

# Applications of Information Technology in Electronic Commerce

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**Abstract**—Today, Information Technology (IT) is considered as one of the modern inventions of human which not only has undergone many changes and has also changed in many areas, including the development of Electronic Commerce (E-Commerce). Now the success of e-commerce is the optimal use of information technology and the main goal of any business is profitability, and reduce costs. So the use of information technology will be able to test new ways of marketing with customers and vendors around the world to electronically communicate and get acquainted with their future needs. In this paper, researchers have studied the case of IT applications in e-commerce, including Electronic Market Day - Knowledge Management - Data Mining - Education of Technology - Changes in Maintenance Systems. Due to the change of the industrial age to the age of technology, e-commerce has replaced traditional trade and enterprises and commercial institutions are trying to familiar managers and employees with the technology of the day, otherwise they will fail in the modern commerce.

**Keywords:** Information Technology (IT), Electronic Commerce (E-commerce), Information Technology Applications (ITA).

## 1. INTRODUCTION

E-commerce and Internet have created new ways in which businesses can relate to their customers, suppliers, partners and investors. The Internet's open architecture allows for new relationships, channels and ways of doing business among manufacturers, distributors, wholesalers, service providers and end-users. These relationships are beginning to challenge the traditional distribution structure that dominated 20th century commerce, sometimes with great success and sometimes with no success at all. Equally important, information developed by businesses engaged in e-commerce is becoming as important as the products being sold, and in many cases, information has actually become the product.

While the Internet is considered a valuable means of communication offering the enticing possibility of interaction (one-to-one communication, e-mail), for many people the Web has turned into a primary information resource (one-to-many communication, broadcasting). Most of the information on the Web is either company (public relations) or product-specific information (marketing) to increase awareness. As with

traditional marketing media, such information is offered free of charge. However, many companies who generate information (content) on the Internet, which are not their core business, are investing in new possibilities offered by the medium. They consequently face the challenge to transform these opportunities into adequate and sustainable profit. E-commerce is emerging as a new way of helping business enterprises to compete in the market and thus contributing to economic success. E-commerce can help deliver economic growth, increased business opportunities, enhanced competitiveness and better access to markets. At present, though most small enterprises lack the knowledge of how investment in E-commerce could benefit their businesses and help them develop that competitive edge. This is at a time when the opportunities for small enterprises to adopt E-commerce are growing due to improved access to the technical and communication infrastructure.

## 2. INFORMATION TECHNOLOGY (IT)

Information Technology which uses computers to gather, process, store, protect, and transfer information. Today, it is common to use the term information and communication technology (ICT) because it is unimaginable to work on a computer which is not connected to the network.

Information Technology is the application of computers and telecommunications equipment to store, retrieve, transmit and manipulate data, often in the context of a business or other enterprise. The term is commonly used as synonym for computers and computer networks, but it also encompasses other information distribution technologies such as television and telephones. Several industries are associated with information technology, including computer hardware, software, electronics, semiconductors internet, telecom equipment, engineering, healthcare, e-commerce and computer services.

In today's advanced technological environment, the field of information technology is very large; those who work in the field are computer hardware and software designers, computer engineers, and specialists who maintain large computer

networks and database systems. Information technology professional maintain databases for organisations and make sure that they are up to data and run smoothly, they resolve problems with the computers on their network by installing and maintaining the programs that run on them, monitoring overall system health and resolving problems such as computer viruses so they do not spread quickly and cause network-wide system crashes.

### 3. IMPORTANCE OF COMPUTER IN BUSINESS

Computer plays an important role in business environment as very organisation adopts it in some form of the other to perform the tasks in effective manner. In the past few years' rapid development in information technology particularly in communication, electronic service networks and multimedia have opened up new opportunities for corporates. All these are contributing towards new and effective ways of processing business transactions, integrating business processes, transferring payments and delivering services electronically.

### 4. NEW ECONOMY

The transition of the global economy from hardware economy to software economy are growing communications and computers and ... all the signs of our entry into the new economy. The new economy has three specific features that are universal and inclusive, including soft things, such as intangible and complex ideas and opinions, information and relationships in a particular way and interconnected. The three characteristics of a new type of market and society creates a type of market and society in a comprehensive electronic networks, ubiquitous and all-rooted.

New communications economy is deep and wide connections. All changes will depend on the future direction of fundamental and specific practices and fundamental that we build relationships transformed. Communications, community foundations, culture, humanity and our individual identity and the economic system so that the net is so important. Communications, culture and society are so close that the consequences of technological and technical effects beyond the purely industrial cycle. Communications and its subsidiaries tool COMPUTER economic history, is not a special case because the business of leading and modern times, but also because of cultural influences, technological and conceptual, the depth of our life is infiltrated. The new economy will be dealing with entities and institutions such as the escape and style information, communication, copyright, entertainment, security, and so on.

World software, computers, entertainment and telecommunications industries are now far greater than all the fields and ancient giants such as construction, food products or automobiles. New economy despite its differences with the old economy, not only in one aspect in common. One of the most primitive forms of barter trade, has not faded away. Barter economy throughout the lifetime of the current agricultural

and industrial age and is prevalent today. Much of what is located on the World Wide Web, is the exchange and barter. Network economy, opportunities on a scale that has never been seen on earth, creation and free will. Economy stage is a unique network of economic development.

### 5. ELECTRONIC COMMERCE (EC) DEFINITION

Today electronic commerce business is big and growing bigger every day. E-commerce is a model of business. It's trading of goods or services over an electronic network without using paper documents. E-commerce is creating new opportunities to the global economic.

According to e-commerce, business conducted through the use of Internet, computers, smart phones, tablets, smart cards, barcode readers, automated teller machines (ATM), etc. without need of physical presence customers will be able to easy access to global market at anytime and anywhere via Internet. There is various type of e-commerce which business transactions occur through of them such as: business to business (B2B), business to consumer (B2C), consumer to consumer (C2C), consumer to business (C2B).

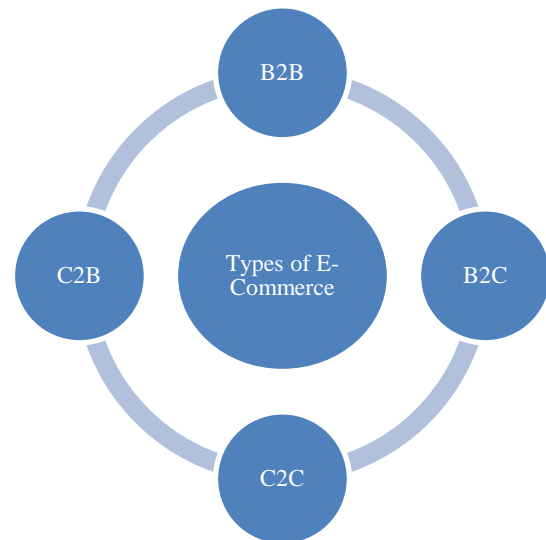


Fig. 1

The most important segment of e-commerce business is (B2B). It means business transactions of goods and services between companies (manufacturers, suppliers, distributors, retailers, etc) and in B2C; a customer is buying from a business electronically.

### 6. HISTORY AND EVALUATION OF E-COMMERCE

The concept of e-commerce is related to the use of information technology (IT) for business activities that has changed the current of human life and economy.

Development of use of Internet among people all over the world changed the structure of e-commerce and recently e-commerce has become one of the most popular activities on the web. E-commerce developed with innovations in 1970s like: Electronic Funds Transfer (EFT), Electronic Data Interchange (EDI), Inter-organizational systems (IOS).

EFT means the system of transferring money electronically directly between accounts and in EDI business partners exchange business documents in a formal of electronic standard through computer to computer like postal mail, fax and email. The system between organizations or shared information system among a group of companies called IOS. The most common form of inter-organizational system is electronic data interchange, which permits instantaneous computer to computer transfer of information (Wikipedia).

Electronic commerce created many advantages for both companies and customers. E-commerce customers would have a 24/7 open store with very long running costs. They can easily access to shop's website anytime and anywhere through of electronic channels. They can easily choose and buy online goods and services from their home and workplace without physical move. Despite of e-commerce advantages there are disadvantages as well.

Advantages of E-Commerce	Disadvantages of E-Commerce
<ul style="list-style-type: none"> <li>• The clock availability</li> <li>• Convenience and easiness</li> <li>• Accessibility</li> <li>• Speed of access</li> <li>• Quick delivery</li> <li>• Better prices</li> <li>• A wider selection of goods and services</li> <li>• Time saving</li> <li>• Quality of services</li> </ul>	<ul style="list-style-type: none"> <li>• Security</li> <li>• Gurantee</li> <li>• Social relationship</li> <li>• Delay an potentially uncertainty</li> <li>• Mechanical failures</li> <li>• Insufficient network service</li> <li>• Insufficient knowledge of using the computer, Internet and e-banking services.</li> </ul>

Fig. 2

The main problem in e-commerce business is security of the system because for online shopping customers have to provide their credit card details and information and sometime this could lead to risk of fraud, worse identity theft because anyone good or bad can set up a store in less than 10 minutes. Guarantee, social relationships, delay and potentially uncertainty about delivering the items, no ability to examine the product before purchase and mechanical failures are the other disadvantages of e-commerce.

Although recently Internet and use of technology has expanded in most of places but still there are some areas which there are Internet and network issues and in the other hand insufficient knowledge of using the computer, Internet and e-banking services.

## 7. THE ROLE OF INFORMATION TECHNOLOGY IN E-COMMERCE

Today, Information technology (IT) had positive impact on the pattern of human life, commerce, banking industry, economy, education and other filed of life.

Business companies have been a lot of changes with the use of information technology such as: Reduce in costs, time saving, develop and produce new products, increase productivity.IT provides to access to the electronic market for commercial firms.

## 8. INFORMATION TECHNOLOGY APPLICATIONS IN E-COMMERCE

Different segments of society, especially the private sector, have taken the benefits of investment and research in the field of e-commerce. According to the Wall Street Journal claims, from 1990 onwards investments in e-commerce in the US Annually, more than 300 percent and almost 50% of private sector investment in research and industries related to trade and electronic commerce. Successful businesses by using information technology to make significant changes in its activities by including these changes can be saved to reduce costs, to increase productivity, reducing the time of development new products, the utilization of skill employee's development activities through the establishment of closer relationship with customers, distributors and partners noted.

In this section referred to five of the applications of information technology in e-commerce.

### Electronic Market Day

Electronic market day is that allow buyers and sellers meet to exchange goods and services to each other's data. A number of institutions are creating new technologies that are more efficient and more prosperous will be electronic technologies on the market.

### Knowledge Management:

The largest investment knowledge, as appropriate, to identify, produce, collect and organize internal knowledge firm provides not only employees but also customers and distributors also share this knowledge their efficiency.

### Data Mining

Many companies have taken advantage of data mining tools to analyse massive data and widespread, however, find trends.

### Education of Technology

Managers should be trained to use the technology in order to provide to their employees that they can apply in organizations with speed and efficiency, the effectiveness of the training is classical.

### Changes in Maintenance Systems

With the help of information technology can be continually environmental conditions and system performance in some companies and advanced production lines were under control. Timely preventive maintenance makes up the new system reliably and more accurately and cost less to support their critical systems.

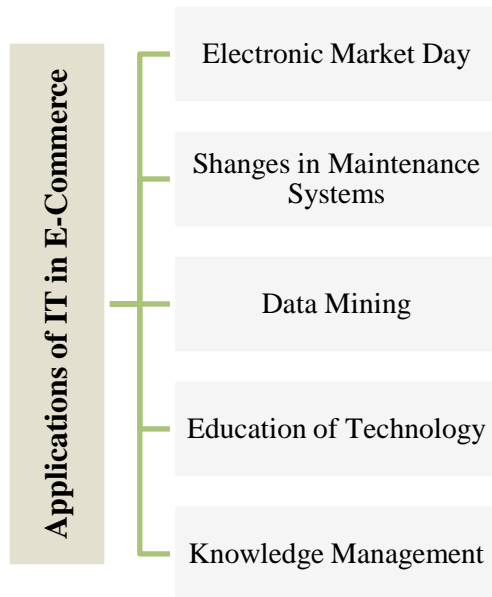


Fig. 3

## 9. CONCLUSION

The first wave of developments in information technology, computer science and telecommunications was initiated by related industries and researchers, but it is clear that new developments are thundering wave of information technology, to all economic activities will be effective. In other words, as the Internet has a significant effect on the internal structure of organizations and their interaction with competitors, suppliers and customers, and future developments in information

technology will create a significant change in the way of competition agencies and the firm commercial, national and international level. The case of IT applications in e-commerce, including Electronic Market Day - Knowledge Management - Data Mining - Education of Technology- Changes in Maintenance Systems. Due to the change of the industrial age to the age of technology, e-commerce has replaced traditional trade and enterprises and commercial institutions are trying to familiar managers and employees with the technology of the day, otherwise they will fail in the modern commerce.

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