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DEVELOPMENT

# E-COMMERCE AND LDCs CHALLENGES FOR ENTERPRISES AND GOVERNMENTS

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## Executive summary

There have been dramatic improvements in access to telecommunications and Internet connectivity in LDCs over the past two years. Promising new technologies, in particular, third generation cellular technologies, give hope in speeding up Internet access even further. Widespread installation of cellular networks, the launching of LEO satellite services, and the proliferation of entrepreneur driven community telecentres indicate that, in the near future, even the most remote parts of the world will be able to have access to relatively low cost high bandwidth Internet services.

In order to appreciate how LDCs can benefit from e-commerce, it is important to understand the different types of e-commerce and where the competitive advantages of LDCs lie. Business to Business e-commerce is emerging as the most important with an expected market of \$7.29 trillion or 7% of world trade by 2004. B2B portals are in the process of being established which will link buyers and suppliers around with world. These portals are likely to specialise in an industry or a service. For example, the mining industry plans to establish a B2B portal allowing mining houses to link with mining suppliers. LDC commodity producers could gain from the trade efficiencies by linking up with the appropriate portals.

Business to consumer e-commerce has been the forerunner of e-commerce yet has experienced a number of casualties with three out of four stock exchange listed Internet companies expected to fail in the next few years. Those that do survive provide excellent opportunities for enterprises and individuals in LDCs to buy or sell their goods or services. It is unlikely that LDC based B2C portals will succeed in developing a vast international presence due to the large amount of capital required and the critical mass of domestic online consumers needed to make it viable in the first phase. LDCs, due to access, connectivity and a low per capita income, as well as social barriers, make a national B2C economically unviable at this stage. There is however an opportunity in creating B2C portals for the LDC diaspora. Case studies discussed in the paper, include EthioGift and ghanamall.com.gh, show how enterprises are succeeding in operating profitable online businesses by serving the Ethiopian and Ghanaian diaspora respectively. "Radio One", a Tanzanian Internet radio station has reported unexpectedly high numbers of people (presumably Tanzanian expatriates) tuning in. This clearly indicates a competitive advantage for LDC enterprises to, at low cost, take advantage of a traditional and cultural goods and services market of LDC expatriates. Other opportunities identified were in the teleservice industry where LDCs have low cost human resource advantages. The Internet allows quick and cost effective on and offline servicing from any location. A call centre in Togo provides teleservicing to corporations in the USA using Internet telephony. Numerous digital services such as desk top publishing, video editing, CAD architectural detailing etc can now be offered by people living in LDCs to clients living in Europe or the USA.

Success in e-commerce does not depend on access and connectivity alone. A comparison of Tanzania and Ethiopia showed that, although Tanzania had a better physical e-commerce infrastructure, Ethiopia appears to have more Internet entrepreneurs emerging, even under an inferior IT environment. A key ingredient in taking advantage of the e-commerce revolution is the commitment of the entrepreneur to e-commerce, and the determination to find the best model for his business. Their business strategy will have to undergo changes, particularly with regard to how they market their products/services and how transactions are processed. B2B and B2C commerce opens up new markets, but due to the speed and conveniences brought by e-commerce, orders tend to be smaller, there are more orders from more clients, who are more widely spread around the world. The e-commerce culture has created a buyer that expects quicker service and delivery, and therefore critical that enterprises have access to logistics service providers who can meet these requirements.

LDC governments too have responsibilities in making e-commerce work. Aside from the obvious issues such as the liberalisation of telecommunications and the development of an information society infrastructure, governments must strive to create an e-commerce friendly environment. They must address areas such as the e-commerce legal framework, overly bureaucratic trade procedures, trade restrictions and a difficult investment climate. Companies should be incentivised to become e-commerce enabled by offering them special arrangements in processing their imports and exports, and tax allowances. Governments could go a long way in developing an e-commerce enabled business community by setting up on-line access to and submission of tenders. Trade promotion organisations should focus on possible e-commerce opportunities and government should facilitate or encourage the creation of education institutions to develop a population of knowledge workers.

UNCTAD and other international organisations such as the World Bank and ITC are prominent in creating awareness of e-commerce in LDCs. They should promote education and research in areas linked to e-commerce, assist in identifying business opportunities and provide technical assistance to government and enterprises.

## 1 Introduction

From a Least Developed Country (LDC) point of view, the threat of the “digital divide” appears to have loomed even greater as LDCs still grapple with basic issues such as connectivity and access to the Internet while the developed world are worrying about how they can use the Internet to dodge traffic jams or book parking space on their way to work. Enterprises in LDCs are warned that if they do not become e-commerce active they will be left in the wilderness as large multinational buyers will eventually insist that their trading partners are linked via an Internet business to business portal. Electronic commerce is expected to improve the efficiencies of enterprises thereby increasing the gap between those online and those not online. This could mean even further marginalisation for many enterprises in LDCs.

Yet in the midst of these predictions of doom, experts are saying that many of the dot.com companies currently listed on the Nasdaq will never make a profit and may not be around in a few years because their business models are wrong. It is clear therefore that the online business world are still grappling with what the right business models are and e-commerce solutions are still in their testing phase.

The purpose of this paper is to explore the experiences of enterprises and governments in African LDCs and determine whether or not there have been any successes in e-commerce ventures, what obstacles have been encountered, what solutions or opportunities are available under the current circumstances and what responsibilities lie with the respective LDC governments to address the e-commerce situation. The reason for only considering African LDCs is due to time constraints in preparing the paper and availability of documentation on e-commerce studies. It can however be assumed that many of the experiences noted in African LDCs could be found in other LDCs.

It is evident that certain LDCs have taken the challenge of access and connectivity very seriously, and by liberalising their telecommunications services, they have benefitted from dramatic improvements in their information society infrastructure. Most African LDCs now have Internet connectivity and many companies located in the main centres have at least a website hosted on an Internet service provider (ISP) server, or hosted on one of the United Nations sites (Trade Point or the ITC virtual exhibition). There are however still many obstacles to be overcome before we see any meaningful online trading coming out of these countries.

LDCs need not go through the expensive learning curves experienced by many businesses in the developed economies in order to benefit from cutting edge e-commerce solutions. They do not need to start at “begin” to join the game. Having been outsiders up until now could turn out to be a stroke of good fortune. Even now, it is still not clear how business is going to overcome many of the obstacles preventing total paperless trading. Many organisations and companies are vying to become the future global e-commerce standard and an open business exchange allowing total paperless international trading on the Internet is still not possible, even in many developed economies.

Companies from LDCs may soon find themselves in a position where they can link up to international business to business (B2B) portals quickly and cost effectively. They will also realise that, to benefit from e-commerce there are more deeper issues to be dealt with than just connectivity and access. Many papers have been written about the plight of LDCs in the context of the information society. They focus on their lack of infrastructure, lack of skills, lack of an access enabling government policy, lack of an e-commerce legal framework and a lack of a critical mass of online consumers with sufficient disposable income. One is led to believe that if we can only solve these problems, LDCs will benefit from the e-business revolution. What is concerning is that not enough has been said about how companies should be changing at strategic and operational level to meet the challenge of full blown B2B commerce. Will the companies cope with the speed of service and response required when dealing in the electronic environment? Are the supporting services available to them, such as logistics and banking. These concerns are not exclusive to LDC companies. One of the major reasons given for the poor showing of many business-to-consumer (B2C) e-commerce sites in the US during the 1999 Christmas period was that the systems (backroom order processing and logistics) could not cope with the traffic of visitors and buyers. People complained of not getting any response from companies after placing an order. Obstacles to e-commerce may not be as obvious as we think and work needs to be done at the strategic and operational level in companies and industries.

## 2 The physical e-commerce infrastructure

It is not the purpose of this paper to focus on well documented connectivity issues that effect the spread of e-commerce in LDCs. It is acknowledged that unless this very important factor is dealt with, e-commerce will not have a infrastructure on which to operate. The e-commerce infrastructure involves issues such as access to cost effective and quality telecommunications, an Internet service infrastructure, computers or other devices to connect to the Internet, e-commerce software solutions and technical support services.

Four documents were studied with a view to identify key obstacles and developments regarding the physical e-commerce infrastructure in Africa. The documents scanned were:

- Building Confidence - Division for Electronic Commerce - SITE/UNCTAD
- Electronic Commerce in Africa - Economic Commission for Africa (ECA)
- Rural Access to Information and Communications Technologies. The Challenge of Africa - The TeleCommons Development Group funded by DFID, infoDev and World Bank
- African Internet Status (July 1999) - Mike Jensen

The following points were observed:

- It was found that there had been dramatic improvements in the information infrastructure within a few years with satellite television, the Internet and cellular phones now widespread over the continent. 20% of the total number of phone lines in Africa (excluding South Africa) are cellular, available in 42 countries supplied by over eighty operators. However the current cellular network is not suited to Internet access due to expensive call rates and narrow bandwidth.
- At the end of 1996, only 11 countries in Africa had local Internet access (local Internet Service Providers) but with Liberalisation of the telecommunications environment allowing private companies to establish ISPs, almost all African countries now have at least one ISP. Even with these improvements, access is still out of reach for 70% of the continent as ISPs are located in main cities and the majority of the African population still live in rural areas. According to the UN Economic Commission for Africa, there are approximately 100 000 Internet accounts and about 500 000 Internet users (excluding South Africa) out of a population of 750 million people.
- African connectivity figures such as teledensity which is 1 in 200 inhabitants, computer penetration is less than 3 per 100 and just 1 in 1500 have access to the Internet indicate that Africa has a long way to go before a critical mass of people can benefit from the e-revolution.
- Call rates, line rentals and installation costs of telephone lines are costly for most of the population to access the Internet. Installation charges are above \$200 in some countries with \$20 p.m for line rentals and an average of \$0.11 per three minute call.
- Major projects that could improve the connectivity for Africa include the go ahead for Africa-One, an undersea fibre optic cable to be installed around the African continent by 2002 and the installation of LEO satellite networks currently underway which will service Africa as well. A number of telecommunications projects are underway to install fibre optic cable links between various African cities.
- The proliferation of telecentres, preferably run by entrepreneurs appear to be providing the rural population with telephone access and will serve as Internet access points once connectivity for data becomes more widespread. VSAT connectivity does provide a current solution for data access but the set up costs are high and not viable for the private sector in certain countries due to regulation.
- A major obstacle for the e-commerce infrastructure, which includes communications devices and computers, is the availability of skilled people to maintain the equipment. Without these services, the infrastructure could break down within months. Another problem is the lack of reliability of power supply. Areas have to share electricity and could be down for hours per day.

The lack of a satisfactory physical e-commerce infrastructure remains the most immediate impediment to electronic commerce in LDCs. As technology advances and global companies establish their various forms of communications infrastructure, and governments move to a more liberalised telecommunications policy, the physical infrastructure will become less of a problem.

### 3 Types of e-commerce

Before discussing some of the case studies, it is important to clarify the different ways of looking at e-commerce as each form of e-commerce has different applications and different problems.

#### 3.1 Business to Business e-commerce (B2B)

B2B (Business to Business) e-commerce refers to electronic deals conducted between two businesses. For example, a restaurant orders prawns from a prawn producer or a bank orders stationary from a stationary supplier. If these transactions are domestic they are relatively straight forward and could be done on account in the same way as traditional business is done, and communicating of the order, invoicing, tracking of the order and payment can all be performed online between the two parties.

If however it is an international order, where it could involve an number of container loads, or even a ship load of goods, the trade cycle will involve greater risks and more parties will be involved in the transaction. Research published by UNCTAD has shown that a typical international trade transaction could involve more than twelve different parties involving customs departments logistics providers, verification bodies and financial institutions. The traditional method of facilitating an international transaction via the different parties is through documentation, and in some cases, original documents of title. Correctness of documentation will determine whether the cargo is allowed into a country or whether an exporter is paid. The challenge is to be able to interact electronically with all the parties, which will include government departments in both countries. Should one party in the chain not be in a position to accept electronic documents, original documents would have to be created for that party. As long as there are still parties that are unable to accept electronic documents, companies will have to keep a dual system going.

A solution to the business to business e-commerce problem is the creation of specialised B2B Internet portals which facilitate transactions via trusted third parties, thereby reducing the number of parties involved. There are a number of initiatives currently being launched with defined communities and with a clear understanding of the needs of that community. The creators of these portals already know the buying patterns of a specific community, they know their needs and concerns and have ensured that the portal addresses these needs. B2B portals will be able to deal with verification and certification of buyers and sellers; credit and payment issues; and supply chain management and risk management issues. Business exchanges appear to either be formed out of industry communities or

logistics communities and are simply taking advantage of existing international business activities and involving existing players in the industries.

### 3.2 Business to consumer e-commerce (B2C)

Business to consumer (B2C) e-commerce refers to companies that retail products (physical or virtual) over the Internet. Many of the Internet companies with high profiles and listed on some of the stock exchanges are B2C companies including Amazon.com and eBay.com. These companies operate in an environment where, irrespective of whether it is a local or international order, the client orders and pays by credit card, the system generates an invoice, and someone in the backroom processes the order. There are only a few parties in the chain and therefore a relatively simple paperless transaction.

### 3.3 Business to government e-commerce (B2G)

Business to government (B2B) e-commerce is still in its infancy in most countries. It involves an electronic form of interaction between government and the business and community. Examples of B2G e-commerce include submitting tax declarations online, paying tax, making application for and paying for licences and passports etc, and voting online. Government owned companies such as the port authorities could provide an electronic means of paying port costs and clearing goods through the port. Many LDCs have installed the UNCTAD ASYCUDA Customs Management System. This system is designed to allow traders and agents to submit customs declarations electronically. LDC governments could however take the opportunity of setting up online tendering portals as an incentive to attract enterprises to e-commerce.

### 3.4 Trading in E-products

#### 3.4.1 Physical products

When trading goods using e-commerce, a business must eventually revert to physical order processing. One of the benefits of e-commerce is that it speeds up the communication and sales cycle leaving the buyer with the impression that delivery of the goods will also be faster. If the backroom order processing has not been designed to deal with the new business model, problems will arise and the buyer will feel nothing has been gained by buying online. A logistics problem has arisen in B2C and B2B e-commerce where orders are more regular, orders are smaller, the number of customers is growing, and are more widely located around the world. Logistics services providers are still grappling to deal with the new demands of e-tailing. For international orders, the delivery process can become complicated with customs requirements at both ends.

### 3.4.2 Virtual products

Trading virtual products is well suited to the e-commerce business model. As the complete transaction from enquiry, order and delivery can be achieved online, and sometimes in a few seconds, businesses selling these products are able to benefit from e-commerce wherever they are located. It is possible for a music artist based in Uganda to record his songs in a home digital audio studio, store the songs on a file on his server and sell his songs over the Internet using MP3 technology to buyers in the USA, provided he has access to sufficient bandwidth. Payment is usually made by credit card or bank transfer. Other virtual products include software, e-magazines, travel B2C portals and online sale of information.

## 3.5 Teleservices

### 3.5.1 Offline teleservices

Offline teleservices offer talented individuals living in LDCs, who may have skills in digital publishing, translation, software development, website design etc an opportunity to do work for companies based in developed countries. For example, an institution such as the United Nations requires desk top publishing services to be done on documents. The document is sent by email to the contracted skilled person, who could be situated in any LDC, provided they have Internet connectivity. Once the work is completed the person sends it back to the UN by email. These services are referred to as offline, as the work is done offline, and only when completed, does the person go online to send it to the customer. The Economic Commission for Africa (ECA) report on Electronic Commerce in Africa (2000) identified a few examples including a Moroccan company with a staff of over 70 digitizes manuscripts for a European publisher, a Moroccan company offering Internet based translation services, and a Senegalese company that employs 30 skilled CAD technicians to do architectural detailing for European clients.

### 3.5.2 Online teleservices

Online teleservices can be divided into interactive and non-interactive. Interactive online services involve real time involvement by the contracted party. Examples of these type of services include call centres handling airline reservations, telemarketing and after sales support. Low cost Internet telephony now allows corporations based in the USA or Europe to outsource call centre work to low labour cost countries, provided the call centre, for example, situated in an LDC, has reliable high bandwidth connections. The ECA report identified a call centre project in Togo which will provide call centre services over the Internet for US based clients. The authors of the ECA report, Ndiaye, Diagne, Rostenne and Fine strongly believe that African countries should make online teleservices a priority business opportunity due to the significant human resource cost advantages.

Online non-interactive services would include Internet radio stations, or Internet sports sites which provide downloadable but recent news on sports events.

## 4 A comparison of e-commerce activity between two African LDCs

### 4.1 Tanzania making great strides towards access and connectivity but no e-commerce

Tanzania have moved to liberalise the telecommunications sector by issuing cellular operator licences and Internet Service Provider (ISP) licences to a number private companies. Many large companies and Internet Service Providers have their own external VSAT data communications links, however voice communication via VSAT is still restricted. There is only one fixed line state-owned telephone network and four cellular operators with a fifth licence having just been issued to Vodacom South Africa, who expect to have over 100 000 subscribers within the next few years. Vodacom have committed to provide subsidised community telephones to rural areas as part of their obligations under the licence. Tanzania's international bandwidth availability is over 2048 K and there are 158 Internet hosts. Local phone call costs average at \$1.94 per hour. The 1997 GDP per person is \$244.00. There are numerous private ISPs operating in Tanzania including Africa online, Cats-net, Internet Africa, Cyber Twiga, Heartbeat Online and CATSnet. All offer website hosting, email and web design. A number of large e-commerce software vendors including Nortel and Novell have a presence in Tanzania.

Currently the only business to business e-commerce activities taking place are electronic processing of messages and information between banks and large corporations in Tanzania and their head office or other multinational buyers or suppliers via VSAT. Tanzanian Customs have installed ASYCUDA the UNCTAD customs management software and the state railway company are part of the ACIS rail tracking project.

Even with all the connectivity and access available in Tanzania there are no obvious signs of Internet based e-commerce activity. A number of hotels, travel operators, restaurants and other companies have websites hosted on one of the many ISP servers in Tanzania. However none of the companies were offering products online for sale. It was not possible to make bookings at hotels or book a holiday online. None of the more than twenty sites visited had any secure payment arrangement online. Some of the banks in Dar es Salaam are now offering a form of online banking. This service is currently restricted to reading bank statements online or sending email requests to the branch to transfer funds.

### 4.2 Ethiopia has been late with connectivity and access but e-commerce is alive and well

Ethiopia still has a highly regulated telecommunications service. There is only one state owned cellular operator and one state owned Internet Service Provider. Ethiopia has 81 Internet hosts, an international bandwidth of 512 K and 2500 dial-up subscribers. No private VSAT licences are permitted. The 1997 GDP per person is \$103.00.

When comparing with telecommunications policy of Tanzania, Ethiopia is still centrally controlled and one must assume that in the absence of competition, the physical e-

commerce infrastructure is more inefficient. The local call costs in Ethiopia are almost double that in Tanzania. The IT infrastructure in Ethiopia is inferior to that of Tanzania and Internet access came later to Ethiopia. The per capita income of Ethiopia is half that of Tanzania and telephone line density is far lower.

Yet when comparing current e-commerce ventures, Ethiopia out performs Tanzania. Even with an inferior IT infrastructure, companies in Addis Ababa are able to operate profitable online businesses. What appears to motivate Ethiopians to set up e-commerce ventures ahead of their Tanzanian counterparts, is that they have a very defined and large diaspora living in Europe and the USA, and a very strong tradition of gift giving during holidays. Ethiopia also have more known international reputation for art. Local artisans therefore have definite internationally competitive advantages in certain niche markets. The nature of this advantage is shown in case studies under section 5.

## 5 E-commerce case studies

### 5.1 People sell their products online from outside their countries

There are a number of dedicated African music and art Internet sites on which music can be listened to, art can be viewed and if desirable, the buyer can order online. The products are usually in stock in the hosting country, which in the main, is in the USA. Reasons, real or perceived, for this situation could include the following problems associated with the home country:

- Lack of an physical e-commerce infrastructure and low bandwidth availability
- Lack of web hosting, design and maintenance services.
- Setting up secure payment sites may be a problem due to restrictive regulations.
- Logistics services from the home country are unreliable.
- Distance from market.
- Lack of local initiative. Many of the sites are set up due to the initiative of people living in developed countries who simply buy the products from Africa and resell.
- Lack of confidence on the part of buyers to purchase from sites based in LDCs.

What is clear however, is that none of these sites view their target market being in the home country. Their markets are the mass markets in developed countries including the African diaspora. Examples of these sites include:

- **Africassette.com** sells music from Africa by CD or tape. You are able to sample tracks online and place your order electronically using a credit card. The site is hosted and run out of the USA. Rick Steiger of africassette.com claims that he communicates with producers in Mali and a purchasing agent in Senegal by email.

- **Musichaven.com** sell African music and videos online. You are able to hear samples of the music and view reviews. Ordering is done by sending an email with the product code number you wish to purchase and your details. They then contact you to arrange payment and delivery.
- **Smoothassilk.com** specialises in marketing Ethiopian art including greeting cards, paintings, videos, Ethiopian stamps and African music including the art of Atekle. The site is very professionally designed and they have ensured that all the necessary endorsements are obtained to assure the buyer of payment security. The site has the endorsement of Verisign, CC Now and Public Eye.
- **Geezfont.com** is an website selling Ethiopic software. The software allows the user to manipulate Ge'ez alphabets on a personal computer. It manages the mapping of an English keyboard layout to Ge'ez alphabets allowing the user to work with popular software packages such as Microsoft Office Suite in Ge'ez. The software is bought online using credit cards. The site is hosted in Canada.
- **jomodesign.com** is a famous Ethiopian artist specialising in Ethiopian furniture designs. His website demonstrates his designs and promotes his exhibitions which are held in London and New York.
- **samite.com** is a well-known Ugandan music artist who produces his own music. He promotes himself using the website. Clips can be downloaded to sample.

## 5.2 EthioGift

EthioGift is a profitable online gift shop based in Addis Ababa enabling Ethiopians in the diaspora to buy and deliver traditional gifts to their families in Ethiopia. The service receives gift orders from all over the world through the Internet and delivers the gifts to their families in Ethiopia within 48 hours. The site has identified a niche market that capitalises on a large defined Ethiopian diaspora that would like to show respect to their families on important holidays by sending the appropriate gifts to them. Its uniqueness consists of the use of the cultural (gift tradition) and historical peculiarities (large number of expatriates). For example, an Ethiopian living in Paris goes online, orders the goat, provides details of his family delivery address in Ethiopia, pays for the goat safely by credit card, made possible via Ethiolink's SSL server, and the goat is delivered to his family in Ethiopia.

The business was started by four young entrepreneurs who saw the opportunity and were able to establish the operation with minimum IT infrastructure available in the country, and with minimum capital. Today thousands of people visit the site every month with even greater numbers during Ethiopian holidays. The site offers flowers, cakes, sheep, goats, traditional clothes, greeting cards and spirits. They have introduced some interesting innovations such as an agent network, using mainly Ethiopian Restaurants in various centres in the USA and Europe which serve as a ordering and pay point for those that are not able to, or do not want to use the Internet themselves.

EthioGift was a finalist in the Stockholm Challenge, a prestigious award for Internet sites. Mr James Wolfensohn of the World Bank has repeatedly mentioned EthioGift as an wonderful example of e-commerce in a poor country. The company employs five IT professionals and six other backroom staff. The site can be accessed via [www.ethiolink.com](http://www.ethiolink.com).

### 5.3 Genuine Leather Craft

Genuine Leather Craft is an Ethiopian seller of fashionable leather clothing. The concept is based on Ethiopian heritage and its unique leather working crafts. A visitor enters the site and can view mens and women fashions. A catalogue with pictures and price are available on the site. Once the visitor has selected an item, they go through to the ordering section. The site serves businesses and private buyers. Bulk orders obtain discounts and a set out procedure is explained. For example, for bulk purchases a letter of credit is required. The packing and shipping procedure is set out. Bulk buyers are offered the services of pre-shipment inspection companies such as SGS or Lloyds at their own cost. Orders are processed in the traditional manner, hence not a complete e-commerce transaction. For private purchases, there are prices per item which include freight costs worldwide. The buyer may pay either by credit card or bank transfer. Delivery is promised within ten days from confirmed payment. Genuine Leather Craft are targeting the Ethiopian diaspora. The advantage for them is that the market, even though it is based in foreign countries, knows the product, and may even know the company. Ethiolink serve as a high profile Internet portal with this market which ensures a viable through traffic. Genuine Leather Craft are able to set themselves apart form sellers of leather clothing from other countries because of their defined market. The site may be accessed via [www.ethiolink.com](http://www.ethiolink.com)

### 5.4 [ghanamall.com.gh](http://ghanamall.com.gh)

Network Computer System, Ghana's first Internet Service Provider have just set up a Internet portal to take advantage of the Ghanaian diaspora market. About \$250 million is transferred to relatives and friends in Ghana yearly from citizens living in Europe and the Americas. Some of this money is sent to relatives and friends requesting them to purchase tradition Ghanaian goods on behalf of the expatriate. These include Ghanaian videos, music, art pieces and clothing. The Internet portal is therefore taking advantage of an already existing business activity and adding value to the process by enabling Ghanians based in other countries to shop online. The Ghana mall have a number of companies now offering their products online including HM Film Production and Recise music productions. These sites allow the visitor to sample music and select videos and Cds, place them in a shopping cart and check out through a secure payment system which has a secure socket layer enabling the credit cards to be encrypted. The server is registered with Verisign and provides for all possible security concerns a buyer may have. Other products available in the mall include art, fashion and clothing and meat products. The sites also enables Ghanaian expatriates to order and pay for goods for delivery to friends and relatives in Ghana. The site came online in December 1999

## 5.5 Lessons from the case studies

- It is possible even under inferior IT conditions, to conduct profitable e-commerce on the net.
- It is possible to set up an e-commerce enabled company with relatively little capital as in the case of EthioGift.
- What is more important than connectivity is the business model. Does the enterprise have a clear target market, does that market need what is being sold, does that market trust the enterprise to supply and can the enterprise meet the promises of delivery. In the case of EthioGift, they could promise delivery within 48 hours as the delivery took place to an address within Ethiopia, whereas Genuine Leather Craft are delivering outside of Ethiopia and therefore are more careful about their delivery promise (ten days).
- There is an opportunity to use international hosts for the enterprise's web page. In this way the enterprise could attract traffic based on the credibility of the international host.
- E-tailing offers artists the opportunity to focus on what they do best which is to create the art. The specialist portals then promote that art to the international community. Africassette, Musichaven and Smoothasilk are B2C portals, hosted in the USA, marketing African works of art.
- The Internet need not only be used to sell goods. Samite and Jomo use their websites to promote their art, keep their fans informed about new products and developments and announce concerts or exhibitions.
- ghanamall.com was initiated by an Internet Service Provider who saw the opportunity of taking advantage of an already existing business activity. The ISP had the technology and the credibility, and an established base of visitors (Ghanians expatriates) coming to their site to view the latest news in Ghana. All it had to do was to facilitate the set up of retail sites on its website for the target market.

## 6 Barriers to e-commerce in Least Developed Countries

The lack of case studies in LDCs is an indication that, relative to developed economies, the environment for e-commerce is negative. Those that appear to be working have a sound business model in that they are addressing a clear need and addressing this need via the Internet makes sense to the users. Assuming a workable physical e-commerce infrastructure was to be in place in the near future, the following still need to be addressed:

## 6.1 The government barriers

There are a number of government policies in LDCs which have a detrimental effect on the proliferation of e-commerce in these countries. They include:

- The insistence of governments to hold onto and protect inefficient state owned telephone networks. This results in inferior and high communications costs making e-commerce activities unnecessarily costly and uncompetitive.
- The lack of government strategy or support to develop world class enterprises. A poor business, even if connected to the web and e-commerce enabled, will not succeed in a competitive world. Companies in LDCs are ignorant of international opportunities, the needs of those markets and how to service them properly. Governments should be doing more to help enterprises identify international opportunities and take advantage of them.
- Government insistence in maintaining ownership and management of logistics networks such as ports and airports resulting in inefficient, costly and unreliable services, which are incompatible with an e-commerce environment.
- Bureaucratic export and import procedures result in lengthy customs clearance times which nullify the benefits of speed in transactions offered by e-commerce. This affects service levels and increases the cost of business operations.
- Restrictions on imports and exports such as permits and licences, and the time taken to obtain these permits, place barriers in the way of fast efficient e-commerce activities.
- Lack of progress in setting government institutions, such as the Customs department, to accept customs declarations electronically. This forces e-commerce enabled companies to produce paper and undermines the concept of paperless trading.
- Although a number of African LDCs have already made great strides in abolishing exchange controls, some still exist and provide a barrier for transacting in a foreign currency on the Internet.
- Lack of an e-commerce friendly legal framework to provide recourse for companies. Current laws do not accommodate electronic contracts and signatures. Most LDCs do not have legislation that deals with e-commerce concerns including enforceability of the validity of electronic contracts, digital signatures and intellectual copyright and restrict the use of encryption technologies.

## 6.2 The commercial barriers

Commercial barriers to e-commerce active LDCs involve a range of issues.

- Lack of world class manufacturers and service providers based in LDCs. E-commerce is not the magic wand to new prosperity. The same basic principals of success remain, which is, are there products or services from LDCs that are needed or wanted by the international market, and is the enterprise internationally competitive in delivering that product or service?
- Incompatible business processes. Entrepreneurs tend to run their businesses on instinct and experience. The e-commerce environment will challenge their business processes. The lack of business expertise and available technical assistance to make the necessary changes could impact severely on the LDC company's chances of becoming e-commerce enabled.
- An absence of a critical mass of e-commerce enabled business partners or online customers inside the country. Unless businesses are able to link with their local suppliers, service providers and customers electronically, they cannot conduct e-commerce within the country.
- A lack of capacity (skills and finance) to take on the new technologies required in becoming e-commerce enabled. The costs and skills required to set up an internal e-commerce infrastructure are often overwhelming for small and medium businesses.
- A poor representation of IT vendors and support services in LDCs. Companies must be able to access e-commerce software, networking products and technical assistance in order to set up their e-commerce capability. The problem is whether or not LDCs are attractive enough markets for vendors to establish a presence in those countries?
- A lack of a capital market in most LDCs to fund e-commerce ventures. Without access to capital, entrepreneurs with credible ideas for Internet startups will not get their opportunity off the ground.
- A lack of critical mass of knowledge workers needed to operate an e-commerce business environment. These are people skilled in IT and content creation for the new economy.
- A lack of confidence on the part of the international buyer in LDC based websites. For companies wanting to establish a presence on the www, to attract international customers could prove difficult due to negative perceptions about their reliability.

- Lack of availability of logistics and financial support services. Most LDCs experience irregular, slow and higher cost service from courier companies. Banks do not offer the same level of service and products usually found in developed economies. These deficiencies place LDC companies at a disadvantage.

### 6.3 The social barriers

- Culture and mentality are significant barriers to e-commerce. A study conducted by Booz-Allen & Hamilton for the 1997 G7 Bonn Conference showed that one of the main reasons for European (with the exception of Scandinavia, UK and Netherlands) and Japanese small and medium enterprises (SMEs) lagging those in the USA in taking on e-commerce was due to cultural and mentality issues. This barrier is even more accentuated in LDCs and caused due to a lack of education and awareness about e-commerce, a fear of the technology, a lack of familiarity of information technology and a lack of trust in the system. An analysis of e-commerce practice in SMEs by Caroline Chappell and Sylvie Feindt of KITE (1999) found that cultural issues were considered to be the biggest barrier to e-commerce followed by cost of investment, infrastructure and concern for security.
- Gender issues. In many LDCs, half the population of a country are marginalised due to their gender. The e-revolution is an opportunity based in human intellectual resources. Many LDCs with a gender bias have therefore effectively locked up half of their e-commerce potential because of gender prejudices.
- Lifestyle differences. LDCs tend to be more community orientated whereas the Internet is an interaction between an individual and the content on the screen. This may cause people in LDCs to take longer to realise the benefits of Internet access.
- Levels of education and language. Due to limited literacy skills and English not being the language of most LDCs, it is more difficult for people to adopt this new medium of communicating and interacting.

## 7 Current developments in the e-commerce world

### 7.1 The emergence of cellular technology as a front runner in providing universal telecommunications

Just recently the British government were able to auction their five third generation cellular licences for an average of \$ 7 billion each, ten times more than they expected to receive. The British auction has demonstrated the market's view of where the future may lie in terms of connectivity. Current statistics show that the demand for mobile digital communications devices are outstripping computer sales.

*“The market for mobile digital devices (cell phones, pocket computers) has already surpassed that of personal computers and will reach 1 billion users by 2003. Nokia and NTT DoCoMo are now the most valuable companies in Europe and Japan, while Vodafone AirTouch’s \$163 Billion takeover of Mannesmann ranks as the biggest ever” (Businessweek, May 22 European Edition, “Wireless in Cyberspace”)*

Vodacom launched a cellular service in 1994 in South Africa with an expectation to grow to a subscriber base of 500 000 over ten years. They now have almost 3 million subscribers within six years. For LDCs the developments in cellular technology are important. The state and lack of fix line infrastructures, and the time it would take to install an adequate infrastructure to meet the demand of the entire country, make the cellular option appear to be a far better short term solution. Within months a whole area can be connected using cellular networks. The downside to this solution is the cost of handsets and call costs against fixed line rates. More than forty African countries issued cellular phone licences between 1998 and 2000 and some LDCs such as Uganda and Tanzania have two and four operators respectively.

## 7.2 The fall in stock market fortunes of dot.com companies

Experts believe that as many as three out of four Internet start-ups will fall by the wayside within the next three years. TheStreet.com, a business-to-consumer Internet company dropped from a high of \$175.00 to \$5.00 per share on the Nasdaq in the space of a few days. Before the recent crash, Internet companies were trading at 150 times price/earnings ratio. Investors are less inclined to accept the hype and are now looking for old fashioned performance such as revenue streams and profitability.

### *The story of Boo.com*

*Boo.com is a Internet company started in 1998 by two young entrepreneurs to sell fashion clothing on the net. They raised \$125 million in startup capital with the idea of an initial public offering in 2000. The Web site models clothes on electronic mannequins and a virtual sales assistant, Miss Boo guides the visitor through the store. The prospective buyer can view over fifty brands of clothing from multiple angles. The company has lost the confidence of the investor community due to poor sales and will not be going public for sometime, if ever. Reasons for its sluggish performance are delays in going commercial due to start up problems and overly sophisticated technology resulting in customers complaining that it was hard to use.*

There are many companies in a similar or worse position than Boo.com. A strong image backed up by a sophisticated website and millions of dollars in advertizing appeared not to have brought them enough sales. Boo.com was even rated as the website offering the best backroom service by Credit Suisse First Boston. Was Boo.com too early in the e-revolution, or have we not fully understood the needs of people in relation to online buying? Whatever the final realisation will be, it has been an expensive lesson for investors.

### 7.3 Developments in the business-to-business (B2B) e-commerce.

It is common knowledge that the bulk of e-commerce based trade will be found in the business-to-business model. Most experts agree that B2B e-commerce will grow exponentially over the next five years. The Gartner Group forecasts a worldwide B2B market of \$7.29 trillion by 2004 which equates to about 7% of the total world trade forecasted.

“asia-steel.com” has had success in attracting many traditional buyers and suppliers of steel. The site allows buyers and suppliers from around the world to compare prices, check stock levels and set up deals on the net. This puts them in a position to rid themselves of costly middleman and the steel community can clearly see the value in this, and do not have to be cajoled into joining. Container operator Hutchinson Whamoia Ltd in Hong Kong have formed a B2B company called Portsportals.com. They have contracted Oracle to develop an online exchange for transportation services with the aim to create a market. By linking shippers, truckers, insurance agents and customs officials they hope to reduce the turnaround time of a vessel in a port. Their vision is to “make cargo move faster”. Sparkice.com is a Beijing based B2B portal which links small factories in China with overseas buyers. They have just formed an alliance with Metro, a large German department store.

#### *Bolero.net*

*Bolero.net calls itself a e-business infrastructure company. They plan to become a key infrastructure provider of B2B e-commerce and a facilitator of global trade flows. They promise that companies can make substantial cost savings in the logistics chain by using the bolero.net system. Bolero was created via a joint venture between the TT (Through Transport) Club and the Society for Worldwide Interbank Financial Telecommunication SWIFT. Both organisations are very powerful in the international logistics and finance field. The main role of bolero.net is to provide a secure platform on which electronic trade data and documents can be exchanged between parties. They believe that the system will get rid of many inefficiencies in the trade chain. One of the main problems still facing the international trade community is the need to trade original documents of title (the Bill of Lading) for payment. This meant that the original document is required at destination before payment can be effected and before the recipient of the goods has access to them. Bolero.net offers a electronic bill of exchange registry where the bill of lading is sent as an encoded message and registered with the trusted third party. Bolero.net claim to have already signed up over 30 major corporations and are preparing to launch the service worldwide. Companies linking to Bolero.net must agree to abide by the Bolero Rule Book, which are a set of rules to govern electronic transactions and messages through the portal. The Rule Book is based in English Law and under the jurisdiction of the English courts.*

Bolero is one of the better known B2B initiatives which provide an electronic solution to international trade documentation and is only recently beginning to offer its services on the open market. This is an indication that, up to now, paperless international trading has been limited to local activities such as the submission of electronic documents to the local port and customs, as in the case of the port in Singapore. These systems however are proprietary and may not be compatible with an open Internet based electronic commerce system.

#### 7.4 Recent Internet security breaches

One of the main concerns of online transacting still to be overcome is the degree to which the Internet can be secured. E-commerce relies on the ability of buyers and sellers to identify themselves and provide some form of assurance to one another when doing a business transaction on the net. This means being able to verify digital signatures, negotiate title and make electronic payments. Contracts need to be kept confidential and the systems should be stable and reliable. In May 2000 the "I LOVE YOU" virus moved with such speed around the world and infected even the most secure computer systems including defense departments, the British Parliament and the White House. Over 10 million computers were infected and billions of dollars lost in damaged information and time taken to repair the damage. The virus spread via an email message forcing many large banks to shut down and disconnect from the outside world until the problems were solved. If an email message can cause such mayhem, how secure can the Internet be? This event has not helped an already skeptical business and consumer market.

## 8 New technologies and innovations that could impact on the future of e-commerce in LDCs

### 8.1 Developments in cellular technology to provide Internet connectivity

Wireless Application Protocol (WAP) and General Radio Packet System (GRPS) are new technologies which will allow people to access the Internet via cellular networks using a wide range of digital communications devices. The GRPS technology will provide high speed Internet access (over 100K) and will enable operators to bill based on amount of data transferred rather than call time. News service providers such as Reuters have rushed to adapt their content for these devices. It seems that people prefer the convenience provided by mobile connectivity for many purposes over picture perfect 3D graphics currently available in the PC universe. E-commerce has the potential of taking on new dimensions such as paying for a restaurant bill or booking and paying for movie tickets using a cellular phone.

South African Breweries International (SABI) claim to have achieved a world first by establishing an Internet based e-commerce link between its Nile Breweries based in Jinja, Uganda and its depot in Kampala. The connection involves a 128Kb data line using ISDN technology over a GSM cellular network. The network carries all email traffic between to

two sites and allows the Kampala depot to access and process customer invoices and stock information real time.

## 8.2 Current developments regarding LEO satellite networks

For many years experts have been predicting that telephone and Internet connectivity in LDCs would no longer be an issue with the launch of low earth orbiting satellites (LEOs). People would have telecommunications from anywhere without the need for an infrastructure on the ground. It has however been a difficult time for the pioneer companies in launching this service. "Iridium", a satellite telecommunications operator, which currently has over 100 LEOs announced its cessation of operations (March 2000) due to insolvency. "Teledisc", another satellite operator has had similar problems but appears to have found new investors in time to stave off bankruptcy. "Globalstar", a US satellite operator however appears to be financially sound and started operations in February 2000 in Canada, Mexico, USA, Korea, parts of South America and most of Europe. Globalstar has linked up with cellular and fixed line operators to provide them with connectivity where their own networks are not available. Cellular phones have been developed that can automatically switch from a cellular network to a satellite network where necessary. Globalstar has entered agreements with cellular operators in Africa to retail Globalstar satellite phone services via existing distribution channels. A stumbling block still remains in cases where many countries still have not issued Globalstar an operating licence.

## 8.3 Software developments and standards

The Internet revolution has initiated a flurry of developments in the computer software world, each vendor claiming to have an e-commerce solution. E-commerce appears in many cases to be tagged onto any software which somehow connects to software in another location via the Internet. Windows 2000 claims to provide e-commerce capability to small business. It is not the intent of this paper to analyse the merits and demerits of e-commerce software. What is important to know is that there is an industry devoting its resources in developing business applications for the Internet. Many of these products are and will be generic and can be bought off the shelf. This should allow companies to access the software relatively easily and set their systems up at a relatively low cost. A proliferation of off-the-shelf e-commerce products could serve to create the critical mass needed among business partners.

Most ISPs based in LDCs can now offer a secure socket layer (SSL) facility to hosted websites which encrypt the credit card thereby allowing buyers from anywhere in the world to safely purchase online using a credit card. Although many buyers are reluctant to provide their credit card details over the net, Mastercard and Visa claim that it is safe, and possibly safer than handing a credit card over to a waiter at the restaurant. Websites in LDCs equipped with this technology are now just as safe as any website in a developed country. Another important development for Internet security is the availability of Internet certification. ISPs can now apply for registration with trusted third parties such as Verisign who issue verification certificates.

## 8.4 The virtual community phenomenon

Investors believe that the value of dot.com companies such as Amazon.com lie in the community of buyers and sellers they are able to develop. Millions of consumers access Amazon.com each day, some purchase, others just browse yet both get to see the advertizing. Companies pay Amazon.com fortunes in advertizing to place a three by one centimeter ad on a screen providing Amazon a large part of its revenue. EthioGift have been able to create their own virtual community, originally by obtaining profile on Ethiolink and its community. The possibility of building a virtual community is very powerful, and will be even more powerful with B2B portals where the community is more defined and the level of actual transactions done by subscribers is high.

## 9 Critical success factors for e-commerce at enterprise level

KITE have been doing work for the EU to assist SMEs in Europe to adopt electronic commerce. Chappell and Feindt in their report "Analysis of E-Commerce practice in SMEs (1999) found that there were a number of critical success factors in achieving success in selling and transacting online. If these factors are not present in a company, it will not succeed. The factors include:

- **Content:** The presence of unique and/or innovative product or service that is saleable over the Internet. It must fit with the demographics of the Internet and exploit the electronic environment in a value added way.
- **Commitment:** a defined business case for the venture with a clear idea of objectives and a demonstration of a strong motivation to use the Internet. Without this commitment business may give up too early in the struggle to achieve success.
- **Community:** The ability to build up a critical mass of customers/business partners for the venture which will at some point translate into sales.
- **Control:** The extent to which the Internet is integrated with internal business processes, enabling the SME to control all aspects of its business and to be able to handle the growth that could come with Internet sales.

If we compare these factors with the EthioGift case study, it is clear that the company had the unique content as its idea was sound and based on a need which would be addressed better via the Internet. The four entrepreneurs had commitment and a clear business plan and were able to start the company in a difficult IT environment without capital. There was clearly a community in that Ethiopia has a very large diaspora. With regards to control, their business model was to delivery locally and they would have had to negotiate deals with local suppliers of the products. In order to meet the promised 48 hours, their systems must have been in place.

## 10 Solutions and opportunities

### 10.1 Joining international B2B portals

Joining industry B2B portals will be very critical to many of the commodity producers in LDCs. These portals will assist in dealing with international buyers as well as sourcing of supplies. This may however require the companies to reengineer some of their internal processes to allow for electronic reporting of stocks and prices.

### 10.2 Creating Internet portals for the LDC diaspora

As can be seen with the Ghanaian and Ethiopian examples, there are opportunities unique to LDCs as these are communities with whom the home country has a competitive advantage.

Tanzania clearly has a diaspora demonstrated by the number of hits from all over the world on Tanzania's "Radio One" Internet site to hear news from home. InfoDev are currently assisting Radio One in transforming the site to take advantage of this captive market.

A notice on the Radio One website reads as follows: *"We are overwhelmed, that so many people overseas are tuning into Radio One. To explain our predicament, Internet Bandwidth is still a major concern here in Tanzania - simply because it is not so readily available and hugely expensive. Because demand on our RealAudio server has been so high, we have been forced to limit its bandwidth usage for now - so at peak times you may have trouble connecting. Our apologies if you've been affected by this".*

### 10.3 Linking into international BtoC portals

For general products produced in LDCs, which do not have a special traditional flavour, and therefore do not have the uniqueness to establish a specialised portal, businesses should consider listing with an international or regional portal. For example, a travel company in an LDC could link up with a number of travel portals by offering to provide a local connection for tours, hotel rooms and other tourist requirements. International portals need local input to keep their information accurate and up to date.

### 10.4 Teleservicing from LDCs

One of the most exciting opportunities to come out of the e-commerce revolution is the opportunity to provide teleservicing from LDCs. The LDCs have a major advantage in this area due to the lower labour costs and weak local currencies. Opportunities include:

**Offline:**

- Desk top publishing
- Web design and building
- Software coding
- Translation services
- CAD based architectural detailing
- Digital scanning of documents
- Consultancy and research
- Multimedia production
- Music production
- Cultural education programmes

**Online:**

- Internet call centres
- Backroom processing of travel reservations, credit card applications etc

## 11 Recommendations

### 11.1 An e-commerce strategy should be a priority for LDC Governments

LDC governments should without delay develop an e-commerce strategy and a national e-commerce policy. Issues that should be considered are:

#### **a Help in creating e-commerce driven opportunities.**

- This could involve establishing a dedicated section in the trade department to focus on opportunities presented by e-commerce.
- Identify already successful SME exporters and provide them with technical assistance to become e-commerce enabled.
- Create B2G portals allowing enterprises to tender online thereby creating a reason for SMEs to become e-commerce enabled.
- Support the establishment of business orientated telecentres by means of financial and technical assistance thereby fast tracking rural connectivity.
- Promote a strategy to educate people to become knowledge workers to take advantage of teleservicing opportunities.
- Link in with international initiatives such as that of the E-commerce section of UNCTAD.

**b Create an e-commerce friendly environment**

- Fast track projects to improve access and connectivity. Actions could include the liberalisation or further liberalisation of telecommunications services.
- The legal framework. LDCs must provide for a legal framework. An efficient solution would be to adopt the UNCITRAL Model Law for E-commerce.
- Import/export procedures. Promote Internet compatible automation of customs and port clearance procedures and streamline procedures for e-commerce companies.

**11.2 Roles for UNCTAD and other institutions**

One of the key roles to be played by UNCTAD and other qualified institutions is one of technical assistance and facilitation of the implementation of e-commerce initiatives.

Issues to consider are:

- Creating awareness of e-commerce and its benefits. In this regard, UNCTAD and other organisations such as the World Bank, ITC and the WTO should initiate discussions and projects that identify and explore specific and viable e-commerce opportunities at enterprise level.
- Building of institutions in LDCs to provide training and research. LDCs face special difficulties and research is required to explore these difficulties and develop solutions and training programmes to address them. UNCTAD could take a lead in facilitating the development of multimedia training and support materials for use in LDCs, to train enterprises and government departments on e-commerce issues.
- Providing technical assistance at government and enterprise level. In the same way that UNCTAD were able to provide software solutions to Customs departments by developing ASYCUDA, an enterprise level e-commerce solution should be considered for LDCs. These solutions should take into account possible links with international B2B portals and central verification bodies.
- Facilitating the use of donor funds. UNCTAD should consider the establishment of a venture capital fund to finance e-commerce start-ups in LDCs.
- Multinational banks, logistics firms and other corporations should be encouraged to assist in bringing LDC enterprises into an e-business friendly environment. This could involve innovative ways of becoming an electronic trusted third parties between the LDC enterprise and its international client in the same way that letters of credit operate. Logistics companies should consider offering LDC enterprises a distribution solution either by holding stocks on their behalf, close to the airport, or in the target market country.

### 11.3 E-commerce focuss areas to be considered for technical assistance projects

LDCs have the best chance of entering the e-commerce world via the following avenues:

- Create B2C portals for the LDC diaspora. These are defined markets that can easily be reached and the products and services bought are usually unique to that country.
- Encourage companies to join international B2B exchanges. It is critical that companies currently trading with other countries are aware of developments in their industry and join the B2B initiatives.
- Encourage content creation in areas where the LDCs have advantage such as traditional art, music and software products. The digital technologies allow for low cost production of these products which provide a commercial opportunity as well as serving to promote the country's culture and language.
- Consider developing human resources for call centres and other online teleservicing. There is clearly a cost advantage in this area of e-commerce but without trained people, these opportunities will go to those countries that have created the local resources.
- Consider developing human resources for off line teleservicing such as digital publishing, video editing , web design, multimedia authoring , desk top publishing, architectural detailing etc.

## 12 Conclusion

On May 3, 2000, Mr Kofi Annan, Secretary General of the United Nations, addressed the University of Yaounde, Cameroon and said concerning the use of information technology to improve competitiveness, *"The main input is brainpower - the one commodity that is equally distributed throughout the human race"*

Much concern has been raised over connectivity and access issues creating the impression that it is those reasons that keep LDCs from the benefits of e-commerce. Countries and companies will soon find out however, that even with connectivity, making a success of an e-commerce venture is difficult. EthioGift showed that successful e-commerce can be achieved on a poor quality e-commerce infrastructure and with very little capital. The main ingredient for success was the business model driven by four entrepreneurs with commitment and an understanding about the business servicing the needs of their target market, rather than focusing on being an e-commerce company. It is clear that unless a company knows who its market is, and how to serve that market, it is unlikely the venture will succeed.

From an e-commerce point of view, the client must feel that there is more value in buying online than the way he may have bought before. The success of LDCs in e-commerce will depend on to what extent governments are willing to go in building a national strategy, but more importantly, will entrepreneurs come forward and seize the opportunities presented to them.

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