

E-Commerce in Developing Countries

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INTRODUCTION

Internet access in *developing countries* is growing rapidly. Developing countries accounted for one-third of Internet users worldwide by the end of 2003, and the catch up rate is getting faster. Between 2000 and 2003, developing countries increased their share of the Internet population of the world by nearly 50%. This has led some commentators, such as World Bank to claim that initiatives to close the *digital divide* are no longer relevant (Atkins, 2005). However, most residents of these countries still have no access to the Internet. For example, Internet access in Africa is less than two percent in a population of more than 900 million; the lowest rate of access in the world (Dunphy, 2000, UNCTAD 2004). *E-commerce*, *e-government*, and *mobile commerce* provide significant opportunities for developing countries, but their adoption will be slowed by technological, cultural, economic, political, and legal problems (Davis, 1999; Enns & Huff, 1999). Differences in e-readiness and related barriers to e-commerce will sustain substantial differences between regions of the world, between countries within regions, between urban and rural areas within countries, and between the genders and age groups.

Different opinions exist as to what benefits the use of information and communication technologies (ICTs) can offer developing countries. Do they provide developing countries with the opportunity to “leapfrog” ahead, skipping over certain stages of infrastructure development? Or do ICTs simply widen the gulf between the developed and the developing world even further (Economist, 2005)? The World Summit on the Information Society (WSIS) views ICTs as enabling technologies that can improve the quality of life for citizens of developing countries. Whereas Bill Gates view is that ICTs can provide little benefit to developing countries until more basic needs like clean water, health, and education have been met. In spite of this lack of agreement the reality is that if a basic communications infrastructure is available, options do exist to utilize e-commerce in developing countries. This article explores the potential opportunities that these technologies offer, and considers the barriers to uptake.

E-commerce involves buying and selling goods and services within an electronic marketplace, and also servicing customers, collaborating with business partners, and conducting electronic transactions within an organiza-

tion (Turban, McLean, & Wetherbe, 2004). E-commerce can take place between one business and another (Business-to-business), and between a business and its customers (business-to-consumer).

E-government is the application of e-commerce technologies to the public sector. Developments in e-government have opened up the potential for governments worldwide to improve the services they offer to their citizens. A move towards e-government offers particular advantages to developing countries that may have difficulties interacting with their citizens through more traditional communication channels. E-government consists of two separate areas. First, it is concerned with changing internal government operations, inasmuch as information technology is used to support cooperation among government agencies (government-to-government). Second, it is used to support external government operations, in particular the interactions between citizens and companies, and the public sector, on a self-service basis (government-to-citizen) (Howle, 2003).

Mobile commerce offers the potential to bypass inadequate landline telecommunications infrastructure. Growth in the number of mobile telephone users worldwide has expanded from 50 million in 1998 to over 1.3 billion by 2004 (Turban et al., 2004). *Wireless technologies* have taken off even in relatively low-income areas of the world, where prepaid cards allow access without having to pass a creditworthiness check. At the end of 2003, Africa had more than 50 million mobile device users, whilst the number of fixed line telephone subscribers stood at only 25.1 million (ITU, 2004). Similar trends have been observed in Latin America and Asia, where handheld devices enable users to overcome the difficulties caused by low fixed line penetrations.

BACKGROUND OF E-COMMERCE WORLDWIDE

Table 1 shows the number of Internet users in the major regions of the world, reflecting vast differences in e-readiness. Less than 11% of the population in the developing regions of Africa, Middle East, Latin America and the Caribbean, and Asia were using the Internet in 2005 as compared to regions such as North America, Europe, and

Table 1. World Internet usage (Adapted from <http://www.internetworldstats.com/stats.htm>)

REGION	POPULATION (2005 Est.)	INTERNET USAGE (2005)	USAGE GROWTH 2000-2005	% IN REGION
Africa	900,465,500	12,937,100	187%	1.4%
Asia	3,612,363,200	266,742,420	133%	7.4%
Europe	730,991,100	230,923,400	124%	31.6%
Middle East	259,499,800	17,325,900	228%	6.7%
North America	328,387,000	218,400,400	102%	66.5%
Latin America/ Caribbean	546,917,200	55,279,800	206%	10.1%
Oceania / Australia	33,443,500	15,838,200	108%	47.4%
WORLD	6,412,067,200	888,681,100	126%	12.7%

Australasia where at least 30% of the population used the Internet.

Africa

The digital divide is largest in Africa, with only 1.4% of the population having access to the Internet, as compared to 50% in most advanced countries. However, local Internet connection is now available in all African capital cities. Business-to-business e-commerce is growing in South Africa, but there have been limited developments in the rest of the continent. There are some success stories in the business-to-consumer area, mostly in the traditional handicrafts area, where the Internet offers the opportunity for a niche player to access the global market of Africans living abroad.

Asia

Asia leads in the adoption of e-commerce among developing countries. This is partly due to demographics, but also because organizations tend to be more integrated into global trade flows than in other developing countries. Manufacturing enterprises in particular face pressure from their customers in developed countries to adopt e-commerce. China offers the greatest potential e-commerce market, and is now considered one of the top five nations in the world in terms of Internet use. While many Chinese are going online for the first time, less than 20% have done any online shopping (Hsu, 2003).

Latin America

Four countries, Argentina, Brazil, Chile, and Mexico, account for two-thirds of Internet users in the region. Most business use involves searching for contacts, and gathering information with limited use of transactions. However, business-to-consumer e-commerce is growing,

with online car sales, consumer auctions, travel, computer hardware and software, and banking responsible for the highest revenue. Business-to-business e-commerce is being used mainly by large transnational corporations in the automotive sector.

Middle East

The number of Internet users is growing rapidly, with the two main drivers of demand being the Internet and e-mail. Only a handful of large companies have adopted business-to-business e-commerce. The development of business-to-consumer e-commerce is hindered by high communication costs, and the fact that many Arab consumers are more comfortable with cash than credit card payments. This has led to some companies, such as Lebanon's GetForLess convenience store, implementing a hybrid e-commerce system that enables customers to order online, yet pay by cash (Gibeily, 2001).

North America/ Europe/ Oceania

In the developed world the growth in e-commerce continues. The business-to-business area is growing faster than business-to-consumer, with Forrester Research Inc. (2001) forecasting that 26% of business-to-business sales in the United States will be traded online by 2006, business-to-consumer has progressed significantly in some sectors, such as software, music, and travel services.

OPPORTUNITIES AND BARRIERS

A number of organizations have frameworks that can be used to track developments in e-commerce and e-government (Jupp, 2003). The UN/ASPA five-stage model, shown as Table 2, is particularly appropriate for developing



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