin America drawn into Compaq's web, Ken Warn, Financial Times, November 2, 1999 (FT-Warn, 1999).
- Latin America's Data Network Services Approaches \$2.7 Billion, IDC Reports, IDC, September 20, 1999 (IDC, 1999a)
- Interest in eCommerce in Latin America Runs High But Still a Nascent Market, New IDC Survey Finds, News Today, PR Newswire October 21, 1999 (PRSW, 1999a)
- Comercio electrónico y pymes: peligros y oportunidades, Esteban Valente, TIPS, 9 de Julio 1998 (Valente, 1998a)
- Microsoft, Trade Organization's Call for Improvements to Laws Related to Growing E-Commerce in Latin America, Prnewswire, September 30, 1999 [Primary Source, www.microsoft.com] (PRNW, 1999b)
- La economía digital en Chile, Editorial Cámara de Comercio de Santiago, Abril 2000 (CCS, 2000).
- Online in Latin America, John Barham, Financial Times, October 7, 1999 (FT-Barham, 1999)
- Las PYMES y el Comercio Electrónico. Un proceso lleno de contradicciones, Esteban Valenti, TIPS, 16 al 18 de abril de 1998 (Valenti, 1998b)
- Report of the Consultative Meeting on the Formulation of an IDB Strategy for Information Technology and Telecommunications, IDB, internal document, January 1999 (IDB, 1999a)
- OP 711 Information Age Technologies and Development, IDB, April 1999 (IDB, 1999b).
- Challenge to the Network, Internet for Development – Executive Summary, ITU, October 1999 (ITU, 1999)
- Global Information Infrastructure – Global Information Society (GII-GIS). Policy Recommendation for Action, Committee for Information, Computers and Communications Policy – OECD, 1997 (OECD,1997)
- Small and Medium Sized Enterprises and Electronic Commerce, (OECD, 1998)
- Electronic Commerce – Opportunities and Challenges for Government, OECD [John Sacher], 1997 (Sacher, 1997)

The Economic and Social Impact of Electronic Commerce: Preliminary Findings and Research Agenda, OECD, 1999.

Americas Telecommunication Indicators 2000, ITU, April 2000 (ITU, 2000)

Legal Issues in Electronic Commerce in the Western Hemisphere, Daniela Ivascanu, contribution to the Conference *Responding to Legal Obstacles to Eelectronic Commerce in latin America*, 1999 (Ivascanu, 1999)

Electronic Commerce in the Western Hemisphere, Sherry Stephenson and Daniela Ivascanu, 2000 (Stephenson & Ivascanu, 2000)

E-commerce/Internet. B2B: 2B or not 2B?, Goldman Sachs, 1999 (Goldman Sachs, 1999)

A Telecom Scorecard 1999-2000: Consumer costs for Basic Services in the Americas, Margalit Edelman and Peter Mountford, Alexis de Toucqueville Institution, 2000 [Edelman & Mountford, 2000)