

Opportunities and Challenges of E-Commerce in the Case of Ethiopia

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Abstract—Electronic commerce, in a broad sense, is the use of computer networks to improve organizational performance, increasing profitability, gaining market share, improving customer service, and delivering service in speedy way.

Though it has many usages it has also its own pitfalls. It has number of challenges generally in the world and specify to Ethiopia, security and privacy, perception of risk in e-services, legal and policy issues, lack of adequate skilled manpower, socio cultural issues, transportation and delivery system are general challenges in the world and most of it is applicable to African countries. Ethiopia shares all the above mentioned challenges in addition the infant stage of telecommunication infrastructure and not having e-payment system are the major bottle necks.

Among the tremendous opportunities e-commerce has to offer this project paper has seen economy wide efficiency gains, access to direct export, easier inventory management, integration found to be the major ones. Ethiopia will be also the beneficiary of the above mentioned opportunities in addition it will increase the knowledge and exposure of people towards new ideas and thoughts.

This paper tries to analyze the challenges and opportunities of e-commerce, including its components. In addition to the general analysis of e-commerce, the paper further gives a detailed analysis of e-commerce in the case of Ethiopia.

Keywords—E-commerce, E-Business, Mobile Commerce.

I. INTRODUCTION

1.1 Background

Internet has created a new world beyond the real world—a “virtual network world” or “The sixth continent” as called by Lu Yongxiang, the academician of Chinese Academy of Science. Electronic commerce (e-Commerce) brought about by internet is one of the most significant scientific accomplishments. In business, the prosperous e-commerce technology gives rise to a revolution in the circulation system. It breaks the boundary of time and space, alters the trade pattern, improves the circulation of merchandise, capital and information, and makes enterprises have an edge over others as well by reducing the cost of production effectively. In short, e-commerce has enabled the traditional business to achieve greater, faster, better and more economical results (Qin Zheng (Ed), 2009).

The influence of the e-commerce goes beyond the business activity. It makes a profound impact on each aspect of human society, such as production and employment, government function, working talent, law systems, and education among others. It permeates into every profile: industries, logistics, finance, media, governments, enterprises, research organizations and even traditional agricultures.

1.2 Statement of the problem

Ethiopia is among the COMESA Members located in the horn of Africa. The current rapid growth of e-commerce over the world is also influencing Ethiopia.

Concerning e-commerce, there are no studies being conducted except very few handful of researches in related cases like challenges and issues of e-commerce, e-commerce readiness, e-payment, in Ethiopia. Due to the emergence of globalization, the number of Internet users is increasing all over the world. The nature of e-commerce by itself has its own motivating factor because of its 24/7 availability, no need of physical shops and no need or low cost of travel. Ethiopia is well known for exporting coffee, leather products, pulses and oil seeds, live animals and animal products, spices, food, civet, natural gum, agricultural products, cotton and cotton products, fish, textile, handmade cards and ornaments, honey and bees wax, shoes and aluminum scrap. This avails opportunities to be part of the international market through e-commerce.

As every sector, e-commerce has got its own opportunities and challenges. The main objective of this study is to analyze the challenges and opportunities of e-commerce in general and the case of Ethiopia in particular to give recommendations based on the analysis.

This research addresses the following questions:

1. What is the role of e-commerce in the economic developments of in emerging globalization
2. What are the opportunities of e-commerce to the world, African countries and Ethiopia?
3. What are the challenges of e-commerce facing the world, African countries and Ethiopia?
4. What are the economic contributions of e-commerce to growth and development for Ethiopia?

1.3 Objective

General objective

This paper tries to analyze the challenges and opportunities of e-commerce in the world and with particular reference to Ethiopia.

Specific objective

This research specifically:

- Analyzes the opportunities of e-commerce to the world economy.
- Examines the challenges of e-commerce to development.

Explores the opportunities and challenges of e-commerce to Ethiopia

II. LITERATURE REVIEW

- Since e-commerce is a brand new science, it is not at all surprising that there are various definitions about it. In addition, a premature uniform definition of e-commerce may slow the development of e-

commerce. E-commerce shall be social, economic activities between social principal parts by taking advantages of computers and network (Qin Zheng (Ed), 2009).



- According to Zheng Qin et.al (2003), e-commerce can be defined as; various online commercial activities focusing on commodity exchanges by electronic means, internet in particular, by companies, factories, enterprises, industrial undertakings and consumers.
- Electronic commerce, in a broad sense, is the use of computer networks to improve organizational performance. Increasing profitability, gaining market share, improving customer service, and delivering products faster are some of the organizational performance gains brought about by. Electronic commerce is more than ordering goods from an on-line catalog. It involves all aspects of an organization's electronic interactions with its stakeholders, the people who determine the future of the organization. Thus, electronic commerce includes activities such as establishing a web page to support investor relations or communicating electronically with college students who are potential employees (Victor, 2003).
- (ISO) defines e-commerce as: a general term for exchange of information among enterprise and between enterprise and customers. The Global Information Infrastructure Committee defines it as the economic activities using electrical communications, with which people can purchase products, advertise goods and settle.
- The following are definitions given by transnational corporations Intel, Band HP respectively.
- Intel: E-commerce is an electronic market, electronic trade and electronic service.
- IBM: E-commerce is an information technology web business.
- HP: E-commerce is a way to accomplish commercial business by electronic means.

The Role of E-Commerce to Consumer

In C2B transactions, customers/consumers are given more influence over what and how products are made and how services are delivered, thereby broadening consumer choices. E-commerce allows for a faster and more open process, with customers having greater control. E-commerce makes information on products and the market as a whole readily available and accessible, and increases price transparency, which enables customers to make more appropriate purchasing decisions.

E-commerce makes “mass customization” possible. E-commerce applications in this area include easy-to-use ordering systems that allow customers to choose and order products according to their personal and unique specifications. For instance, a car manufacturing company with an e-commerce strategy allowing for online orders can

have new cars built within a few days (instead of the several weeks it currently takes to build a new vehicle) based on customer’s specifications. This can work more effectively if a company’s manufacturing process is advanced and integrated into the ordering system.

E-commerce allows “network production.” This refers to the parceling out of the production process to contractors who are geographically dispersed but who are connected to each other via computer networks. The benefits of network production include: reduction in costs, more strategic target marketing, and the facilitation of selling add-on products, services, and new systems when they are needed. With network production, a company can assign tasks within its on-core competencies to factories all over the world that specialize in such tasks.

Elizabeth Goldsmith and Sue L.T. McGregor (2000) analyzed the impact of e-commerce on consumers, public policy, business and education. A discussion of public policy initiatives, research questions and ideas for future research are given.

Jackie Gilbert Bette Ann Stead (2001) reviewed the incredible growth of electronic commerce (e-commerce) and presented ethical issues that have emerged. Security concerns, spamming, Web sites that do not carry an "advertising" label, cyber squatters, online marketing to children, conflicts of interest, manufacturers competing with intermediaries online, and "dinosaurs" were discussed.

Mauricio S et.al, 2006, examined whether consumer perceptions of artificiality increase perceptions of e-service risk, which has been shown to hamper consumer acceptance in a variety of online settings.

Young Jun Choi and Chung Suk Suh (2005) examined the impact of the death of geographical distance brought about by e-marketplaces on market equilibrium and social welfare.

The Role of E-Commerce in Linking Stakeholders

E-commerce facilitates organizations’ networks, wherein small firms depend on “partner” firms for supplies and product distribution to address customer demands more effectively.

To manage the chain of networks linking customers, workers, suppliers, distributors, and even competitors, an integrated or extended supply chain management solution is needed. Supply chain management (SCM) is defined as the supervision of materials, information, and finances as they move from supplier to manufacturer to wholesaler to retailer to consumer. It involves the coordination and integration of these flows both within and among companies. The goal of any effective supply chain management system is timely provision of goods or services to the next link in the chain. .

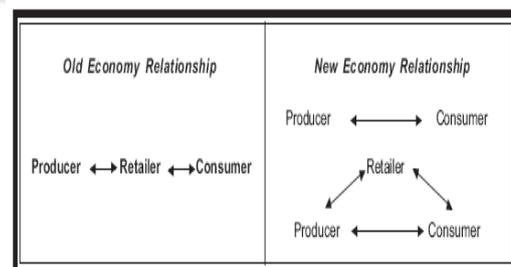


Figure 1. Old Economy Relationships vs. New Economy Relationships

Source; Introduction to E-Commerce

Zhongzhou Li (2002), on his paper entitled-Commerce Business Model”, states that the international debate about the so-called new economic paradigm seems to slowly converge on a consensus that the application of information and communication technologies will have a far-reaching impact on the growth of productivity of national economies. However, the rapid pace in the development of ICT technologies also causes alarm about a possible widening digital divide between developing and developed countries. Identifying ways in which the enterprises of developing countries can reap the benefit of the emerging e-economy, can also contribute to narrowing the global digital divide.

Judith E. Payne, E-Commerce Readiness for SMEs in Developing Countries: A Guide for Development Professionals, LearnLink1 Academy for Educational Development, 2009. The paper uses a broad definition of electronic commerce, including the use of ICT in any way that improves a SME’s relationships with customers or suppliers. This includes actually transacting business electronically – orders, invoices, shipment documents – as well as using ICT for marketing, market research, customer service, finding potential customers and suppliers, offering entirely new products and services and more. These changes may mean more international business, but not necessarily. It may be easier and make much more sense to focus on domestic markets.

The paper addresses each of the constraints and suggests ways to adapt an e-readiness initiative accordingly. Development professionals may want to focus on a particular context, e.g., sector, for e-readiness training, building on an area’s strengths. For example, tourism or textile manufacturing may be good candidates for specific areas and are both industries where electronic commerce is having dramatic effects.

III. MATERIAL AND METHODOLOGY

3.1 Overview

The main objective of this research is to analyze opportunities and challenges of e-commerce in general and the case of Ethiopia in specific. In order to fulfil research goals, the researcher opted to obtain the view of stake holders in the process of e-commerce. Policy makers, legal entities consumers and business people were the participants of the questioner. Specifically, a total of 20 respondents from Commercial Bank of Ethiopia (CBE), National Bank of Ethiopia (NBE), Ethiopian Information and Communication Technology Agency (EICTDA), Business people and consumers were selected to make up the sample for each questioner.

3.2 Research Design

The descriptive method of research was also used for this study. To define the descriptive type of research, Creswell (1994) stated that the descriptive method of research is to gather information about the present existing condition. The emphasis is on describing rather than on judging or interpreting. The aim of descriptive research is to verify formulated hypotheses that refer to the present

situation in order to elucidate it. The descriptive approach is quick and practical in terms of the financial aspect. Moreover, this method allows a flexible approach, thus, when important new issues and questions arise during the duration of the study, further investigation may be conducted.

Descriptive research on the other hand is a type of research that is mainly concerned with describing the nature or condition and the degree in detail of the present situation. This method is used to describe the nature of a situation, as it exists at the time of the study and to explore the cause/s of particular a phenomenon. The aim of descriptive research is to obtain an accurate profile of the people, events or situations. With this research type, it is essential that the researcher already has a clear view or picture of the phenomena being investigated before the data collection procedure is carried out. The researcher used this kind of research to obtain first hand data from the respondents so as to formulate rational and sound conclusions and recommendations for the study.

In this study, the descriptive research method was employed so as to identify the role and significance of using personality questionnaire in recruiting and selecting respondents during the time of research. The researcher opted to use this research method considering the objective aiming at first hand data from the respondents. The descriptive method is advantageous for the researcher due to its flexibility; this method can use either qualitative or quantitative data or both, giving the researcher greater options in selecting the instrument for data-gathering.

3.3 Participants

In order to determine the challenges and opportunities of e-commerce in the case of Ethiopia, a total of 40 respondents were asked to participate. To achieve pertinent information, certain inclusion criteria were imposed. The participants qualified for sample selection were those who are directly involved in commerce related activity especially in international business. This qualification ensured that the participants understand the nature of questionnaire and its use for e-commerce, making the survey items easy for them to accomplish. The respondents were selected from three companies, NBE, CBE, EICTDA, and from different business sectors in Ethiopia

Purposive (Judgment) sampling was done for the sample selection. Judgment sampling involves the choice of subjects who are most advantageously placed or in the best position to provide the information required.

3.4 Instruments

The survey questionnaire was used as the main data-gathering instrument for this study (See Appendix A and B). The questionnaire was divided into two: The First one was for Banks, ICT Agency and telecommunication. The general concept of the questioner was to get information about the challenges and opportunities of e-commerce for the country and why the challenges were not addressed.

The second questionnaire was for business people who have know-how on international business and specific to e-commerce, the aim was to get information about their experience, do they have the interest on e-commerce and do they see a bright future on it and why it is not yet there.

Eight questionnaires on the first case and six questioners on the second case were distributed.

3.5 Data Processing and Analysis

After collecting all the completed questionnaires from the respondents, total responses for each item were obtained and tabulated using Social Statistical package for Social Sciences software (SPSS). The responses given are presented by way of percentages and graphs.

Reporting the findings: the findings from the study are presented along with a detailed analysis in the following chapter of this research project.

3.6 Limitation of Judgment Sampling Method

Judgment sampling may curtail the generalize ability of the finding due to the fact that we are using a sample of experts who are conveniently available to us. However it is the only viable sampling method for obtaining the type of information that is required from very specific pockets of people who are very knowledgeable are included in the sample

IV. RESULTS AND DISCUSSION

Summary of challenge of e-commerce in Ethiopia from the questioner is presented below in graph

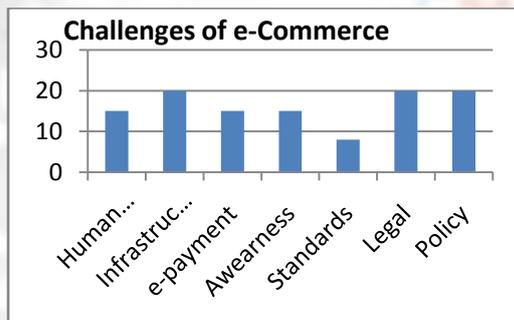


Fig 4.1a Summary of Challenges of e-Commerce in Ethiopia

Initiatives in promoting e-commerce in Ethiopia

4.1 E-payment: The Banking sector recognizes its key role in facilitating online payments. Efforts are underway to introduce ATM machines by almost all Banks. Dashen Bank is the most advanced with over 55 ATM terminals in its area branches, university compounds, shopping malls, restaurants and hotels along with over 500 Point of Sale terminals at major commercial establishments. Dashen Bank is a principal member Visa and Master Card. Services provided by Dashen Bank ATMs include cash withdrawal, balance Inquiry, mini-statement, fund transfer between accounts attached to a single card and PIN (Personal Identification Number) change.

Dashen Bank has signed an agreement with iVeri, a South African electronic payment technology company, for the introduction of mobile commerce in April 21, 2009. According to the agreement, iVeri Payment Technologies has licensed its Gateway and MiCard epayment processing solution to Dashen Bank. This would make Dashen Bank the first bank in Ethiopia to acquire e-commerce and mobile merchant transactions. Dashen has implemented i-very payment gateway, but it has not been made active.

The United Bank is the first to introduce tele-banking - including text messages (SMS) by the end of 2008. Zemen Bank and Wogagen Bank has followed suit in

2009 with the introduction of ATMs at major branches in Addis Ababa

4.2 Human capacity development: The number of ICT students has increased significantly both in public and private institutions in recent years. According to Ministry of Education (MOE), the number o undergraduate students in ICT related fields (Computer science, Information systems and Electrical Engineering) was about 8,246 in 2006 that is 13per cent of the total enrolment in the same year.

4.3 Policy: The most recent policy framework for the next five years, spanning from 2005-2010, is the Plan for Accelerated and Sustainable Development to End Poverty (PASDEP). The PASDEP represents the second phase of the PRSP process that began under the Sustainable Development and Poverty Reduction Program (SDPRP). The PASDEP carries forward important strategic directions pursued under the SDPRP – related to human development, rural development, food security, and capacity-building (Mulat et. Al, 2008)

The PASDEP recognizes that exploiting information technology is central in order to promote growth and reduce poverty. Accordingly, it attaches high priority to “leap frog” forward the ICT sector by building a major ICT backbone and providing affordable local level access to ICT. Various targets that will enable a world class backbone and connectivity network have been set. Five major undertakings are planned with regard to the ICT sector development in the PASDEP document:

- Promoting human resource development,
- Mainstreaming the use of ICT in all sectors of the economy, in the administration of government, and in the educational system,
- Developing the necessary telecommunications infrastructure,
- Promoting research and development through ICT, and

4.4 Creating enabling a legal and re Telecommunication infrastructure:

by 2018 the number of fixed line subscribers in Ethiopia is expected to increase to 4.4 million, representing an annual average growth rate of 38per cent p.a. The number of mobile subscribers is expected to grow at 43per cent per year over the period, reaching almost 20 million by 2019. The number of internet users will jump to 12 million, but internet subscribers will still be low at 2.4 million at the end of 2019. (<http://www.eastafricaforum.net>).

In addition e-commerce needs to have a reliable and secure communication infrastructure to provide sustainable customer services. The Ethiopian Telecommunication Corporation (ETC) is the sole data communication service provider in the country. Currently, ETC is working on the project of Next Generation Network (NGN). In principle, any telecom company should have alternative (backup) link to be used in the case of the main one fail. If the NGN project does not provide any alternative link in the different circuit, the Ethiopian Bankers Association should get a permission to have its own communication link from any capable private company (Melaku et. Al, 2010).

V. CONCLUSION, LIMITATION AND RECOMMENDATION

Conclusions

This study focused on the opportunities and challenges of e-commerce in general and specific to the case of Ethiopia. Primary and secondary resources were used in the study. For the primary data, the researcher opted to conduct a survey using judgmental sampling. A questionnaire was used for data gathering. Secondary resources derived from various publications including books and journals were integrated to support the findings.

Results from the paper indicate that Ethiopia continues to face numerous challenges in using e-commerce and more need to be done in order to address the situation. Major challenges identified include: including low levels of internet penetration and limited communication infrastructure, human capacity issues; legal issues, no legal background towards electronic document, absence of e-commerce policy and public awareness.

Among the number of opportunities Market entry is one of them. Ethiopia is known for exporting Coffee, livestock, gold, leather products, and *khat* and oil seeds. In terms of world livestock production, Ethiopia holds the tenth position. A major portion of the livestock production is exported to neighboring countries. The country is exporting raw leather as well as luxury leather-made products. Floriculture is also expected to rise in the near future due to massive investment in the sector. If the growth in floriculture sustains, Ethiopia can become one of the largest exporter of flowers and plants in the world. To facilitate this export business e-commerce plays a vital role. The country will have also a chance to sell finished products not only raw leather.

Despite these opportunities, e-commerce also has certain challenges legal background, privacy and security. In addition policies need to address infrastructure development, which is key to the developing electronic commerce. Infrastructure that can play an important role for businesses includes cost-efficient communication technologies such as broadband, satellite connections and Voice over Internet Protocol (VOIP). It is only possible to implement and operate e-commerce initiatives if there are modern banking and insurance firms operating, and these do not exist in some African countries especially in Ethiopia. It is also important to raise awareness and to offer training programs that target the business community in particular and the public in general.

Recommendations

The Ethiopian bankers association is working towards improving payment systems especially 'National Switch System in Ethiopia' study have been conducted, it is assumed that there will be a chance to have e-payment system in the country.

Finally to be the beneficiary of e-commerce system Ethiopia needs to implement what is in progress in terms of standards, policy and electronic law. E-payment also should be functional, extra source of internet connection will be recommended to provide a sustainable service.

To run e-commerce in the country level transportation system, cost and addressing issue of business areas, individual homes should be improved.

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