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E-Commerce and Development Report 2002

EXECUTIVE SUMMARY

1. E-commerce around the world: A brief Status Report

In contrast with the weak performance of several key developed and developing economies in recent months and the difficulties experienced by the information technology (IT) sector, Internet use and particularly electronic commerce have continued to grow at a fast pace since the publication of the E-Commerce and Development Report 2001.

The number of Internet users worldwide is expected to reach 655 million by the end of 2002. Developing countries accounted for almost one third of new Internet users worldwide in 2001. In most of them, however, Internet penetration rates remain very low. As for e-commerce, the following table presents three estimates of global online sales. In the most optimistic forecast, e-commerce would represent about 18 per cent of worldwide business-to-business and retail transactions in 2006.

Worldwide E-Commerce: some Estimates and Forecasts
(Billions \$)

Source	2000	2001	2002	2003	2004	2005	2006
Forrester			2,293.50	3,878.80	6,201.10	9,240.60	12,837.30
IDC	354.90	615.30				4,600.00	
Emarketer (B2B only)	278.19	474.32	823.48	1,408.57	2,367.47		

Regional perspectives

Africa

Internet connectivity has improved in Africa. The number of dial-up subscribers grew by 30 per cent in 2001 and now stands at about 1.3 million. Incoming Internet traffic represents 1 gigabyte per second, while outgoing traffic is around 800 megabytes per second. However, only 1 in 118 Africans has Internet access, and only 1 in 440 has access if the five countries with the most users are excluded from the calculation. Cost remains an extremely high barrier. Business-to-business (B2B) outside South Africa remains almost negligible. However, B2B opportunities have been identified in the online and offline services sectors. In the business-to-consumer (B2C) sector, handicrafts and products and services targeting Africans outside their home countries seem to dominate.

Latin America

E-commerce is highly concentrated in four relatively developed Internet markets (Argentina, Brazil, Chile and Mexico). Overall, between 50 and 70 per cent of Latin American enterprises in the formal sector are estimated to have access to the Internet. The Internet is widely used for business contacts and information-gathering, but only a minority of enterprises carry out online transactions. Large transnational corporations, notably in the automotive sector, are playing a key role in the development of online B2B transactions, especially in Brazil and Mexico. Banking is another sector in which B2C providers in the region, particularly in Brazil, have

developed a competitive edge. Brazil has also made significant progress in business-related e-government applications.

Asia and the Pacific

It is in this region that e-commerce is spreading most quickly among developing countries. The region's enterprises, particularly in manufacturing, are exposed to pressure from customers in developed countries to adopt e-business methods and are investing to be able to do so. China's population of Internet users is already the world's third largest. The transformation of this great potential into an actual e-commerce market may not happen at the same pace. Logistical difficulties such as insufficient transport networks represent a serious hurdle to B2B development, as they make it difficult for companies to realize the potential gains of increased efficiency in their supply chains.

Countries with economies in transition

Fast growth in both B2B and B2C e-commerce is expected in the Central and Eastern European countries with economies in transition. However, e-commerce in transition economies is not likely to reach 1 per cent of global e-commerce before 2005. While the more technologically advanced nations in Central Europe and the Baltic have relatively high rates of digital literacy and are laying the foundations for the development of e-commerce activity, others (particularly in the Balkans, the Caucasus and Central Asia) remain far behind.

North America and Western Europe

In the most advanced markets e-commerce growth seems to have been little affected by the prevailing poor economic conditions. B2B e-commerce in 2001 constituted at most 2 per cent of all B2B transactions in the United States and much less in Europe, but the share of online transactions in total B2B sales is growing quickly on both sides of the Atlantic, and it is estimated that in the next two to four years it will approach 20 per cent, representing a massive shift of business operations towards the online environment. Enterprises will focus on e-business tools for procurement, supply chain operations, business process outsourcing and, to a certain extent, e-marketplaces. In the case of B2C e-commerce, persistent growth during the economic slowdown could indicate that, rather than being a maturing activity, online retailing is still in a growth phase even in those economies where it took off earlier. Although even in the United States the share of B2C e-commerce in total retail sales remains modest (below 3 per cent), it has progressed significantly more in a number of sectors, in some of which online sales already represent up to 18 per cent of total sales. Some of these sectors, such as software, travel and tourism services and music, could represent good opportunities for developing-country suppliers.

E-commerce and development: the international dialogue

The effects of Internet-induced changes in the global economy and their implications for developing countries will depend to a significant extent on factors that policy-makers, business players and other stakeholders can influence. Policies must be designed, articulated in coherent e-strategies and implemented in partnership with all the relevant players to ensure that the new opportunities for creating, transforming, applying and exchange information and value are used to improve the productivity of developing economies and their enterprises. The process of designing

the strategies that can make e-commerce a force for development must necessarily include an international component that supports national efforts by ensuring that the developmental perspective is present in a meaningful way in the multiple international discussions of the Internet, information and communications technology (ICT) and the organization of their economic applications. A close relationship between national e-commerce strategies and international cooperation would be greatly facilitated by the emergence of a common understanding of the fundamental elements of e-commerce strategies for development, specially if, as seems desirable, ICT is to be mainstreamed into official development aid programmes.

2. The Domain Name System and Issues for Developing Countries

Domain names have evolved very rapidly into a common feature used to identify a website's location while at the same time expressing the name, brand or other identifying features of the person, business or organization using the domain name. As the use of information and communications technology (ICT) and e-commerce spreads in developing countries, domain names are expected to become important for commercial and non-commercial uses in these countries.

The development of a national domain name system (DNS) infrastructure is an important means of facilitating the online exchange of information in developing countries and thus creating a valuable resource for communication, education and business. At the same time, however, domain names and the DNS present a complex array of commercial, technical, policy and legal questions which highlight many of the cross-border issues presented by the Internet and e-commerce. Developing countries need to understand these issues and formulate responses that are appropriate for the country's online community, satisfying relevant legal, cultural, economic, language and other dimensions.

Policy decisions are required in relation to developing countries' national country code top-level domains (ccTLDs), which foster not only ease of registration of domain names but also overall confidence in the ccTLD space. There is no single model for structuring a ccTLD that would meet the needs of all countries or territories. In developing countries, ccTLD administrators can develop appropriate policies to meet the needs of their community, with the overall goal of promoting access to and use of the Internet. In particular, authorities in developing countries should be aware of the architecture and functioning of the DNS so that they can establish a reliable DNS environment to ensure that predictable results are achieved when a user enters a domain name. It is important that the overall structure of the DNS market within a country provide a competitive environment, at least at the registrar level. One key decision is whether the ccTLD should be structured more openly so that anyone, even non-residents, can register, or whether to reserve the ccTLD exclusively for local residents and companies. CcTLD administrators in developing countries can enhance domain name registration practices by (i) ensuring that standard agreements exist for domain name registrants setting out their rights and obligations; (ii) ensuring equal treatment of all eligible registrants requesting domain names; (iii) making the policies and procedures of the ccTLD available on the Internet for public inspection; (iv) establishing a clear policy for maintaining registrants contact information, and for protecting their privacy; and (v) establishing a dispute resolution policy.

Increasing amounts of information are becoming available to developing country experts to assist in formulating an appropriate approach for management of the ccTLD. Developing-country ccTLD managers should become involved in the relevant forums for exchanging information about and participating in the DNS; information about ccTLD organizations is provided in this chapter.

The Internet Corporation for Assigned Names and Numbers (ICANN) is a central player in the management of the DNS, with its governance and coordinating functions extending to many areas of importance. While it has achieved a number of important milestones, it has not been able to avoid continuing questions concerning its structure, its basis for legitimacy, its sources of funding and its international representativeness. Unlike a treaty-based organization, ICANN was established as a private-sector organization with responsibility for coordinating the DNS in a number of key areas. ICANN has been funded through the registries and registrars participating in the global DNS and has introduced the concept of “accreditation” for companies seeking to offer registry and/or registrar services for the generic top-level domains (gTLDs) in the DNS. One issue of special concern to developing countries is that most ccTLD administrators have yet to sign any formalized agreement with ICANN. Such an agreement would define rights and responsibilities, including funding commitments.

A reform process is underway for ICANN. For developing countries, the reform of ICANN is an important issue because it gives these countries a renewed opportunity to engage in the ICANN process, either directly or through their regional ccTLD organizations so that their perspectives, requirements and international diversity are duly taken into account.

Domain names have generated a number of legal issues, key among them the tension arising from conflict between domain names and the system for protecting trademark rights. Relying on trademark law, a company can develop goodwill in connection with its brand and expect that the brand will be protected from infringement, while consumers will similarly be protected from deceptive practices. Domain names were launched into the commercial space in a manner that largely disregarded this aspect of the intellectual property system. The automatic process for registering a domain - first used for the gTLDs but now commonly applied also in many ccTLDs - created conditions that permitted a flood of registrations of popular names. A positive consequence of this approach is that it has presented a low entry barrier for the many new entrants into e-commerce, including businesses in developing countries. At the same time, however, the disconnect between the DNS and the trademark system has given rise to practices such as the bad-faith registration by third parties of trademarks as domain names in order to take unfair advantage of the marks.

After a somewhat painful transition period in which trademark owners and domain name registrants, and various other stakeholders, have battled to draw the lines that should delimit fair as opposed to abusive practice, the situation is much improved today. The avoidance of such disputes is an objective being pursued, albeit not without problems, in the implementation of the new gTLDs (e.g. .biz and .info). More significantly, the implementation and acceptance of an international dispute

resolution system, the Uniform Domain Name Dispute Resolution Policy (UDRP), which applies to registrations in the gTLDs and in some ccTLDs, has allayed concerns. The UDRP was adopted by ICANN in late 1999, and since then more than 6,000 cases have been filed under the procedure.

The UDRP is administered by multiple dispute-resolution service providers applying a uniform procedure. This uniformity works to enhance a general understanding of the UDRP, which is of benefit to all parties, be they in developed or developing countries. The UDRP sets out bright-line criteria for determining whether a domain name registration should be considered abusive, and the scope of the remedies relates only to the status of the domain name registration. The cost of bringing a claim under the UDRP is reasonable even for parties in developing countries. The complainant is normally required to cover the costs of the procedure, unless the respondent has demanded a three-member panel, in which case the parties share the extra costs of the panel.

The UDRP has met with widespread international acceptance. Complainants entrusting cases to the procedure include businesses from every sector of commerce, including many smaller enterprises and individuals from various countries, and the parties filing or defending cases have come from more than 70 countries on every continent. At the same time, a number of criticisms have been lodged against the UDRP, including that it promotes forum shopping among the dispute-resolution service providers and that the decisions themselves are inconsistent and sometimes poorly reasoned. These criticisms have engendered responses in the ongoing discussions concerning the UDRP, including the suggestion that an appeals mechanism be established. It is important that developing countries become involved in the current UDRP debate and in the discussions taking place as to whether protection should be provided in the DNS for categories of identifiers other than trademarks, such as personal names, geographical indications or trade names, to name a few.

3. Gender, E-commerce and Development

While there is little doubt about the role of information and communication technologies (ICT) and e-commerce in driving the global economy and reshaping existing business structures, many are concerned about issues relating to the “digital divide” and the risk of excluding a large part of the population, especially in developing countries. In this context, attention is increasingly being paid to the question of whether women are benefiting as much as men from the new technologies, or whether the digital revolution reinforces existing gender inequalities in the job market and other parts of the economy.

Enhancing business opportunities for women entrepreneurs

ICT and e-commerce are attractive to women entrepreneurs (who in many developing countries account for the majority of small and medium-size enterprise owners), allowing them to save time and money while trying to reach out to new clients in domestic and foreign markets. Success stories in business-to-consumer (B2C) retailing or e-retailing are heard from all developing-country regions, demonstrating how women have used the Internet to expand their customer base in

foreign markets while at the same time being able to combine family responsibilities with lucrative work. However, in spite of the publicity given to e-retailing, its scope and spread in the poorer parts of the world have remained small, and especially women working in microenterprises and the informal sector are far from being in a position to access and make use of the new technologies. Moreover, B2C e-commerce is small compared to business-to-business (B2B) e-commerce and thus only benefits a small number of women.

Creating new employment in IT-related services

New job opportunities created by ICT through outsourcing in the services sector look promising for women, who form a significant share of the workforce in the IT-enabled industries in developing countries, notably in Asia, but increasingly also in Africa and Central and Latin America, where new IT-related services are being created. These women are engaged in activities such as data processing and storing, transcription services, responding to customer call or claims processing. Some of these activities are carried out through teleworking, from a distant site such as a community center or from home. Home-based teleworking offers women the opportunity to earn an income while taking care of family responsibilities. On the other hand, it hampers their career prospects and therefore seems to be attractive to only a limited number of women, such as those in childbearing age wishing to remain economically active.

Identifying the barriers

Women often face greater barriers than men in getting education and training that can equip them with computer literacy, foreign language proficiency and business skills. In the developing parts of the world, parents tend to give priority to the education of male rather than female children. Women also often find it more difficult to engage in new forms of self-employment created by ICT, such as running telekiosks or cyber-cafes if they do not have the same access as men to family property or institutional financing. Women make up the majority of the rural poor in the developing countries, and in the countryside access to ICT infrastructure is less available than in urban areas. Given their increased responsibilities at home, they have less time to access the technologies outside their homes or to enhance their command of the IT, language and other skills required by the information economy. Few women work in the higher-skilled segments of the IT-enabled industry, and even those in lower-skilled areas are often hard to retain once they enter childbearing age and social and cultural norms prompt them to leave their jobs and attend to the young and elderly.

Mainstreaming gender in ICT policy-making

Policy-makers will have to play a key role in creating an environment favourable to the participation of women in the digital economy. Education is the most important policy intervention for improving the ability of girls and women in developing countries to participate in the information society. Apart from ensuring equal access for girls and boys to primary and secondary schooling, policies should promote women's access to business and technical education, especially at tertiary levels. Other key policy interventions should focus on providing women with access

to Internet infrastructure and technologies, financial capital and e-business and IT-enabled employment opportunities. Improving women's access to Internet technologies requires extensive infrastructure building to bring basic telecommunications in rural and peri-urban areas, which are currently underserved in many developing countries. This should include common facilities such as telecentres and telephone shops that offer public Internet services and are located in venues women frequent, such as markets, places of workshop, health clinics, schools and post offices.

4. M-Commerce

M-commerce is often defined as the buying and selling of goods and services using wireless handheld devices such as mobile telephones or personal data assistants (PDAs).

In the last four years, growth in the number of mobile telephone users worldwide has exceeded fixed lines, expanding from 50 million to almost one billion in 2002. This fast growth stems from the cost advantage of mobile infrastructure over fixed-line installation and from the fact that mobile network consumers can simply buy a handset and a prepaid card and start using it as soon as the first base stations are in place, without having to open a post-paid account.

The introduction of wireless communications has also brought wireless data services, essential to conducting m-commerce, to many developing countries. If the convergence of mobile and fixed Internet and information and communication technologies continues, first access to the Internet for a significant part of the world will be achieved using mobile handsets and networks. Wireless technologies have made inroads even in relatively low-income areas, where prepaid cards allow access to people who cannot have a prepaid subscription because of billing or creditworthiness problems. Developing Asia is the leader in this area with Latin America showing slower adoption of wireless technology amid predictions for strong acceleration in the coming years. Africa has more than 20 million mobile device users, and by the end of 2001, twenty-eight African nations had more mobile than fixed subscribers. In many least developed countries, more mobile users have been added during the last few years than fixed lines during the entire history of fixed lines' operations.

M-commerce applications are already seeing everyday use. Worldwide m-

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