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FACILITATION OF TRADE AND TRANSPORT IN LATIN AMERICA AND THE CARIBBEAN



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## INFORMATION TECHNOLOGIES IN TRADE FACILITATION AND THEIR USE BY MSMEs

This issue of the *Bulletin* is based on the material presented at the seminar Information Technology for Development of Small and Medium-sized Exporters in East Asia and Latin America, which was held on 23 and 24 November 2004 at the headquarters of ECLAC in Santiago, Chile.

The seminar was part of the project entitled Comparative Study on East Asian and Latin American IT Industry, financed by the thematic fund for information and communication technologies (ICT) for development of the United Nations Development Programme (UNDP) and has been carried out in close collaboration with the Institute of Developing Economies (IDE), an organization that belongs to the Japanese External Trade Organization (JETRO).

This article contains a discussion of the concepts, definitions and standards associated with electronic commerce, as well as the opportunities to be seized and the challenges to be met so that MSMEs can expand their electronic business. The presentation on which this article was based and other related presentations can be found at: [www.eclac.cl/ld.asp?id=20345](http://www.eclac.cl/ld.asp?id=20345)

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### 1. INTRODUCTION

The current context of economic globalization and the development of information and communication technologies (ITC) is paving the way for new opportunities for generating different types of business arrangements between enterprises (B2B e-commerce), regardless of their size or geographical location. According to estimates prepared by e-Consulting Corp. ([www.e-consultingcorp.com.br](http://www.e-consultingcorp.com.br)), the global value of B2B business generated through e-commerce amounted to US\$ 210 billion in 2000 and is expected to reach US\$ 2.38 trillion in 2005. In the Latin American countries, the volume of such business was US\$ 400 million in 2000, with projections for

2005 of the order of US\$ 9.3 billion.

**The international and internal digital divide.** Various aspects of the digital divide pose significant challenges for the Latin American and Caribbean countries. Firstly, to reduce the international digital divide between the countries of the region and the developed countries; and second, to reduce this divide at the internal level, between the countries of the region and, in particular, between the enterprises of these countries. One illustration of this situation is that in various countries of the region less than 5% of micro-, small and medium-sized enterprises (MSMEs) have a broadband Internet connection, although it is an essential element or condition of ITC infrastructure for effective online transactions and other business dealings.

What is more, very few of those enterprises that do have an acceptable ICT structure are taking advantage of the opportunities offered by the new electronic commerce environment. To a large extent, this is due to a lack of access to the information generated by the different cooperation organizations and to the lack of the necessary skills to make use of the technologies currently available. Many enterprises believe it is sufficient to have a broadband connection and a web site consisting of a few pages.

There is more to e-commerce than merely buying or selling over the Internet or via the web; e-commerce should be seen as a way of generating business among enterprises, other entities and individuals. ICT infrastructures are just one tool or mechanism that can be used to launch business strategies and to add value to trade relations.

In this context, it would be advisable to implement more and better public policies in order to avoid duplications and generate synergies in association with the private sector. Policies in this area should be oriented towards disseminating knowledge and training MSMEs in order to assist their integration into the world of digital global trade.

## 2. ELECTRONIC COMMERCE: CONCEPTS, DEFINITIONS AND STANDARDS

**e-Commerce** is the conduct of business communications and transactions through computers and through networks. It consists of the purchase and sale of merchandise and services via digital communication, including web and Internet transactions, electronic fund transfers, smart cards and digital cash. A distinction should be made between electronic commerce and electronic business.

**e-Business** is the result of electronic commerce. It consists of conducting business on the Internet, not only buying and selling but also providing services to clients and collaborating with trade partners. The term includes the idea of conducting business entirely online.

**International standardization.** In order to be able to operate in a globalized market which is increasingly integrated and competitive, internationally recognized standards are needed such as UN/EDIFACT and ebXML, which are described below. In this context, MSMEs should take advantage of the beneficial exchange of information, knowledge and economies of scale that they can obtain from the various trade groupings and associations or chambers of commerce. Collaboration between MSMEs and large enterprises facilitates the formation of *clusters* and participation in production, value and logistics chains.

**EDI – Electronic Data Interchange** is the transfer of structured data through agreed standard messages, from one information system to another, by electronic means. Usually this transfer takes

place between two enterprises through a value added network (VAN). Since its first appearance at the beginning of the 1960s, EDI has mainly been used by large enterprises, where the high implementation and operation costs are usually offset by the economies of scale generated, in view of the high volume of information exchanged. The low volume of transactions of MSMEs is one of the main reasons for their low level of EDI use.

Although the structure and syntax of conventional EDI are not very user friendly, its benefits include: a reduction in the manual workload and the associated errors; an increase in the volume and quality of the documents and messages exchanged; and a reduction in transmission times.

**UN/EDIFACT – United Nations Electronic Data Interchange for Administration, Commerce and Transport** is the international EDI standard developed by the United Nations Economic Commission for Europe (UNECE). At present, there are over 200 UN/EDIFACT messages or documents to cover the various activities carried out by the public and private sectors. Maintenance and development work in relation to this standard are carried out by UN/CEFACT, *United Nations Centre for Trade Facilitation and Electronic Business*. [www.unece.org/cefact/](http://www.unece.org/cefact/).

**UN/CEFACT and its objectives:** UN/CEFACT contributes to the development of standards for electronic business and also helps to diminish transaction costs by simplifying the information flow and reducing bureaucracy. More information on the activities of CEFACT can be found in [FAL Bulletin N° 144](#).

UN/CEFACT activities include the enhancement of UN/EDIFACT and of e-Business **XML**, **ebXML** (ISO 15000-2:2004), the latter being a joint initiative of OASIS (the Organization for the Advance of Structured Information Standards) and UN/CEFACT.

**XML (EXtensible Markup Language)**. This is an Internet mark-up language used for documents that contain structured information. Developed in 1998 by the *World Wide Web Consortium* ([www.w3c.com](http://www.w3c.com)), XML brings a new way of conducting EDI via Internet. Unlike conventional EDI, it is simple and flexible. It is very user-friendly and requires the development and use of specific applications to translate or interpret the messages or documents sent or received.

**ebXML** (electronic business using XML) is a modular suite of standardized specifications and methods that enables enterprises of any size or geographical location to conduct business using the Internet. This is especially significant for MSMEs, as they can benefit from the low cost of transactions conducted via the Internet, as compared to using conventional EDI through a VAN.

Table 1 shows the dynamic growth of e-commerce over the period 1999-2005; it also illustrates the higher volume of transactions between businesses (B2B) as compared to between businesses and consumers (B2C).

**Table 1:** Volume of transactions between businesses (B2B) and between businesses and consumers (B2C), worldwide and in Latin America

WORLD	1999	2000	2001	2002	2003	2004	2005
e-Commerce (billions of dollars)	130	282	516	916	1420	2800	4300
B2B (billions of dollars)	110	210	365	666	995	1641.42	2380

B2C	(billions of dollars)	20	72	152	251	425	565	730
LATIN AMERICA								
e-Commerce	(billions of dollars)	0.6	1.5	3.3	6.4	11	10.2	15.7
B2B	(billions of dollars)	0.4	0.9	2.9	3.5	4.5	6.0	9.3
B2C	(billions of dollars)	0.2	0.5	1.3	1.5	2.6	4.2	6.4

**Source:** [www.e-consultingcorp.com.br/insider\\_info/indicadores.htm](http://www.e-consultingcorp.com.br/insider_info/indicadores.htm)

### 3. SOME ADVANTAGES OF THE USE OF ICT BY MSMEs

The opening of new markets, stimulated by the globalization of economies and free trade agreements, results in new business opportunities for MSMEs. The use of ICTs, when they are applied with a focus on business strategy, can bring significant benefits in terms of entrepreneurial efficiency and capacity for innovation, owing to the rapid access to information on the web, the handling of information and the feasibility of expanding the client base. The main advantages for MSMEs of using ICTs are that the company can:

- Seek information on potential markets and on access to them;
- Be more efficient in its administrative procedures;
- Offer goods and services on the global market;
- Offer better service according to the needs and expectations of clients.

### 4. CHALLENGES TO OVERCOME SO THAT MSMEs INCREASE THEIR USE OF ICTs

The research carried out and the information collected in the seminar on which this article is based show that the adoption of ICTs in Latin American and Caribbean countries has so far been insufficient. For this situation to be rectified to any substantial degree, the following challenges will have to be met:

- Rationalizing administrative and productive processes, and overcoming resistance to the introduction of innovative activities;
- Expansion of ICT infrastructure in order to have access to broadband communication;
- Access to financing and credit services;
- Investment in human capital through training and education programmes;
- Development of an entrepreneurial spirit and culture in accordance with the needs of electronic commerce;
- Adaptation of the legal framework in order to facilitate the introduction of ICTs;

- Progress in e-Government in terms of citizens' services, tenders and recruitment;
- Development and implementation of the single window concept (see below);
- Building of consumer confidence in the electronic world;
- Enhancing network and information security.

**Risks associated with electronic commerce.** For electronic commerce to develop effectively, a reliable environment is needed to reduce the level of risk of the following: (i) interception and manipulation of messages; (ii) problems with the validity of documents; (iii) illicit copying of personal data.

Various feasible techniques are currently available on the market for conducting business in an electronic environment. Encryption, digital signatures and personal identification numbers (PIN) are mechanisms which are used to verify the identity of the issuer of a message or the signer of a document, and to guarantee that the original content has remained unchanged.

Box 3 shows the dates of promulgation of the laws on digital signatures that some countries have adopted to support a legal framework that facilitates the use of ICT and electronic commercial transactions.

#### **Box 3: Legislation passed on the issue of electronic signatures**

Italy	May 1997	England	February 2000	Venezuela	March 2001
Germany	November 1997	France	March 2000	Canada	March 2001
Puerto Rico	August 1998	Japan	April 2000	Panama	June 2001
Singapore	February 1999	Mexico	May 2000	Brazil	August 2001
Austria	May 1999	Australia	June 2000	Argentina	December 2001
Colombia	August 1999	Belgium	July 2000	Chile	March 2002
Spain	September 1999	Peru	June 2000	Finland	January 2003
United States	January 2000	Ecuador	February 2001		

**Source:** Modelos de Firma Electrónica Simple para la Administración Pública, Chile. ([www.modernizacion.gov.cl](http://www.modernizacion.gov.cl))

## **5. TRADE FACILITATION: MEASURES THAT SUPPORT MSMEs**

**¿What is trade facilitation?** Trade facilitation is the systematic rationalization of the procedures and documents used in international trade. This refers to the trade procedures, practices and formalities needed to obtain, present, transmit and produce the data required for the movement of merchandise in international trade. According to the World Trade Organization, there are two ways of “facilitating” trade: (i) reducing the paperwork at the point of entry of the merchandise into the country and (ii) providing easier access to the kind of information referred to above.

An international trade transaction typically involves somewhere from 20 to 40 different documents, in over 360 paper copies, and many actors based in different countries. It has been estimated that documentation costs can be as high as 10% of the value of the goods, which at the global level is equivalent to an annual amount of the order of US\$ 550 billion. One of the tools that could rationalize and simplify the paperwork involved is a single window system.

**The Single Window** is defined in UN/CEFACT Recommendation No. 33 as a facility that allows

parties involved in international trade and transport to lodge standardized information and documents with a single entry point to fulfil all import, export, and transit-related regulatory requirements. If the information is electronic, then individual data elements should only be submitted once.

The Single Window is generally managed centrally by a single neutral public entity, enabling the appropriate governmental departments to have access to the relevant information for their purposes and those of the public.

Various governments in Latin America and the Caribbean, in their efforts to modernize public administration, have carried out valuable initiatives to help users to go through procedures by electronic means, but with limited scope in terms of full interoperability of the platforms and systems of the different bodies that make up the public system.

A Single Window does not necessarily imply the implementation and use of high-tech information and communication technology, although facilitation can often be greatly enhanced if governments identify and adopt relevant ICT technologies for a Single Window. For more information, please consult the document *Recommendations and Guidelines on establishing a Single Window*, ECE/TRADE/352, 36 pages, October 2004, available at: [http://www.unece.org/cefact/recommendations/rec33/rec33\\_ecetrd352\\_e.pdf](http://www.unece.org/cefact/recommendations/rec33/rec33_ecetrd352_e.pdf).