

E-commerce in Sudan: The Reality and Prospects

Eslam-Hassan MOHAMED^{1,a}, Ping WANG^{1,b,*}, Osman-Abdalla ELHADI^{2,c}

¹Jilin University, School of Management, Information system Management Dept. China.

²Jilin University, School of Management, Management Science& Engineering Dept. China.

^aeslam7510@hotmail.com, ^bjwang65@163.com, ^coamelhadi@yahoo.com

*Corresponding author

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Abstract. This study aims to determine the reality of e-commerce in Sudan, and identified the fundamental constraints that limited the role of e-commerce in Sudan which need to be addressed and resolved in order to enable Sudan to enter the digital global economy. Although Sudan is a very advanced country in telecommunications field and phone network with optical fiber, which is one of the advanced phone networks in Africa and the Arab world. But Sudan still suffers from many problems limited the use of the Internet, and entering to the world of e-commerce. The researcher recommends strongly continuing and expanding this research and adopted further studies to determine the extent of the growth and spread of e-commerce and then eliminated the obstacles and challenges in Sudan. Moreover, develop a strategy to change the recent situations in order to change the perception in the field of e-commerce.

Introduction

The world has witnessed in recent growing interest in electronic commerce, and this an inevitable consequence to the recent developments in the field of information and communication technology, Where international network of information, "the Internet" plays an important role as a mediator for commercial operations in its modern form. Many countries seek to maximize the role of e-commerce especially under the global changes and new challenges, It is expected that the growing role of e-commerce in the near future due to "the impact of this trade on the markets and corporate performance and competitiveness, where are expected to be E-commerce is prevailing style of trade between organizations and individuals during this century in all parts of the world. The overall objective is to discuss the concept and identify the nature of e-commerce as one of the modern developments in the globalization of the economy. Therefore, recognize the reality of the volume of e-commerce in Sudan and the possibility of taking its advantages. In addition, the most important is how to eliminate the challenges and problems that prevent the adoption of e-commerce.

Definition of Electronic Commerce

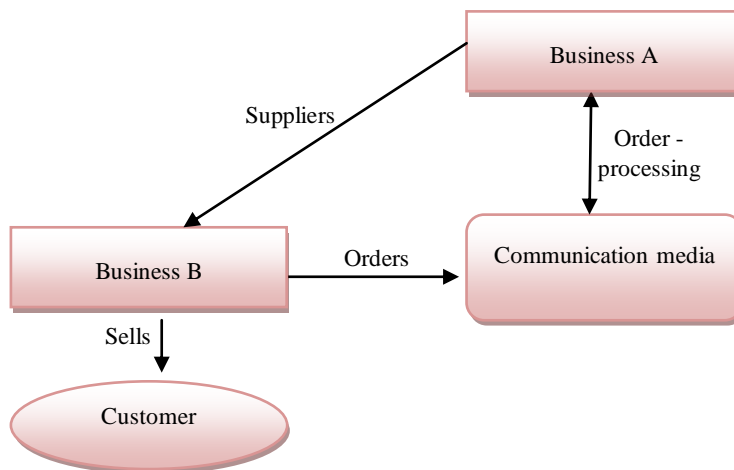
E-commerce is one of the advantageous of the information revolution which taking place in the world today, and represents one of the pillars of the digital economy where digital economy depends on two realities: e-commerce and information technology. E-commerce undoubtedly has a great affect on various economic activities. Researchers and previous studies literature review has outlined many definitions of e-commerce from different aspects. According to [1] "E-commerce is not only limited to buying and selling over the Internet, but it is also concerned with transferring or exchanging products/services and/or information via computer networks, including the Internet, Extranet and Intranet". That means it includes activities such as servicing customer online, collaborating with business partners and exchanging business documents within an organization over the Internet or other private networks. Ref. [2] Defined E-commerce as "the buying and selling of information, products, and services via computer networks". Ref. [3] affirms that the definition of e-commerce should emphasize three points: The first is that e-commerce has business background because it is a business model. The second is that e-commerce has internet characters because it is based on network background, especially internet to realize business

activities. The third is that the e-commerce has electronic (numerical) character because that the information in the e-commerce is transmitted by electronic form. The definition provided by the World Trade Organization (WTO), e-commerce is the production, promotion; sale and distribution of goods and services over the telecommunication network [4]. From these definitions we can conclude that e-commerce is the implementation of all operations related to the sale and purchase of goods, services and information using the Internet. This operations includes the distribution and delivery of goods, repayment of financial obligations, conclude contracts and contract trades, negotiation and interaction between the buyer and seller, Information on goods and services, the announcement of the goods and services, electronic data interchange, such as: Banking transactions, electronic Invoices, the query for goods, catalogs of prices etc..

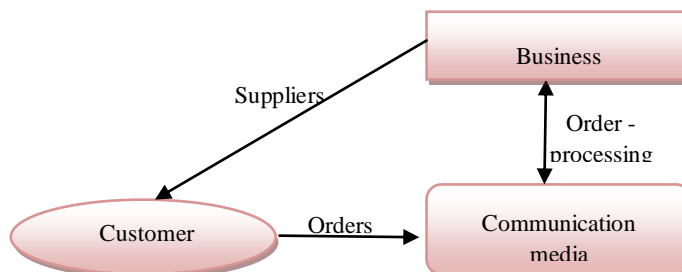
Types of e commerce

From the applications and reality usually e-commerce engaged three parties: these three parties comprises of the individuals, business sector (institutions or companies) in various types and sizes, and the government agencies, so from this, e-commerce can be divided into the following types:

Business-to-Business (B2B). Is currently perceived as the most important segment of e-commerce, representing transactions (supply) goods and services between companies (manufacturers, suppliers, distributors, retailers, etc...). The main components of this concept are e-infrastructure (which ensures the minimum requirements related to logistics and operating software) and e-markets, or websites that function as virtual meeting places where buyers interact with the bidders [5].

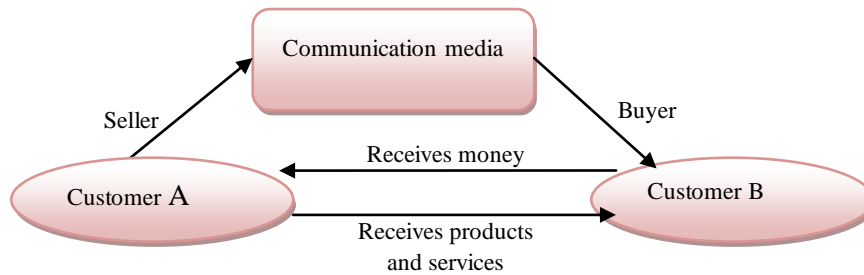


Business-to-Consumer (B2C). Is the second type of e-commerce, being centered on the mechanisms able to satisfy the consumers' interests (sale/purchase of goods and services, information, etc.) through trade between producers and buyers.



It is clear that this technique focuses on e-commerce activities that concentrate on consumers rather than concentrating on the business. We can add here C2B, in other words, customer becomes the seller and the organization is the buyer, in this type website showing multiple business organizations for a particular service.

Consumer-to-Consumer (C2C). Business model helps consumer to sell their assets like residential property, cars, motorcycles etc... or rent a room by publishing their information on the website.

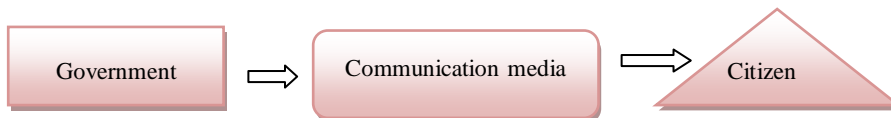


Business-to-Government (B2G). B2G model is a variant of B2B model. In this type such websites are used by government to trade and exchange information with various business organizations.



Business-to-government and government-to-business (B2G/G2B) represents the ways in which commercial transactions take place between companies and public sector. In the first case, companies carry out activities for the benefit of the public sector (procurement contracts, auctions, etc.) while through G2B the public institutions are mainly informing the private sector about the legal framework or cooperation opportunities with them.

Government-to-Citizen (G2C). Government uses G2C model website to approach citizen in general. Such website provides services like registration for birth, marriage or death certificates. Main objectives of G2C website are to reduce average time for fulfilling people requests for various government services.



Fundamental pillars of e-commerce

Reference to the literature of e-commerce, researcher finds that it is necessary to e-commerce to grow and develop should provide several fundamental constituents all contribute to creating a suitable environment, and help to realize the benefits of them, represented in:

The availability of infrastructure: Availability of communications, the spread of the Internet widely at competitive prices.

Raise awareness scientific, cultural and eliminate information literacy among members of the community contributes to the appropriate legislation and processors to provide legal protection and confidence of the customers in this field, Which will help to reduce scams and fraud, as well as contributes to the confidence of citizens in the processes of buying and selling.

The existence of adequate infrastructure for financial services especially in the field of banking and financial transactions enables it to support e-commerce operations and the expansion of electronic payment systems, especially credit cards.

Advantages and disadvantages of e-commerce activities:

E-commerce advantages

Ref. [6] outlined that electronic commerce offers many advantages that can benefit the companies such as follows:

a. Advantages for the producing company:

- With only a minimum capital, they can contact the suppliers or even business partners worldwide.
- The reorganization and streamlining of internal structures within the company.
- Providing logistical flexibility.

- Maintaining and strengthening relationships with customers and suppliers.
- Reduced costs associated with various business processes.
- Improved communication speed.
- The adoption of online sales as an alternative way of trade.

b. Advantages for Buyers’:

- Quick shopping without taking into account the time element; fast delivery and high convenience for the customer.
- Participation in activities such as online auctions.
- The possibility to perform a more effective comparison between different products.

c. Advantages for Producers’: The opportunity to attract new customers.

- Easy access to markets that was inaccessible otherwise.
- Reduced costs beyond what concerns the provision of goods and services.

d. The overall advantages:

- The ousting of intermediaries from the economic activities.
- Reducing the time devoted to various activities, from the double perspective of the supplier and the buyer.
- Some of the Geographical barriers are dissolved.

E-commerce disadvantages

Disadvantages are inevitable in any business and in regard to e-commerce area; they are mainly related to security issues, link to transactional processes, and the lack of necessary infrastructure. Ref. [7] pointed out the e-commerce disadvantages in the following points:

- Lack of a proper legal framework.
- The cost of an investment is not justified given that in some geographical zones or areas of activity there are not enough customers.
- The Internet access is too expensive.

Reality of Ecommerce in Sudan

In the era of globalization, it is important for developing countries to develop information and communication technology, including e-commerce so as to improve the economic situation. At this stage, there are still a limited number of studies on the adoption of e-commerce technology in developing countries [8].

Table 1: Africa Internet Usage and Population Stats

Africa Region	Population (2012 Est.)	Pop.% of World	Internet Users, 30-June-2012	Penetration (%Pop.)	Internet (% Users)
Total for Africa	1,073,380,925	15.3 %	167,335,676	15.6 %	7.0 %
Rest of World	5,944,465,997	84.7 %	2,238,182,700	37.7 %	93.0 %
World Total	7,017,846,922	100.0 %	2,405,518,376	34.3 %	100.0 %

Data source: Internet World Stats [9]

Table (1) shows the percentage of the population of Africa in the second half of 2012 from the number of the world's population at the same period, also the table shows the percentage of use of the Internet in the world and in Africa. The table revealed that the Internet users’ percent in Africa represented only 7% from the world internet users. Therefore, the table revealed that the internet penetration in Africa percent 15.6% from the Africa population. This table result concluded the weakness of the most important pillar of the adoption of e-commerce in developing countries which Sudan is among them. Additionally, apart from the internet penetration hampers there are many others obstacles hampered the E-commerce spread in the developing countries in general and Sudan in particular such as following which stated by [10].

- The low level of per capita income.
- Lack of awareness of what can be provided by information technology and e-commerce.

- Inadequacy of the infrastructure for wireless communication and access to the Internet or the high cost of access to the Internet.
- The lack of legal and regulatory appropriate frameworks.
- Non-use of the local language and local content.
- Lack of payment systems can be supported in their role as business transactions conducted on the Internet.
- Lack of individual initiative.
- Cultural resistance of e-commerce on the Internet.

The status of ICT in Sudan:

Information and Communication Technology (ICT) has become the cornerstone of economic development in contemporary times, where the imposition of the new economy a new set of activities associated with the economist and information, and the most important features is e-commerce. Here the study attempts to review the widespread use of the Internet in Sudan as one of the most important element for e- commerce adoption and implementation.

Table 2: The percent of Individuals Using the Internet, 2001-2012

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
0.14	0.44	0.54	0.79	1.29	8.09	8.66	9.4	-	8	19	21

Data Source: ITU

Table (2) shows the big jump in the percentage of the Internet users in 2005 compared to previous years, which confirms the role of stability in the development process. In the years 2006, 2007 the internet users percent was jumped to high percentage the reason was in this period witnessed a remarkable stability in Sudan due to peace agreement which stopped the conflict in Southern Sudan .In year 2008 the number of Sudanese Internet users has increased from approximately 9000 in year 2000 to approximately 3.8 million (from 0.03 to 9.4 percent of the population [11]). We also noted from the table low percentage in year 2010, probably because the secession of the southern Sudan, but the percentage has seen increased again in year 2011 significantly. In year 2012 the internet users in Sudan amounted to 21%, according to statistics of the International Telecommunication Union (ITU). The researcher found that the increment and expansion in the number of the Internet users in Sudan is a good indicator showing the increase of awareness among individuals. Therefore, individual internet uses awareness will lead to address the problems and obstacles that greatly affect the use of the Internet in Sudan, which impeded the adoption of e- commerce in Sudan.

The reasons for the weakness of the Internet culture in Sudan

There are several reasons limiting the spread of the culture of the Internet among individuals in Sudan, which together constitutes obstacles to the use of the Internet such as following:

- IT illiteracy which constitute a large proportion of the population of Sudan.
- High prices of computers and computer accessories, compared with income of Sudanese citizens.
- The customs imposed on the computers and its accessories.
- Lack of specialized Sudanese sites.
- Most Sudanese sites take one form and this makes the individual browser, currently browsing one site or two, thinking that it similar in the information and content.
- Large proportion of the Sudanese sites unilingual, English or Arabic.
- Failure to observe the standards required in the establishment of most of the Sudanese sites.
- Fragility of security for most Sudanese sites.

Obstacles facing the E-commerce in Sudan

In view of the reality in Sudan the study found there are several obstacles and challenges facing the development of e-commerce in Sudan including:

The technological obstacles:

Infrastructure requirements, the challenge is technical in nature, including the following challenges:

- Lack of enough bandwidth for telecommunications in the rural areas.
- The high cost of access to the Internet.
- Lack of trained manpower on the use of information technology and maintenance of hardware and locations.
- Lack of software development tools and applications and databases currently used.
- Lack of electronic payment system on the Internet (credit cards).
- Problems of delivery service the Procurement, and that the proportion of the weakness of the role of mail in Sudan

The social obstacles:

- The illiteracy in its traditional form (ignorance literacy)
- Computer literacy (intended ignorance ways and means of dealing with computers and software).
- The language barrier (where most electronic commerce transactions are in English).
- Relative poverty.
- Material nature, intangible to deal (this including many people do not encourage to deal with people who do not meet them face to face and therefore, do not have a chance to touch the products).
- Cultural resistance of e-commerce on the Internet

Add to those obstacles the need for a legal and regulatory environment for the provision of protection and confidentiality to customers in electronic commerce, and to develop a clear strategy for dealing with this type of trade should also establish a structure suitable for financial services as one of the interesting issues in this area especially credit cards.

The current status of electronic commerce in Sudan

In terms of the ICT progress, it's important to note that Sudan has a large, equipped enough telecommunications system by regional standards, including a national fiber optic backbone and international fiber connections. However, the concept of e-commerce to buy or sell through the Internet and exchange electronic funds have not been used so far, the researcher believes that the absence of credit cards is one of the main obstacles to the application of e-commerce in Sudan. With this, there are some serious attempts by the companies to introduce its e-commerce by creating special websites and marketing their products through these sites is to use any means to collect the money electronically, and this method is a kind of e-commerce, but it is facing a lot of the problems is the difficulty of linking between the client and the company, and the lack of confidence required for each side in addition to the weakness of the announcement of these sites, The researcher finds that the solution to this problem may be through payment cards submitted by Sudanese banks which ensures the exchange of electronic funds and provide confidence to all parties except that. It is necessary here to review the role of the trade point of Sudan and its contribution to the development of electronic commerce in Sudan, Trade Point is a mall Technology Advanced is designed to serve small and medium enterprises in developing countries by providing all the information relating to trade and services and promoting the products of these institutions through the use of modern technology in order to increase the participation of these institutions in the world market and access of its products to the world markets.

Conclusion and recommendation

The adoption and implementation of the e-commerce in Sudan which will lead to promote and increase the economic growth requires concerted all efforts at both the public and private sectors. To develop e-commerce applications Sudan needs to find a well-developed infrastructure for communications and maintains a good systems to manage , therefore, establishing and enabling legal and legislative suitable for providing protection and confidentiality to all parties engaged in e-commerce project. The role of government is to provide surveillance after the economic environment and stable legal ground and supervisory required, but the biggest role is the responsibility of the private sector in a serious and rapid response to these tools, and the ability to deal with these global changes and keep abreast of developments, Particularly that Sudan has a strong telecommunication network. Sudan is considered very advanced countries in telecommunications and telephone network with fiber-optic which is one of the advanced telephone networks in Africa and the Arab world. In spite of this, Sudan still suffers from many problems limit the use of the Internet, and access to the world of e-commerce. The researcher recommends strongly continuing and expanding this research and then further study should be conducted to determine to which extent the growth and spread of e-commerce and there identifying the obstacles and challenges facing Sudan e-commerce development. Furthermore, Sudan can benefit from the experiences and lessons of others regional and international experiments to develop e-commerce.

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