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**Electronic Commerce:  
Some implications for  
firms and workers in  
developing countries**

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Alwyn Didar Singh

International Institute for Labour Studies Geneva

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# 1. Introduction

The potential of eCommerce is no more a matter of debate. From the world of hype and fantasy it has moved into that of digital reality. Electronic commerce looms large on the horizons of tomorrow, and it promises to transform trade and industry in ways not yet imagined or comprehended. Its impact of course is expected to go far beyond commerce to affect the lives of millions of Internet users, consumers, workers and producers.

For several developing countries it continues to be perceived as a double-faced blessing one promising and the other threatening. Since eCommerce already does and will continue more and more to affect the economic relations between and within countries and companies, it has to be seen as a matter of key policy consideration<sup>1</sup>. For the developing countries and their firms, the biggest issue and fear is not the lack of knowledge and expertise in introducing and engaging in it, but more so of not. To do so it is important to have a basic understanding and appreciation of its potential, the framework for its operation and the possible impact it could have on the economy, in general and firms and workers in particular.

The objectives and structure of this paper attempt to tackle these issues. Section one describes eCommerce today and its potential as well as the present status of its development in the South. Section two raises the questions of technology and standards in the context of the 'info-structure' that is the necessary ingredient for the growth of eCommerce. It discusses the need in developing countries to establish the required legal and financial framework and to promote the building of the required human resources for the promotion of eCommerce. This is followed in Section three by an assessment of the impact that eCommerce is having on firms in developing countries and raises some potential benefits and challenges that governments and firms in the South should be aware of. In Section four, some policy issues for workers and employment are outlined, which the lack of sufficient data and research prevent from being elaborated or analysed. The final part of the paper lists out the possible future research and policy agenda in this area, particularly for international agencies and especially for the ILO.

## 1.1 Understanding the Internet

All sorts of electronic trading technologies have been hailed as purveyors of economic transformation: credit cards, automatic teller machines, telephone banking, electronic data interchange (EDI), etc. All these too are forms of electronic commerce, and all have changed their own markets in sometimes radical ways. However the Internet alone has the potential to deliver what the notion of electronic commerce had always implied. For the first time, in the history of trade and electronics, the Internet promises to give direct access and control over buying and selling transactions to just about everyone from the individual investor to the casual shopper. The Internet extends beyond the transaction itself to everything that comes before and after, from marketing and product display to order-tracking and sometimes even delivery. And unlike the commercial online services, which reserve their services for their subscribers and selected merchants, the Internet is open to everyone.

The Internet is basically a vast and ever increasing network of computers across the globe that are interconnected over existing telecommunication networks. Simply described, it is a, or *the*, network of networks.<sup>2</sup>

The Internet has changed much in the two decades since it came into existence. It was conceived in the era of time-sharing, but has survived into the era of personal computers, client-

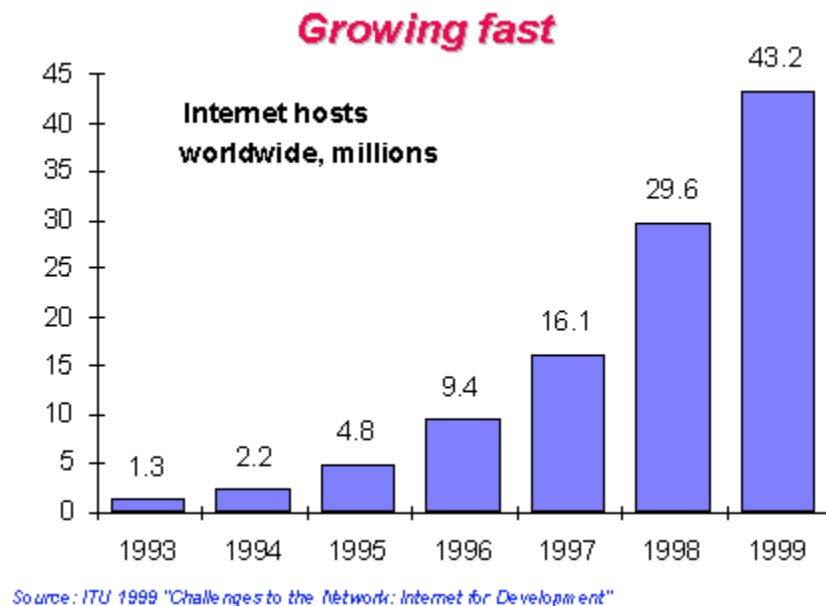
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<sup>1</sup> Singh, A. D., 1999.

<sup>2</sup> WIPO Report, 1999.

server and peer-to-peer computing, and now the network computer. It started as the creation of a small band of dedicated researchers, and has grown to be a commercial success with billions of dollars of annual investment. It is still evolving and changing. Although a network in name and geography, it is a creature of the computer, not the traditional network of the telephone or television industry. It will, therefore continue to change and evolve at the speed of the computer industry. It is now changing to provide such new services as real time transport, in order to support, for example, audio and video streams. The availability of pervasive networking (i.e., the Internet) along with powerful affordable computing and communications in portable form (i.e., laptop computers, two-way pagers, PDAs, cellular phones), is making possible a new paradigm of restless computing and communications. This evolution will bring us more and more new applications among them, Internet telephony, Internet on mobile telephone and, also Internet television. New modes of access and new forms of service will spawn new applications, which in turn will drive further evolution of the net itself.

Figure 1. Growth of Internet hosts



### Economic dimensions of the Internet

The ability of the Internet to bring together distant parts of the world in a global electronic market place and information exchange has a far-reaching and potentially beneficial impact on both developing and industrialised economies. Today, there are an estimated 148 million Internet users, with recorded double-digit growth rates in many emerging economies. It is estimated that the number of persons connected to the Internet today will surpass 300 million, closing the gap on the 700 million or so connected to the telephone.<sup>3</sup> It is calculated that there are some 43 million Internet hosts<sup>4</sup> world-wide, facilitating a dramatic increase in the volume of trade and economic information available online. The overall level of electronic commerce, or

<sup>3</sup> Cairncross, F., 1997.

<sup>4</sup> Computers and networks connected to the Internet.

business transactions conducted via the Internet and private commercial networks, was estimated at US\$ 8 to 9 billion in 1997. Researchers have forecasted that this figure could rise to as much as US\$ 400 billion (or even over 1 trillion) by 2002, as businesses and consumers throughout the world expand their online commercial activities.<sup>5</sup>

## 1.2 And where is it all going?

This communication revolution is having a profound effect on the way the world will develop and the way it will do business in the future. Some of the areas where changes are most likely to take place are:

- As networks grow, distance will no more be a major factor in costing communications.<sup>6</sup>
- Companies will thus locate their digital productions wherever they access the best bargains of skills and find best financial or tax arrangements.
- Giant corporations will emerge but so will small enterprises, able to offer similar services at lower costs (for developing countries this will mean great opportunities, on the one hand, and greater danger from the transnationals on the other).
- Middlemen and agents will probably be replaced by the 'infomediaries'<sup>7</sup> on the Internet.
- Large manufacturers will also transform into service providers, thereby cutting off local services on the one hand, as well as blurring the distinction between the goods and services sector on the other.
- Successful companies will be those that use digital tools and the Internet.
- As information proliferates, its access by the developing world will become easier-though its use may possibly become more dependant. All information is ultimately linked to some technology (or ideology). In making use of it, reliance on the developed world as well as greater control of intellectual property could lead to greater dependence but perhaps also to greater interdependence.
- Movements of natural persons could also decline, as eCommerce will provide local opportunities and networks in developing countries and themselves.
- English will (and already is) emerge as the language of the Internet and eCommerce.

## 1.3 Understanding eCommerce

ECOMMERCE has been simply defined as conducting business on-line. OECD defines electronic commerce as a new way of conducting business qualifying it as business occurring over networks which use non-proprietary protocols that are established through an open standard setting process such as the Internet<sup>8</sup>. This definition distinguishes it from the earlier EDI type proprietary based networks or Intranets that were not based on an open (and therefore not cost effective) information infrastructure like the Internet. In the World Trade Organisation (WTO) Work Programme on Electronic Commerce, *it is understood to mean the production, distribution, marketing, sale or delivery of goods and services by electronic means. A commercial transaction can be divided into three main stages: the advertising and searching stage, the ordering and payment stage and the delivery stage. Any or all of these may be carried out electronically and may therefore be covered by the concept of 'electronic commerce'.*

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<sup>5</sup> UNCTAD, Geneva, 1998.

<sup>6</sup> Most of these projections are based on the ideas contained in the concept and book entitled, 'Death of Distance', Cairncross, F., 1997.

<sup>7</sup> The concept entails a power shift from the middle-men of today to the new power brokers on the Internet tomorrow, where the ISPs or Portals providing information will begin to provide all services, too.

<sup>8</sup> OECD, 1999.

Broadly defined, electronic commerce encompasses all kinds of commercial transactions that are concluded over an electronic medium or network, essentially, the Internet. E-commerce is meant to cover three main areas of transaction, i.e. business-to-consumer (B2C), and business-to-business (B2B) and business-to-government (B2G).

**Figure 2. The Economics of eCommerce**

***Plain economics of price and time***

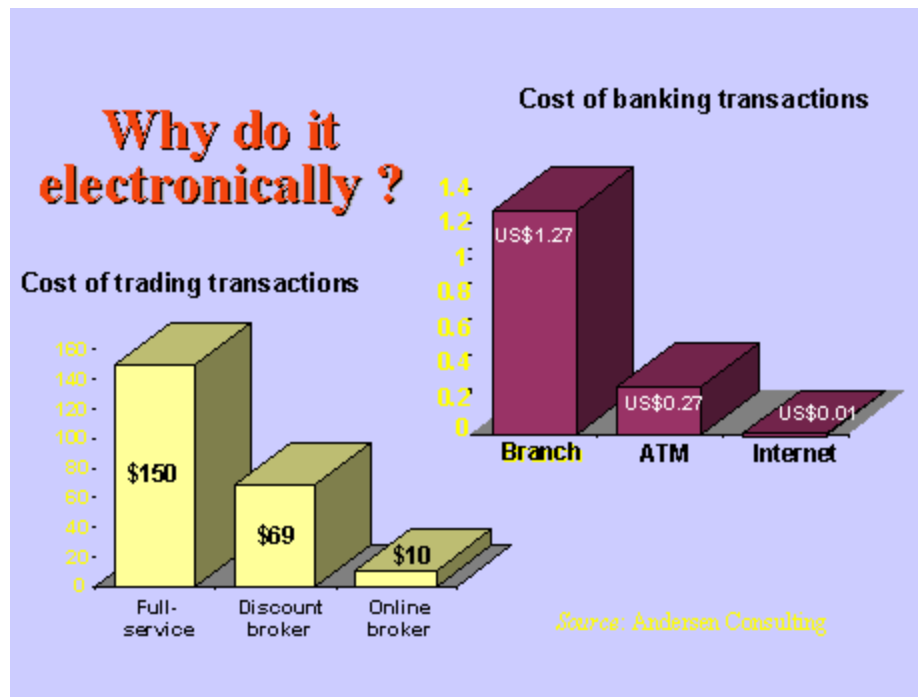
***Price of sending a 42 page document from New York to Tokyo***

	<i>Cost (US\$)</i>	<i>Time</i>
<b>Air Mail</b>	<b>7.40</b>	<b>5 days</b>
<b>Courier</b>	<b>26.25</b>	<b>24 hours</b>
<b>Fax</b>	<b>28.83</b>	<b>31 minutes</b>
<b>Internet e-mail</b>	<b>0.095</b>	<b>2 minutes</b>

Source: Northern River Venture cited in ITU Challenges to the Network 1997

Figure 2 above and Figure 3 below symbolise and explain, some of the simple economics of why businesses are switching to this medium – they save both cost and time.

Figure 3. Cost saving through electronic transactions



From a business point of view, eCommerce is not limited to the purchase of a product. It includes, besides e-mail and other communication platforms, all information or services that a company may offer to its customers over the Internet, from pre-purchase information to after-sale service and support<sup>9</sup>. There are essentially two major uses of eCommerce. The first one is to use it to reduce transaction costs by increasing efficiency in the use of time and procedures.<sup>10</sup> Secondly, to use it both as a marketing tool to increase sales (and customer services) as well as to create new business through it -- for example, IT enabled business<sup>11</sup>, call-centres<sup>12</sup>, software and maintenance services as well as 'digital commerce'<sup>13</sup>. It is thus a tool for both existing businesses as well as an opportunity for new business, both for existing companies as well as for new entrants. Although the future of eCommerce may still be unpredictable, it is important to note that possibly in a short span of time, all businesses will need to know how to make use of it -- much as most businesses had to learn to adapt to the phone and fax, only more so if trade transaction and supply chains become digital and on-line.<sup>14</sup>

Ecommerce, however, is more than just electronics and commerce added together. It represents an entirely new way of doing business over a medium that changes the very rules of doing business. It is therefore far more about strategy and business management than it is about

<sup>9</sup> Dufour, A, 1999.

<sup>10</sup> This ranges from the use of email and instant chat on the Internet to EDI (Electronic Data Interchange) and automated supply chains. EDI has a role here both at the level of business to business as well as by governments in providing quicker and smoother trade transaction efficiencies for business by using EDI for customs clearance, trade procedures, etc.

<sup>11</sup> Business that is based on information technology and linked through a network for digital transmission and exchange.

<sup>12</sup> Network linked servicecentres that customers can access through the Internet for information, guidance, maintenance and services such as bookings, reservations, software support etc.

<sup>13</sup> Digital commerce is the term used to describe goods, services and digitised transactions that are completed and supplied on-line

<sup>14</sup> Term referring to transactions and communication on a network and in real-time (i.e. connected together with little or no loss of transaction time).

technology. In order to understand eCommerce and its implications for developing countries, it is important to see it from the perspective of the transactional aspects of eCommerce, those that represent the business between the different players, as well as the framework aspects, those basic requirements that are needed in developing countries for it to develop.

## 1.4 ECommerce and developing countries

There already exists a large development gap and differences between the North and South. Developing countries therefore face a distinct challenge in order to realize the promises inherent in this new technological development. The task is two-fold:

- a. how to equip developing countries to benefit from and use the Internet as a tool for development; and
- b. secondly, how to ensure and manage the growth and development of the Internet as a public good and utility that would also promote development. The former is a developmental challenge and requires investments in the infrastructure of telecommunications, in the Information Technology (IT) industry to ensure the easy and affordable availability of computers and software, and in training and Internet literacy. The latter is more of an international regime challenge which involves the growth and regulation of the Internet and its facilities or at a global level.<sup>15</sup>

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<sup>15</sup> Singh, A. D., 1999.

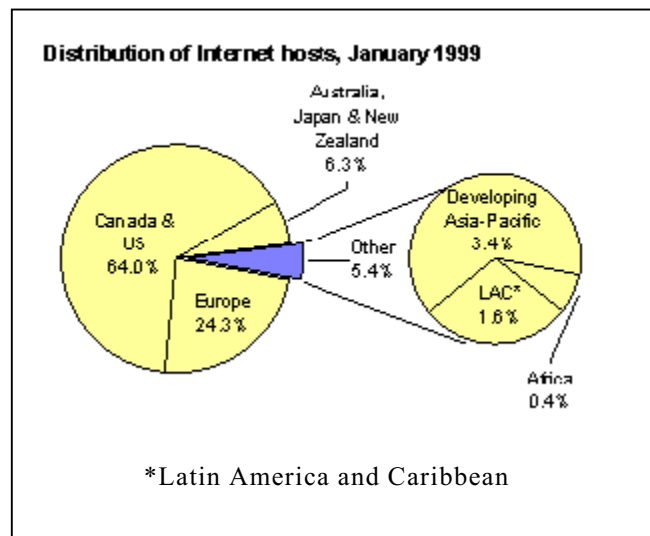
### *Where is the South in all of this?*

The Internet is a social and economic fabric, ostensibly created by people for the sake of human communication and interaction. It provides new areas for cultural expression and experimentation in a global socio-economic environment. Basically it allows for more interactive and innovative ways for people to do what they do in 'real life'. Thus the Internet is but an extension of human ingenuity and creativity, "the most precise mirror of people as a whole that we've yet had (Lanier, 1998: 60). However, while the image of the Internet as a mirror is accurate, it is still not a mirror of people as a whole. The fact that only an estimated 5-10% of the content on the Internet is of non-Western origin while the developing world population represents more than half of the world's population indicates how far the Internet is from true cultural and global diversity. This is a serious issue, in view of the potential importance of the Internet for all spheres of life everywhere, and because of the trend for the facility to be increasingly dominated by a few countries and private companies.<sup>16</sup>

ECommerce today remains mostly a US<sup>17</sup> and Western based activity, though connectivity has significantly improved in many parts of the developing world -- for example, nearly every capital city in Africa enjoys some level of Internet access today. However, there are still significant disparities in the level of Internet penetration across regions, which can have profound implications for an individual country's ability to participate in the global electronic market place.

This disparity between low and high-income regions is evident from the chart below.<sup>18</sup>

Figure 3.



<sup>16</sup> With Internet traffic having overtaken world telephone traffic, the world's 13 biggest Internet access providers are all American, with British Telecom, Europe's biggest, bringing up the rear in 14<sup>th</sup> place. (Data Communications, Paris, No. 1., October 1998, quoted in *Riches on the Information Highway*, Le Monde Diplomatique, May, 1999).

<sup>17</sup> US domination of the world economy and its new technological revolution - that of communications, is now a predictable scenario. Several factors explain this advantage. They range from its long history of multi-channel television, low phone line costs, strong intellectual-property industry (movies, music, software), English language and the experience with long-distance mail-order business (Cairncross, 1997).

<sup>18</sup> ITU, 1999

## Some revealing statistics

Developing countries (and their SMEs) lag far behind developed country markets in the availability of the technical pre-requisites for conducting electronic commerce. The gaps in the two main requirements for Internet, i.e. telephone and computer availability highlight the difference. For example, 65 per cent of households in the world have no telephone, whereas 90 per cent of households in high income countries have a telephone<sup>19</sup>. The personal computer ratio per 100 inhabitants is 18 for high-income countries, 2.3 for medium-income and just 0.1 for low-income<sup>20</sup>. Developed countries today have 312 ISPs (Internet Service Providers) per 10,000 people compared to just six ISPs per 10,000 people in developing countries<sup>21</sup>. In the United States, roughly one in three persons uses the Internet, compared to only one in every 10,000 in South Asia. Teledensity (main lines per 100 inhabitants) is 48 for developed countries, 10 for middle income and 1.5 for the least developed countries (LDCs). Furthermore, in developing countries telecommunications services are often unreliable, high cost or both. There are also enormous differences in access to telecommunications both between and within developing countries. For instance, while in developing countries a considerable proportion and sometimes the majority of the population lives in rural areas, over 80 per cent of the main telephone lines are located in urban areas.

Statistics show that the number of websites developed by commercial enterprises has grown from just 30 at the end of 1993, to 325,000 at the end of 1996 and to 12 million today<sup>22</sup>. The overall level of electronic commerce, or business transactions conducted via the Internet and private commercial networks, could rise to as much as US\$ 400 billion or even over US\$ 1 trillion, by 2002, as businesses and consumers throughout the world expand their online commercial activities<sup>23</sup>. Growth is not expected to be confined to the developed world alone and is predicted to be particularly high for developing countries in Asia where the projections for 2001 are: for China - \$850m; for India - \$160m; for Malaysia - \$1000m; for Singapore - \$800m; for Philippines - \$200m; and for Indonesia - \$200m. Whether these figures are just hype or based on real data, and whether they consist of existing business and trade or are additional to it are key issues. Unfortunately, it is not possible to predict accurately the future growth and percent of world trade that will be conducted through eCommerce. It is, however, possible to say that it will be an important and growing component of trade and figures and estimates cited above, though speculative, illustrate the trend towards the growing importance and potential of eCommerce.

## Strategies in developing countries

Attempts in developing countries to develop eCommerce are underway in nearly every economy, but eCommerce is still not considered a significant market driving force. Those currently involved are either entrepreneurial risk-takers or larger corporate entities dedicated to a long-term investment. They are also mostly targeted at Western markets with little regard for regional harmonisation or interconnections between developing countries. They are mostly for business-to-business rather than business-to-consumer transactions and have generated few success stories as yet which have not been much publicized better.

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<sup>19</sup> Access to telecommunication is often measured by "teledensity" which gives the number of main telephone lines per 100 inhabitants. About a quarter of the world's countries have a teledensity of less than one and another 47 countries only have between 1.4 to 8.6 main telephone lines per 100 inhabitants. This should be compared with a teledensity of between 27.8 and 68.3 for a group of 46 countries with the highest number of main telephone lines per 100 inhabitants (Source, [www.itu.org](http://www.itu.org)).

<sup>20</sup> Source: WTO, Geneva

<sup>21</sup> Source: ITU, Geneva

<sup>22</sup> ITC, 1999

<sup>23</sup> UNCTAD, 1998

For developing country governments to address these issues, it is important to distinguish between IT policy and promotion and eCommerce strategies. Many state initiatives seem to blur and confuse this issue. Whereas promotion of the Information Technology industry fundamentally refers to developing both the hardware and software IT industry, it is important to note that eCommerce is by no means limited to only that industry. eCommerce, besides IT and digital commerce, in fact encompasses all trade and commerce and therefore impacts the entire economy. This is important to bear in mind when formulating plans for eCommerce in developing countries. As eCommerce grows across the global economy, it will become more and more necessary for existing industry and trade to switch too and use the potential of this medium to not just grow but even to survive. Today this may not seem to be the case as it is still small compared to world-wide trade and commerce but the writing is clear for the future.

## 2. Some framework issues for developing countries

For several developing countries eCommerce remains a dream they would like to realise. But neither are they convinced of the need to divert scarce resources to its development nor are they sure of what they need to do to realize it. The answer to the first issue requires policy research and sharing of examples of success between developing countries. International agencies must help them in both regards<sup>24</sup>. But it is important to emphasize that developing countries cannot afford to wait for complete and definitive answers. Global competition and the new economy are not going to wait for any economy or industry. The compulsions of today and the fears of tomorrow impel developing countries to address the second issue of engaging and promoting eCommerce. To do so, they will need to address some of the following key issues.

### 2.1 Info-structure including technology and standards

The introduction and rapid spread of the Internet has established electronic commerce as an important means of carrying out commercial transactions. In this context, electronic commerce is a result of the large technological advances that have been made in the last decade or so in facilitating telecommunications and transmitting information. The electronic commerce revolution, however, is dependent on several key preconditions. The first one is the widespread availability of the Internet. For developing countries, access to modern telecommunication systems is perhaps the defining element of electronic commerce. A well functioning, modern telecommunication infrastructure and a satisfactory distribution of electricity, along with access to computer hardware, software and servers are the basic technical requirements for electronic transactions. For eCommerce to be successful and grow, the hardware and physical infrastructure are not enough. What is required is an '*info-structure*' meaning the framework and environment for eCommerce that includes the appropriate legal and financial framework, the political and business environment conducive to its development and the capacity or human resource to deal in it.

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<sup>24</sup> UNCTAD, 2000.

## Issues of technology and standards for eCommerce and developing countries

As far as the fast emerging technologies and standards for the Internet and ECommerce are concerned, developing countries have hardly any say today. Most of the developments in technology and standards are taking place essentially in the private sector laboratories of the North.

A truly global information infrastructure (GII) which makes possible the electronic exchange of information about products and services, buy and sell orders and financial transactions is another pre-requisite to the development of global electronic commerce. The International Telecommunications Union at Geneva is working towards this end. One of the ITU's strategic goals is to develop standards for the Global Information Infrastructure (GII). The ITU's current standardisation work program covers a vast array of subjects including:

- the overall architecture of the GII;
- multimedia communication systems;
- communication system security;
- privacy techniques for multimedia terminals;
- a technical framework for electronic commerce;

GII access is a necessary but not sufficient condition for the development of electronic commerce. It is essential to create a policy and regulatory environment that favours the development of ECommerce and harmonises national approaches in diverse areas including telecommunications, trade, competition, intellectual property, privacy and security. The ITU is bringing various partners together to undertake pilot projects in developing countries to demonstrate the benefits of electronic commerce to the user communities of these nations. It also seeks to serve as a forum (through workshops, conferences, and seminars) to address policy issues related to electronic commerce in developing countries. Such initiatives need to be replicated by several other international bodies that deal with trade, industry and development. Involvement of the developing countries and assistance to them for improving their expertise and infrastructure are some of the key requirements of the future.

As matters of technology and standards get hopefully resolved at the international level by organisations such as the ITU, development of communication infrastructure internally will remain particularly important and a major issue for developing countries. The key to this is the telecom network of the countries concerned. Proactive and supportive policies are necessary to reap the benefits of this emerging opportunity.

Today the South is virtually excluded from standard setting and the technological developments in the ICT sector by virtue of not having the experience and expertise in high-tech information and communication technology. Standards and technology are both growing and changing so rapidly that keeping pace with them is an issue in itself. Developing countries may benefit by the market and international bodies/associations (The Internet Corporation for Assigned Names and Numbers (ICANN), for example) setting and formulating standards. But the obvious danger is that if they have no say on these matters (no developing country is represented in ICANN), they will be unable to avert the possible adverse implications of the resulting standards for their economies.<sup>25</sup>

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<sup>25</sup> Issues such as domain names, address management and certification authorities would affect trade and commerce.

## 2.2 Legal and financial framework

### Legal framework

Electronic commerce has been in use for many years, under the auspices of many different technologies, including telegraph, telex, fax, interactive telephone, e-mail, private data exchanges (such as EDI, ATM transfers and wholesale funds transfers) and the Internet. ECommerce embraces far more than just the Internet. When states consider legislation to support eCommerce, they need to consider that they will affect trading practices in many diverse communities and practices, many of which matured long before the Internet.

There could be many things that developing countries might want to regulate on the Internet. These could include content such as pornography and incitement to racial hatred, as well as consumer protection, the defence of intellectual-property rights and taxation. These are all issues on which these countries legislate already. The existing rules and laws would and should apply to the Internet and eCommerce. The problem is, however, how to regulate it. This is both a policy and research issue.

So far as the development of eCommerce is concerned, the main issue that developing countries need to address is how to make their legal framework conducive to eCommerce transactions. The UNCITRAL<sup>26</sup> Model Law on electronic commerce is one such standard framework for resolving the contractual issues and obstacles related to eCommerce. Several developing countries are considering adopting it or legislating directly themselves while several already have done so. The basic principle being followed is that of “equivalence of treatment between paper and electronic communication. This is easiest and quickest done by adapting the existing legal system to an eCommerce environment.

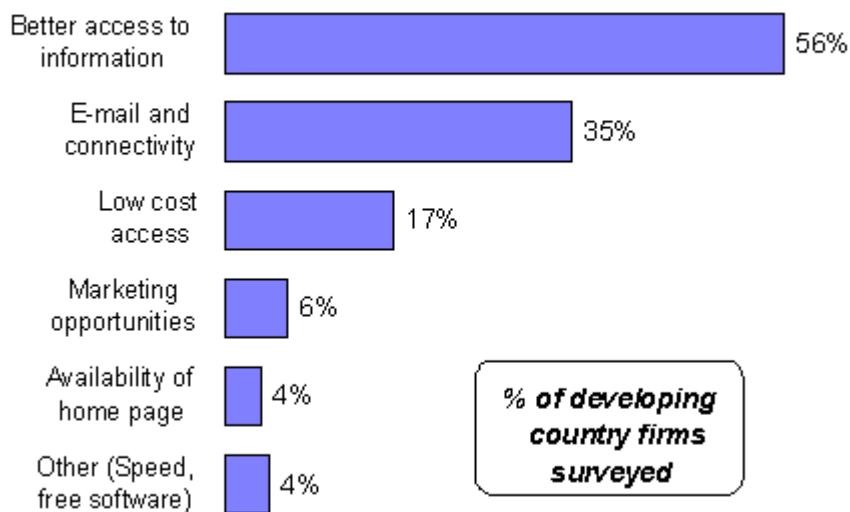
### Financial framework issues

One of the main concerns of developing countries are the perceived dangers of foreign exchange outflow on account of eCommerce, i.e. through the purchase of goods abroad. A study in this regard indicated the following:

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<sup>26</sup> United Nations Commission on International Trade Law, which is the core legal body of the United Nations system in the field of international trade law.

## Most positive aspects of the Internet



Source: IFC cited in ITU *Challenges to the Network 1998: Internet for Development*

This study appears to indicate that the higher the development of eCommerce within the region/country, the higher will be the purchases from within. In order therefore to encourage eCommerce development, banking procedures within developing countries need also to be aligned and made compatible with digital trade transactions, so that consumers and buyers can easily make purchases locally through the Internet.

Along with changes in contract and company law, eCommerce would also require a financial and banking framework that allows for electronic payments and transfers. This would include requirements for certification of documents, electronic signatures, confidentiality and privacy. Therefore developing countries will need to put in place both the electronic network (between financial institutions) as well as the legal framework to allow for such transactions. Banking laws and regulations thus need to be adjusted to the new formats and requirements.

## 2.3 Tariff and taxation

The most contentious problem with eCommerce arises when the transaction has taken place purely in a digitized format - i.e., where all parts of the transaction have been completed 'on-line' in digital or computerized format and no goods have directly passed through a recognized customs or domestic tax point. Where eCommerce has been used only to communicate and set up a transaction and the actual delivery is by regular means, the existing tax and duty regulations and procedures continue to apply and can be monitored. For digital supplies the problem for the authorities is to monitor or even be aware that a transaction has taken place. One possible response would be to introduce the so-called "bit tax" (i.e., a tax on the "bits" of information zooming around computer networks).<sup>27</sup> The basic problem with a 'bit tax' is that it is indiscriminate. It taxes not just on-line transactions but all digital communications, from e-mail to information gathering. Also the question of valuation would be difficult to determine. More important, it is argued that such taxation will crush the development of eCommerce and stunt its growth. If implemented in some countries, it would simply drive business off-shore and on-line transactions would take place in a state or country where there is no such tax.<sup>28</sup> So what other option is there for governments? The unpleasant alternative is that, in coming years, governments will probably be forced to shift further their existing tax base or find ways to monitor and tax eCommerce transactions.

Taxation issues have a bearing on the very foundations and growth potential of any economic idea. In the case of eCommerce, the ramifications are global and affect the very concept and development of eCommerce, as well as the policy that each developing country would need to adopt regarding its foreign trade and internal taxation. This is of importance as for most developing countries, domestic taxes and import and export duties continue to be a primary source of revenue.

## 2.4 Building the human resource

Electronic commerce is changing the way we do business. We have moved from an industrial economy where machines dominated productivity, to an information-based economy where intellectual content is the dominant source of value added and which knows no geographic boundaries. In this new environment, education and continuous learning will be essential not only for managers and workers but for all. As industry, commerce, and services are transformed by technology, many skills need to be improved or acquired.

If developing countries are to benefit from this new technological and economic boom that the growth of eCommerce represents, they will need to have the most important component - the human resource, in place. Today's knowledge revolution largely depends on *intellectual* capital. Some developing countries and some sections of most developing countries have this in

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<sup>27</sup> There are many possibilities with this type of situation that governments and international organizations could consider. A possible utilisation of the 'bit tax' concept could even be to levy a charge on all digital transactions for creating a global development fund.

<sup>28</sup> On-line transactions could of course be between different sites located in different countries, but since it would probably be the suppliers that would be targeted for taxation, they could locate their site in a tax haven.

abundance and opportunities of the new economy could provide them with excellent results<sup>29</sup>. On the other hand, there are many that are far behind in this area and therefore need very proactive policies and investment in education (especially technical) to realise the potential. After all to be e-literate, citizens first need to be literate.

As eCommerce develops and the more advanced stages of commercial exchange (i.e., contracting, payment reconciliation and auditing.) are carried out electronically, more specific skills are going to be required. Even for surfing the Internet for a product or service, basic familiarity with the computer and knowledge of the Internet is needed. Moreover, extensive language knowledge (especially English) may be an additional requirement if foreign Internet sites are to be browsed. From website design, to electronic credit management and software and hardware maintenance - all require skills that may not be so easily available in several developing countries. Capacity building in the field of information technology, in the knowledge of the existence of a global market for such skills, is therefore crucial. The development of electronic commerce puts a premium on the development of education and training policies, to ensure that training institutions' curricula meet with the needs of industry.

The training needs should firstly focus on activities in the area of human resource development for electronic commerce, in particular through the training of trainers. Three main targets could be focused upon initially, namely:

- a. Policy makers and negotiators.
- b. Small and medium-sized enterprise managers and trade practitioners.
- c. Technicians and workers, including specialists in electronic data interchange and the Internet.

The areas to be covered could be:

- Conceptual and quantitative analyses of the impact of electronic commerce on trade and development.
- Organization of regional seminars to raise the level of awareness of developing countries, trade and industry associations and labour unions about the possibilities and challenges of electronic commerce, as well as about the current state of specific debates (proposals for a global framework for electronic commerce, international negotiations and discussions being held in various institutions, especially the WTO).
- Production and dissemination of training packages for electronic commerce and
- The use of modern interactive techniques, including CD-ROM and Internet-based techniques, as well as of distance learning packages, should be encouraged, taking into account local cultural and language specificity.

Human resource development is however far more than just training. It is a continuous learning process. For developing countries, the process should begin with sensitisation as well as web design and development of commercial applications. Governments should take the initiative to then pass it on to the private sector. Here the state could pursue its efforts in building partnerships with civil society in order to offer proper training tools in the area of electronic commerce. Similarly international organisations such as UNCTAD, UNDP, WTO

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<sup>29</sup> Developing countries like India, Jamaica, Singapore etc. have been witnessing a 'brain-drain' of their English speaking engineering and other graduates to the West - mostly the US. Today opportunities of eCommerce and the new digital economy are bringing back some of these now engineers-turned-entrepreneurs to their countries of birth to set up new eCommerce joint ventures. To integrate into the global economy, developing countries should not be wary of churning out more and more skilled personnel, even though dangers of losing them to other markets may exist.

and ILO also have a responsibility to assist developing countries in this crucial area of advocacy and human resource development for this new technology. Several of these organisations are in fact working towards this and therefore collaboration and common programmes with developing countries would be beneficial for the world economy as a whole.

### Investment and short-term options

A climate conducive to investment in general is considered the best way to attract investment into the ICT sector in developing countries. A country open to electronic commerce and new information technologies is likely to attract additional interest from foreign investors. Despite the attraction of low production costs, communications and distance have previously discouraged foreign companies from establishing in developing countries. ECommerce may lessen these physical constraints. Active promotion of electronic commerce might, therefore, make foreign firms more interested in investing in a variety of sectors, including telecommunications, Internet service provision, professional services and various areas of industrial production.

It is important that developing countries bear in mind that massive investments and perfect technological solutions are not always necessary. Even existing networks can be reengineered and global services for the Internet and eCommerce web sites can be utilised for promoting focussed growth, especially in urban concentrations, where the maximum potential for trade and commerce presently exists. An example of one such intermediate strategy is the software export incubator model that India so successfully developed: Satellite earth stations were set up at strategic locations and infrastructure created for software exporting companies to access, not just space, but dedicated data communication links.

## 3. Impact on firms in developing countries

In the next few years the main sectors to gain from eCommerce are expected to be computer hardware and software, advertising and marketing, media, publishing and information services, finance, banking, insurance, brokerage and Internet services, travel and tourism, and entertainment services. As with international trade in general, all these sectors are today dominated by multinationals and other enterprises from the North<sup>30</sup>. However, there are several emerging opportunities that businesses in the South can look at and even create. As it is estimated that 80 per cent of the growth in eCommerce will come from Business-to-Business (B2B)<sup>31</sup> transactions, opportunities are emerging in global supply chains, which enterprises of the South can attempt to become part of.

### 3.1 Present perceptions in developing country firms

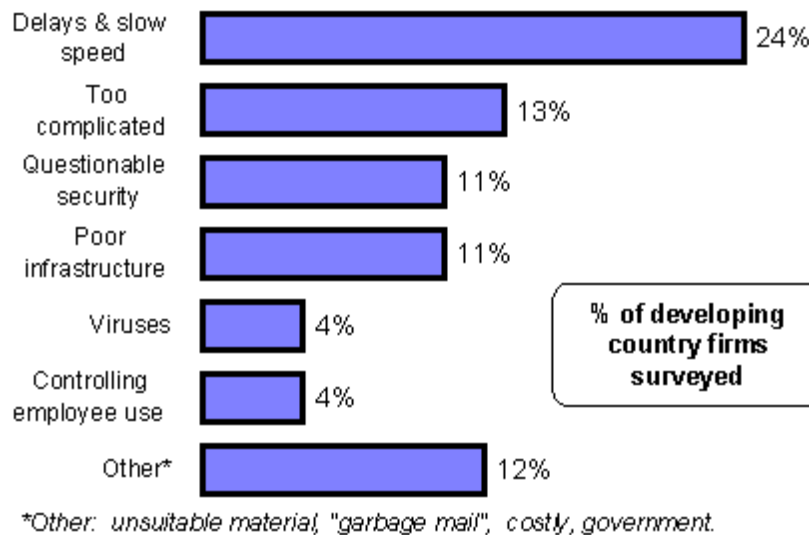
A study by the IFC, Washington in 1998 revealed some interesting facts about actual use of the Internet by developing country firms. The managers and staff in these firms gave the following responses:

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<sup>30</sup> Singh, A. D., 1999.

<sup>31</sup> The other being B2C (Business to Consumer) and B2G (Business to Government). B2C or retail eCommerce is the one where all the hype has come from as it is novel and touched people directly. Its success however has been rather marginal and even big and popular sites like *amazon.com* (books) and *CDNOW.com* (CD sales) are actually losing money. B2G is being considered a major possibility in the future once government procurement turns digital.

## Most negative aspects of the Internet



Source: IFC cited in ITU Challenges to the Network 1998: Internet for Development

These responses are typical of the developing world where the present benefits are seen more as for information and e-mail rather than as new business opportunity, and the problem of connectivity and speed are still issues, besides access.

### 3.2 Potential benefits and challenges of eCommerce

ECommerce carries the promise of several possible benefits for firms in developing countries. However, along with this potential, also lurk several dangers that must be taken as challenges to address in the policy and strategies that each firm and developing country must prepare for itself. Listed below are some of the implications:

- An improved IT sector

With eCommerce growth in developing countries one obvious sector to benefit is going to be the IT industry both hardware and software. On the one hand this could mean a faster transfer of technology but could also mean that the existing multinationals of IT may alone benefit if the local industry is weak. Some developing countries like India have followed a policy of initially protecting the local IT industry by encouraging joint ventures with multinationals but keeping the duty on the import of components lower than on the import of computer equipment, thus encouraging local assembly and production.

- Improved supply chain management

The purchasing and supply chain is crucial for SMEs because some 60 percent (on average) is the cost of inputs and even a 10 percent reduction here through better processes, transforms into a 60 % increase in profits. For the firms in developing countries dealing in the global market some of the common problems are lack of market knowledge, poor communication,

cumbersome procedures, delays and uncertainties in supply, poor quality and excessive stocks. ECommerce can help solve some of these through better knowledge management, communication and automated supply procedures leading to higher profits and enhanced competitiveness, subject of course to these SMEs also being able to improve their own organisational structures and cultures through a re-engineering process to make themselves e-compatible. The downside is that those firms that do not link up digitally may in time be even thrown out of their existing supply chains. Also as global standards develop for such supply, entry into the major supply chains may become more difficult for newcomers.

- **E-marketplaces and SMEs**

The past couple of years have shown that large industrial corporations are suddenly enamoured with creating e-marketplaces, or specialized websites dealing with the trading, both up-stream and down-stream, of their raw-materials and products. These are basically B2B on-line markets that attempt to bring together the benefits of online trading to specialized commodities. Some of the recent examples that show the wide range of this trend are as follows:

- *General Motors, Ford and DaimlerChrysler* are creating the world's largest e-marketplace by linking up their procurement needs on a single online trade exchange. These three already account for some \$200bn worth of yearly purchases. *Renault* of France and *Nissan* and *Toyota* of Japan have also announced plans to participate. This e-exchange could involve literally tens of thousands of suppliers from across the globe.
- Fifty of the world's largest consumer product groups have joined together in an e-marketplace being co-ordinated by the *Grocery Manufacturers of America* that is going to bring together rivals such as *Procter & Gamble* and *Unilever*, *Nestlé* and *Kraft Foods*.
- Six of the biggest US health insurance companies are developing a health insurance website tentatively called *MedUnite* to directly enrol and interact with patients and doctors lest they be lost to the new Internet health-care companies appearing on the net.

For many of the new entrants, despite their excellent off-line credentials, these are basically reactions to the new economy and for them to be successful in this new game they will need to prepare for the new online world by shunning several of their proprietary trading habits<sup>32</sup>. The companies involved need to be ready and willing to bring suppliers and customers deep into their business and purchase processes and to develop similar links with those of their partners<sup>33</sup>. Also the lack of appropriate software applications for the wide and new types of emerging e-markets keeps them in what one commentator refers to as an 'e-commerce kindergarten' which will mature only when there are new applications, architecture and a revamped vendor community supporting the full trading cycle<sup>34</sup>.

- **Acquisitions**

Mergers and acquisitions will not remain in the realm of big-business and the North. Firms in developing countries too will be affected as new opportunities and relationships emerge in the digital economy, both local and across borders. The obvious danger for developing country firms is that the traffic may be one way with firms from the developed world taking them over. But this need not be so, as several Indian dot.coms (eCommerce companies) and entrepreneurs are showing, arriving in the US Silicon Valley to start joint ventures and start-ups.

<sup>32</sup> Garretson, W. D., and Temkin, B. D., 2000, *Off-line giants must learn eMarketplace rules*, Forrester Brief at [www.forrester.com](http://www.forrester.com)

<sup>33</sup> The Economist, June 1999, *The net imperative*, at [www.economist.com](http://www.economist.com)

<sup>34</sup> McCullough, S, April 2000, *eMarketplace Hype, Apps Realities*, The Forrester Report at [www.forrester.com](http://www.forrester.com)

- **Distribution and delivery benefits**

Studies show that in developing countries delivery and transportation costs are a greater share of total cost of production than in developed countries. ECommerce and EDI-type automated procedures can therefore bring in efficiencies and better distribution. Firms in developing countries need to use these processes as well as to enter the business of delivery services themselves. If they do not, the danger is that they could be swamped by the international transport services and courier companies like Federal Express and UPS for whom business is already expanding exponentially from eCommerce and the growing opportunities of small direct orders over the Internet.

- **Personalised direct marketing**

The low costs of direct marketing via the Internet has created a huge potential for personalised direct marketing. This allows consumers to order as per personal taste and requirements. In the US it is already a huge and growing industry. It does though lead to problems and issues that go against the norms of brand and mass production on which most existing industry is based. For developing countries' SMEs, this is a very unique opportunity to gain from this emerging market both in exports and in their own local economies, as they would have the advantage of small and relatively cheaper production bases to cater to individual needs. Some eCommerce sites from Singapore, Malaysia and India are beginning to offer such services.

- **B2G opportunities**

B2G or business to government is an area of eCommerce that is expected to develop and expand in the future as governments begin to realise and utilise the efficiency, cost saving and transparency that the Internet can bring. Such openings would be of great opportunity, especially for SMEs, who are mostly unaware and unable to enter these supply chains presently. There is a danger though that in some countries local political compulsions and bureaucratic procedures may prevent such possibilities for some time to come. There is also the threat that once this becomes the norm, those firms in developing countries (even if presently in such supply) that are unable to synchronise their procedures and supply management systems to eCommerce norms set by the procurement agencies, would lose out.

- **Internet enabled services**

Firms in developing countries have a competitive advantage for providing eServices (back-office, call centres, data processing, etc.) as labour costs are lower solving the problem of moving persons abroad. This area is booming in India where, for example, several airline companies such as British Airways and Swissair have located their booking services and account reconciliation services there. Malaysia, Singapore, Hong Kong, Philippines and Jamaica are some of the other countries where similar IT-enabled services are being set up. Besides basic computing skills, the present status of eCommerce requires a good knowledge of English although soon other European languages will also command a premium. Even though this is good business as such, for the IT industry and service sector, developing country firms should also have strategies to go up higher in the value chain of the software and eCommerce industry, i.e. by developing and running software, multi-media and IT services domestically as well as for the global market. Firms in developing countries must strategize for this and simultaneously upgrade the skills of their employees through specific HRD and training policies.

- **Death of distance**

For firms in developing countries, ECommerce can be the bridge to overcoming the drawback of distance from developed markets. ECommerce has the potential for providing world-wide presence for SMEs as the market entry barriers are lowered enabling suppliers to address market segments that were previously uneconomical and unreachable. They can use the Internet to advertise their products at a global scale and also set up 'virtual shops' at much cheaper cost than actual stores abroad. Of course maintenance, upgrading and marketing costs are high and also there are issues of security, payments and assured supply which need to be addressed. It needs also to be noted that the same technology can be used by transnationals for accessing local markets in developing countries and threatening the firms in their own den.

- **Setting up integrated virtual shop-fronts**

Virtual shopping malls are now common and on several websites. But this is an idea that has also been very successfully tried by some developing country SMEs to great advantage. It provides the opportunity to sell together and gain from a common platform much like what a mall does, only much cheaper and certainly more accessible, providing an opportunity that in fact would not exist in the brick and mortar world for several of these every small businesses. One example of this is the Asian Sources Media Group (ASM), a publishing company based in Hong Kong. The firm's Website serves as a shop-front for more than 7,000 Asian suppliers, mostly small-to-medium-sized factories in Hong Kong, China, Taiwan and Korea, selling everything from cheap plastic toys to multimedia electronics. Before their inclusion in the ASM website many of these factories did not even have a personal computer, let alone an Internet connection. ASM provided what they needed, trained them in how to use it, and included them in its on-line catalogue of nearly 200,000 products. Within a year, the ASM site was generating more than 50,000 inquires a quarter, and is now running at a pace nearly double that. Since the inquiries go straight to the suppliers, and subsequent negotiations take place directly between buyer and supplier, it is difficult to calculate the volume of business generated, but customers have suddenly emerged in South America or Eastern Europe for Asian firms that previously had little or no means of selling to those markets<sup>35</sup>.

- **Improving service provisioning**

Consumers in developing countries may be able to get lower priced items or better services. The possibilities are enormous for firms and innovative new our alternative services can provide more business. As an example in the services area, Pakistan Telecommunications Ltd. the state run monopoly, solved the problem of inaccurate telephone number listings in hard-copy directories by setting up a 24-hour on-line directory service through the Internet. It is now planning to export this expertise.

- **Services innovation and eCommerce**

Particularly in the services and export sectors, those firms have been known to be more successful that innovate as a matter of competitive survival<sup>36</sup>. ECommerce provides the best platform for innovativeness. It combines the efficiencies of information technology and software with the global advantages of the digital economy. There are several examples in developing countries of success stories on account of this. For example Trade Point Beijing, set

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<sup>35</sup> Economist, July 1997.

<sup>36</sup> ITC, 1999.

up in 1995 by the Chinese local government, besides providing trade data also converted to being a 'one-stop shop' on foreign trade to streamline access to the many government departments required to be contacted for the purpose. Similar focal points linked electronically are being set up in India, Malaysia and Sri Lanka amongst other places.

- Training and distance learning for firms and workers

The Internet has provided a unique medium for firms in developing countries to provide for the upgrading of their worker's skills. This can help adapt the firms to the new economy. The problem to be surmounted of course will be reliable communication networks and appropriate teaching and learning skills.

- Wither the middleman?

One of the earliest expectations of eCommerce was that it would reduce the role of middlemen, intermediaries, agents, etc. who would gradually disappear. This was hailed as the process of 'disintermediation'<sup>37</sup> (producers selling directly to consumers without the aid of intermediaries). Time has shown that in fact the old economy middlemen are being replaced by the new economy 'infomediaries'<sup>38</sup> who will emerge as the new power-brokers. Some 'old economy' intermediaries are also adapting to the changed environment and may yet survive by offering on-line services.

- Developing country eCommerce portals

The all-knowing portals are the rage on the Internet. These are websites or services that offer a broad array of resources and services, such as e-mail, forums, search engines and on-line shopping. In developing countries too several local portals have emerged. South America has examples such as *Yupi*, *Rio-on-line*, *Star Media* and *The Caribbean Home Page*, all providing several services and links. Indonesia has *Indobiz.com* for business links, Nepal and Sri Lanka have government run sites and India has several such as *Satyam-on-line*, *Infoline*, *Mall of India* etc.

One very successful example is Africa Online which started in 1994 in Boston, USA, and Nairobi, Kenya, to provide expatriate Africans with news of home. It currently employs some 250 people and has spread to several African countries. It receives 10 million hits per month, and has approximately 150,000 subscribers, comprised mostly of businesses.

## 4. Some policy issues for workers and employment

### 4.1 The new economy model

All businesses associated with communications, information technology and eCommerce are encompassed in what is commonly called the "new economy". The implications of this model of economic growth are a matter of heated debate. Recent reversals in the so-far rising stock prices of technological companies as opposed to the declining values of the old economy businesses prove that this model not only holds promise (at least for the west) for ushering in prosperity but could also bring about a period of uncharted and messy change. Similarly, there

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<sup>37</sup> OECD, 1999.

<sup>38</sup> Term used for the all service providing large portals that are emerging on the Internet.

are several views amongst economists about the fundamentals of the new economy model and how it relates to established doctrines of economic theory. One such principle has been that inflation would rise if unemployment stayed below a 'natural level'<sup>39</sup>. In the United States this is not holding good and therefore the conclusion being talked of is either that eCommerce has helped reduce prices or that workers have not yet realised the impact and are therefore not yet actively demanding a piece of the productivity gains. Further empirical evidence is required for either view.

What is clear is that the new "digital economy" will have a major impact on the global economy. National markets, especially in developing countries, may not yet be feeling the changes but the waves of the new global competitive environment is likely to effect firms and workers throughout the world. The impact of eCommerce for developing countries today is mostly in the international trade sector. But eCommerce could soon have a vital impact on the services sector, where the potential for offering digitized service and transactions is very high.

### 3.2 ECommerce and employment

In view of the fact that eCommerce itself is an emerging phenomenon and its full impact on the new and old economy remains mostly in the realm of projections and estimates, it is difficult to say what the long term effects of eCommerce will be on employment. A study of the European Commission<sup>40</sup> published in 1998 confirmed that at that time there was no certainty as to what the impact would be. Empirical studies are presently not available and the effect could vary across sectors and regions. Since supply chain management and opportunities in them for SMEs and developing countries are expected to be important, research to analyse the impact of eCommerce at different stages of the new chains would be useful.

Some initial studies appear to indicate that while, on the one hand, as the new economy expands new jobs and new skills will be required and created, especially in the IT sector, in the short-term eCommerce could have a negative impact on jobs as more and more services and skills go digital.

On the whole eCommerce enterprises require lesser numbers of workers. For example one of the most famous of eCommerce enterprises, *Amazon.com* had only 614 employees for sales of \$148 million in 1998, as against the largest US bookstore, *Barnes and Noble*, which had a sales force of 27,200 for sales of \$2.8 billion (converting to sales per employee of \$267,000 in the former compared to \$103,000 for the latter). This impact can be negatively measured also in the sense where Federal Express, the world's largest courier service, reported in 1999 that its on-line customer service system represented a savings of 20,000 new recruitments!

Whether this is true for whole economies is not yet established as employment levels in the United States, the most successful country in eCommerce, are at the lowest level in decades. Also for developing countries, the emerging opportunities in the new web-enabled services such as call centres and data entry seem to be highly labour-intensive.

### 4.3 Some implications of the new economy and eCommerce on workers

Globalization is expected to bring more foreign direct investment in developing countries. ECommerce and software development activities in most developing countries initially begun through such investment in joint ventures and through collaborations. Such investments do not

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<sup>39</sup> Defined in economic terms as an economy's acceptance of a certain level of unemployment, usually between 5 and 6 per cent for a period of time.

<sup>40</sup> Euro-FIET, EuroCommerce and European Commission study quoted in International Labour Organization, 1999, Human resource implications of globalization and restructuring in commerce, ILO, Geneva

always mean start-up or greenfield enterprises. As eCommerce increases in pace its compulsions could result in greater acquisitions of existing firms in developing countries. In fact the norm in the new economy companies seems to almost be to acquire good existing software and e-Commerce start-ups (The dot.coms) rather than start afresh. Studies show that acquired firms are more likely to lose jobs than non-acquired firms are. Displaced workers often end up with part-time jobs and lower earnings<sup>41</sup>. It is for this reason that several developing countries have placed conditions on mergers and acquisitions. For example, one of the main sectors where mergers have been particularly volatile in the recent past has been telecommunications. Since telecommunications companies have changed from lumbering, low-growth giants into high-tech companies with exploding Internet and mobile businesses, they seem to have developed the urge to merge. In 1999, nine of the top 10 deals in the world have been in telecommunications. This trend is extending to the developing countries also. Can developing countries prevent this, or should they attempt to is the question. If they try to stop it, the danger of being passed-on by multinational enterprises is of course the risk. In reality, this perceived danger has rather promoted developing countries to enact favourable trade and foreign direct investment policies<sup>42</sup> though, of course, with matching competition laws.

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Similarly for existing firms in developing countries, eCommerce and the new digital economy is bringing new competition and standards of performance that could result in their having to face global pressures of cost and efficiency that may well demand restructuring and downsizing of staff.

- 5 The Internet is also revolutionising relationships and interaction between employees. From e-mail to joint virtual training and global virtual conferences on the internet, suddenly there is a medium of communication through which workers become collaborators no matter where they may physically be. All this can lead to a completely new form of employee participation and involvement in management and decision making, be it a SME or a large organization.
- 6 ECommerce and the Internet is leading to more flexible working hours. Though many of the workers, such as home-based mothers and the young computer whiz-kids may favour such hours (offered to them as 'flexitime'), trade unions tend to not favour such developments as they tend to erode labour agreements and existing legislation on working hours.
- 7 Quite obviously the highest premium on skills is and will continue to be on computer engineers, system analysts and data entry operators. These jobs will continue to expand and command much higher salaries than other workers.
- 8 As eCommerce and the new economy grow, new jobs will be generated also in multimedia, networking, telecom and new communication technologies and products, as well as the new professions of web management that are appearing.
- 9 There will be a much greater need for in-house training of existing workers so that they become e-literate. This is something that enterprises and developing countries need to focus on.
- 10 Over-all there will be an impact on trade unionism also. Not only will several of the large enterprises see changes in size and performance in the new economy, the terms of employment may also need to be re-negotiated. Moreover, much of the benefits of eCommerce is expected to first be realised by the SMEs where traditionally trade union membership levels are much lower.

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<sup>41</sup> International Labour Organization, 1999.

<sup>42</sup> By 1997, some 147 countries had enacted FDI-specific legislation. (ILO, 1999)

## 4.4 ECommerce and the informal sector in developing countries

The informal sector<sup>43</sup>, though mostly unregistered and not adequately monitored or researched, usually provides the largest employment in developing countries. According to the ILO<sup>44</sup>, there has been a steady growth of this sector in almost all developing countries. In several of these areas of employment, the Internet is already having an impact, such as on tourism and travel services, food and restaurants, handicrafts and souvenirs. On the one hand, it could lead to greater popularity of these places and products for developing countries and therefore provide more employment, while, on the other it could divert some of the trade and services to eCom merce firms on the Internet.

ECommerce by its very nature is creating another type of informal sector – out-sourced home-based computing and micro-enterprises offering web-enabled services. For multinational companies eCommerce has dramatically increased the possibilities of indirectly using skills in the developing countries. The whole gamut of call centre type out-sourced digital services are based on this very concept of locating and utilising cheaper skills. Developing countries stand to gain in promoting such services.

While it is difficult to say what is and what will ultimately be the relationship between the informal sector and eCommerce and the digital economy, there is no doubt that an impact there will be. For the ILO and for developing countries especially this is an important area of policy research and must be studied.

## 5. Towards a future research and policy agenda

The intent of this paper is to establish a preliminary analysis of some of the issues involved in eCommerce and its impact on firms and workers in the developing world. Based on this it seeks to provide a foundation on which further work can be initiated to develop a research and policy agenda. To do this, it is necessary to outline some of the existing myths and dilemmas of eCommerce and the new economy that have a bearing on the growth of eCommerce for developing countries and their firms and workers. First let us look at some of the myths about the ICT (Information and Communication Technology) industry.

### 5.1. Some myths and dilemmas

The myth	The reality
1. That one needs to have total country-wide internet access before the benefits can accrue in developing countries.	In fact for most developing countries, resources will determine that intermediate partial and focused strategies would be required and such initiatives have proved successful.
2. That privatisation is the only key to telecom growth	Competition not privatisation necessarily is the key to better service and growth.

<sup>43</sup> Comprising of jobs from selling various consumer items like food, newspapers and household goods at market stalls and through hawking, to local handicraft making and selling, also includes informal trades such as cooking, serving in small restaurants, tourist guides etc.

<sup>44</sup> ILO's World labour Report 1997-98.

3. That you need the latest of technology in your telecom systems.	Technology changes so fast that in any case this may not be feasible so adapting existing infrastructure may be more practical.
4. That computer literacy is essential to use the Internet.	It is useful but not essential. IT services on government networks, like land-records, licences, weather and agricultural information etc., can be utilised even by illiterate peoples in developing countries.
5. That you need software engineering graduates to start any web based services.	For web-designing and network management yes, but not for web-enabled services like call centres, medical transcription, etc.
6. That you must be proficient in the local language to be able to offer eCommerce and IT services in that country.	Whereas web-sites and other web-services may have their front-end designed in the local language, the back-end services like maintenance, software, technical support do not need to be and are in fact in computer language or English based-medium.
7. That eCommerce will eventually lead to a 'friction-free' economy in which transaction costs disappear, as do the intermediaries of today.	Though it is a fact that transition costs are reducing, value-chains and profit taking can assume different models and middle-men of today can be replaced or change to the 'infomediaries' of tomorrow.
8. That the choice is between either the market or a government controlled initiative, for promoting and spreading eCommerce in developing countries.	In fact there is no choice between the two. For its success in developing countries, both the government and the private sector need pro-active involvement.

In the area of policy research on ICTs there can be dysfunction and issues of controversy and debate that could have a bearing on the strategies of governance. Some dilemmas are enumerated here more as examples rather than a priority listing of the major issues. Future research in the area of eCommerce and its impact in developing countries need to be seen in such perspective:

- **The supply-chain dilemma**

Most organisations and studies are of the view that the principle beneficiaries of eCommerce will be the small and medium enterprises (SMEs). The reasons for this include the attractiveness of a relatively inexpensive medium (the Internet) for reducing transaction and information costs which the larger firms have already been doing with IT and EDI: flexibility of the SMEs in adapting to the new emerging business models of eCommerce; and most of all being able to join the global eCommerce based supply chains. As B2B already is and will be, expected to be the main area of growth for eCommerce, the last is probably the most significant of factors. The dilemma is that this very benefit could make the SMEs ever more dependants on larger firms and multinationals thus limiting the other benefits of the new opportunities for them.

- **The cultural dilemma**

All firms and workers across the globe have a sense of their own societal and organisational culture. Individually, our cultural values provide an unconscious world view into which we are

socialized and which we use to socialize others<sup>45</sup>. Organisational culture determines impacts on how companies perform and behave in the market place. Most importantly, communication styles vary across the globe and have a bearing on successful trade relations between firms<sup>46</sup>. With eCommerce and the Web, a new global digital culture and new forms of communication are emerging. Firms, especially SMEs, will consequently need to suddenly adapt to this new culture and yet attempt to retain their own special styles and culture that make for their uniqueness and innovativeness.

- **Dilemma of democracy: control vs. freedom on the net**

Democracies are founded on the principle of freedom of expression and choice. In fact, it is this very special recognition of the individuals right to free expression, free choice of employment and business that is the basis of individual enterprise and entrepreneurship. This has been the backbone of free-market enterprise and innovations well as the hallmark of success of eCommerce. Yet the same Internet that provides the highway for the new economy can also be the high-road for new crime, new cyber terrorism and what are referred to as the 'gigabyte guerrillas'. Where do governments draw the line between freedom and control on the Internet? And if they try to, will it stifle the new economy? In the developing countries, for example, India stands out as a very successful example in the digital economy. As the world's largest democracy it does not attempt to police the Internet. China, some of the Middle East states, even Singapore and Malaysia still have very strict censorship laws in place. Will these effect future growth?

- **The dilemma of the informal sector and labour codes**

For developing countries the informal sector is one of the main growth areas. For eCommerce, some of the expansion in developing countries will come in the informal sector. By definition these informal working arrangements encompass employment situations and labour relations, which not only differ but often infringe upon established rules. How could international agencies and governments react to this? The main difference of course between the existing informal sector and eCommerce based employment is going to be the level of skill and higher remuneration. Therefore the need to impose labour codes may not be so strong. Moreover since the awareness and education levels will also be high, sensitising the new knowledge worker to his or her rights should be a relatively easier task. The spill-over effect of eCommerce to the rest of the informal sector could also lead to some improved situations there too.

## 5.2 Issues for a policy and research agenda

Good governance has been on the international development agenda ever since the early 90's. International and bilateral donors have insisted that their developing country partners follow this standard which though not clearly defined, implies that there must be transparency in government decision making, clear procedures and civic participation in the process.

Policy on eCommerce should be the results of broad and open national debates. Bodies like the ILO must open up the debate on eCommerce and its implications for labour and employment to further open discussion and research. Civil society, trade and industry associations, labour unions, NGOs all must be invited to participate in the debate.

Related to this are the initiatives that have been taken up in several governments of the South for the promotion of Internet and eCommerce in their countries and the partnerships with trade

<sup>45</sup> ITC, 1999.

<sup>46</sup> Trompenaars, F., 1993.

and industry that are emerging. These need to be strengthened and here the International Agencies have a role in promoting such partnerships, providing studies and models and disseminating 'best practise' examples for the developing countries to emulate or consider.

### Some suggestions for future action and research

- Governments and international organisations should collect and analyse data relevant to the study of electronic commerce in order to effectively measure its economic and social impact.
- Empirical data on the actual impact of eCommerce across sectors and regions is lacking and as suggested earlier, studies on the impact on employment at different stages of the new eCommerce global supply chains would be most relevant.
- Labour is an issue of both social and economic relevance therefore ILO has an important responsibility here. For example, it may be necessary to review existing labour laws to see if there are existing barriers for workers to be able to share in the new and different employment generated by electronic commerce. It would also have to be seen how far the existing rules and laws would and should apply to the Internet and eCommerce. The problem is also how to regulate. This is both a policy and research issue.
- International development organisations should study the potential impact of electronic commerce on emerging economies and the least developed countries in an effort to assist in the economic development process in those nations. Involvement of the developing countries and assistance to them for improving their expertise and infrastructure are some of the key requirements of the future.
- International organisations such as UNCTAD, UNDP, WTO and ILO also have a responsibility to assist the developing countries in the area of advocacy and human resource development for this new technology. Collaboration and common programmes with developing countries would be beneficial for the world economy as a whole.
- Governments and international agencies should continue to promote both formal and non-formal skills-development programs. For eCommerce this means both eAwareness and eLiteracy programmes. There will be a much greater need for in-house training of existing workers so that they become e-literate. This is something that enterprises and developing countries need to focus on
- The relationship between the informal sector and the digital economy needs to be further examined. For the ILO and for developing countries especially this could be an important area of policy research.
- The Internet is a medium of communication through which workers can become collaborators. All this can lead to a completely new form of employee participation and involvement in management and decision making, be it an SMEs or a large organization. The ILO could further study such possibilities and promote it in developing countries.

### 4.3 Conclusion

The benefits of eCommerce should accrue to those trying to escape economic marginalization due to geographic, financial, technological or educational handicaps. A strong rationale for eCommerce development arises from the South's desire to close the gap between those with abundant information at hand and the "information poor."

As governments develop initiatives and policies in support of eCommerce, the effectiveness of specific actions should be measured by the extent of improvement in:

- cost effectiveness and efficiency [in commerce] as measured by how quickly information, goods and services can be delivered to consumers;
- communications options for consumers that offer innovative ways of doing business;
- increased scope and reach of communication and hence service delivery.<sup>47</sup>

The premise here is that in promoting business on-line, governments will facilitate the delivery of information, goods and services. This will then deliver more traffic across data networks which, in turn, will serve to provide the revenues and investment rationale needed to encourage further infrastructure development.

In the new economy too the world is continuing to be divided. Only this time the haves and the have-nots are divided between those connected and those not. Just like with every other technological advancement, the benefits may go mostly to some parts of society. Developing country governments will need to address this issue in the context of their own development plans and programmes. Increasing access to the medium will obviously be an area of focus. Meanwhile the developing world and especially the firms and enterprises there must jump on to the eCommerce train to ensure that they too are part of the journey. There appears to be no harm in following focused strategies of growth to ensure that those sectors and areas that can maximise their returns and those that have the competitive advantage - take it.

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<sup>47</sup> Both these points will have a bearing on the telecom policy and some state monopolies in it that continue to survive in some countries.

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