

## E-Commerce in Developing Countries: A Case Study on the Factors Affecting E-commerce Adoption in Libyan Companies

Mohamed Othman El-fitouri

Faculty of Economics and Political Sciences, Department of Electronic Commerce, Al-Zaytoonah University, Bani-Walid, Libya.

### Abstract

The rapid development and increasing spread of e-commerce technology utilization have led to inspiring more Libyan companies to inaugurate web sites on the internet, in order to make much benefit from the services render thereon, to increase the mutual exchanges between these companies and other states, in such a manner as to save time and cost and stock as well as to create a competitive advantage. However, there are some obstacles which impede making benefit from the advantages and opportunities the e-commerce attempts to make. The paper aimed to determine the most important obstacles that are facing the implementation of commerce, that is to say, technological, Legal, human and organizational obstacles in the Libyan companies. This is on one hand, however, the paper aimed, on the other, to know whether there is a correlation that is statistically significant between such obstacles as to affect the implementation of e-commerce and the level of utilization of the same by industrial and commercial companies in Libya. Findings have shown, on the whole, that there is a high positive correlation of statistical significance at ( $\alpha = 0.01$ ) and ( $\alpha = 0.05$ ) levels between the obstacles which affect commerce and the level of e-commerce utilization, this is pursuant to the points of view of the managers of the companies in question. The paper has reached a number of findings which have shown the fact that there are many obstacles which may impede the growth of commerce in Libya. This is in addition to other significant findings the paper has reached. However, the paper has suggested a number of recommendations to help develop e-commerce in Libya. This paper also contributes substantially to enrich the applied research studies on commerce and its applied activities and provides in details the related debate on the similarities and proposals for future studies.

**Keywords:** E-commerce, marketing, internet, obstacles, Libya, implementation

### I. Introduction:

Recent years have witnessed a great development of the Internet led to a growing number of Internet users in the world, which has increased the importance of e-commerce. The importance of this stems from the lack of any geographical or political obstacles in front of e-commerce as the business up to millions of consumers in the whole world. Electronic commerce or "e-commerce" is defined as doing business electronically. Electronic commerce covers any form of business or administrative transaction or information exchange that is executed using any information and communications technology (ICT)".

E-commerce also refers as the process of buying and selling or exchanging products, service, and information through computer networks including the Internet. E-commerce is performing business activities via the Internet. These activities include buying and selling, and refer to information exchange as well as product exchange as shown in figure 1.

Since its introduction in the 1970s, e-commerce has developed progressively. Nowadays almost every business organization has its own website so as to meet the demand of the increasing number of Internet users.



Figure 1. E-commerce concept

Access and look at the reality of the business environment in Libyan, the existence of a set of manifestations which indicate the presence of problems. These problems include:

1. Lack of awareness and preparedness for most managers of Libyan industrial and commercial companies regarding the importance and the advantages of using electronic commerce.
2. Lack of confidence managers of Libyan industrial and commercial companies in dealing with e-commerce because of the risks that surround it.
3. Weak consumer confidence in online shopping, which leads to reluctance to put credit card details, such as credit card number and CVV number (Card Verification Value), in addition to the lack of familiarity with the English language.
4. The failure of the Libyan banks in taking an effective role in facilitating the payment systems e-commerce
5. High costs related to Web design and technical support for electronic commerce.
6. The existing e-commerce in the Libyan industrial and commercial companies confined mostly to the presence of a page belonging to the companies on the International Network (Home Page).
7. Lack of technical staff and specialists who are able to manage e-commerce and websites in the company.
8. Adoption of Libyan companies on traditional methods of interacting with consumers.

Based on the previous limitations of e-commerce in Libya, the problem statement can be summarized as follows:

**‘Despite the growing role of electronic commerce with the trend towards global, however, the Libyan industrial and commercial companies are still dealing with traditional business methods’**

The study derives its importance from the importance of electronic commerce as the world goes into e-commerce interfaces of different styles which reached to 15 trillion dollars in the worldwide by 2011, which confirms the importance of e-commerce. It also shows the importance of the Internet as a global communication through rapid deployment globally compared to other methods of communication such as television, radio, personal computer, and phone. The special importance of e-commerce for industrial and commercial companies in Libya lies in the gains achieved by e-commerce for them.

## II. Objectives of the study

The objectives of this study are as follows:

1. To identify the current status of the adoption of e-commerce in companies (industrial and commercial) in Libya.
2. To identify the most important obstacles facing the implementation of e-commerce (technological, legal, human, organizational).
3. To understand the relationship between the obstacles affecting the implementation of e-commerce and the level of use of e-commerce companies (industrial and commercial).
4. To provide some recommendations that contribute to the establishment of a clear idea about how can Libyan companies benefit from e-commerce.

### III. Literature and hypotheses:

Scientists and researchers have not yet reached to a common definition of e-commerce because of the multiplicity and variety of definitions, some of them tend to narrow, and the other tends to expand [1]. This difference in views which reflected on the differing interpretations for:

- Continuous development which changed year after year, leading to an expansion of the means, methods, and objectives and thus expanding the concept.
- Different areas mean different interpretations of e-commerce. As each area interprets the meaning of e-commerce from the point of view that it serves.[2]has defined the e-commerce as the process of buying or selling, converting, or replacement goods or services or information via computer networks including the Internet. Whereas, e-commerce has been defined by [3] citing [4] as trade of goods and services that are using the Internet and other digital media. Furthermore, while [5]indicated that e-commerce is the process of buying and selling by electronic means.[6]indicated that e-commerce is a type of sale and purchase transactions between consumers and producers or between companies by using information and communication technologies. [7]has shown that e-commerce is the process of production, promotion, sale, and distribution of products through communication networks '.

The processes of transition to the use of systems and methods of e-commerce is a complex process for many businesses, because this transformation can only be achieved through a deliberate plan built on the foundations of thought developed which combines the company's culture, its capabilities and its ability of the hand, and between the challenges and obstacles associated with the extensive use of information and communication technologies on the other hand. On this basis, there is a set of procedural steps that the company must be implemented; including the establishment of the website on the Internet includes many stages that have to be followed as explained by many researchers [6-8], as shown in the following:

#### 3.1. Use of electronic email (Email)

During this stage, businesses start to enter the world of e-commerce in a very simple concept through getting a special email address the organization or company.

#### 3.2. Subscribe to internet services

Subscribe in internet services to expand the transactions through email. With access the Internet to the company, the first steps of the actual use of the principles of electronic commerce will begin, where

the company turned in its correspondence to the e-mail and achieve the considerable saving in cost with great openness to the world.

#### 3.3. Creating home pages for information on the network

Begin the transition from using e-mail to the physical presence of the company by creating simple Web pages includes information about the company. This will be the first use of the network in the field of advertising to allow the customers to see what goes on of activities in the company's.

#### 3.4. Website

With the growth in the use of the Internet, the company might consider shifting to a higher level of use through the establishment of the website for information on the Internet, the company in which the interaction between the company and its agents and their products price lists and catalogs. Establishment of Information website requires several key components including:

- Server
- Leased Line
- Routers + Modems
- Special programs and applications
- Technical work team specialized in website management
- A team for preparing and updating data

#### 3.5. Electronic Store

Commercial transactions through the Internet require providing degrees of protection and insurance, it also requires the connection with one of the banks to facilitate financial payments. From here, the shift to the level of full transactions on the Internet requires in addition components of security and protection, as well as a financial method of payment.

#### 3.6. Full Loop EC

Integration between all the operations of e-commerce can be achieved through linking the websites with the foundation's internal information systems and achieve full connection between the company and its customers with the level of internal information systems, this requires providing the highest level of information security.

### IV. Benefits of electronic commerce

E-commerce systems offer many opportunities and benefits at all levels, both at the individual level and at the level of enterprises and business sectors or at the community level. [2]concluded that e-commerce can achieve many benefits to users and customers. E-commerce can be divided as follows:

#### **4.1. Benefits of e-commerce to organizations:**

One of the most prominent benefits of e-commerce for organizations that it expands the scope of the market from the scope of the local representative to the scope of the international and global scale and that, with a few costs, as any company can find consumers more and better more appropriate partners in a fast and easy way. Some studies have demonstrated that the adoption of e-commerce systems that would lead to a reduction in administrative costs of the procurement process by more than 85 % [2]. The following example illustrates the benefits of electronic commerce, in the United States of America, the bank draft costs 43 cents and the electronic payment costs only 2 cents [9].

Follow the e-commerce systems help all enterprises in the reduction of inventory and follow the manufacturing systems and modern distribution resource planning and needs using the system specified timing (Just in Time), where an entity at the request of goods from producers once received purchase orders by consumers, and are shipped directly to send it to them. Hence, the storage costs drop dramatically, resulting in a reduction in insurance costs and other costs related to the process of storing[10]. In addition to the foregoing, the e-commerce helps to dispense with intermediaries as there is no need for the existence of intermediaries between the seller and the buyer in cyberspace[11], as they reduce airline costs by selling tickets online without the intervention of intermediaries trading as mentioned in the Financial Times newspaper (September 6, 2002 number).

E-commerce enables the re-engineering of business processes, and through this change, the productivity vendors, staffs, and administrators to jump more than 100% [12]. The e-commerce systems lead to the reduction of communication costs through its adoption of the International Network for communications (Internet) which is at least at the cost of a network of value-added, or the so-called (VANs) [2]. The adoption also leads to a decrease in the costs of transport, especially in the case of digital products that can be transferred across the network directly, as is the case in computer programs [2]. As well as easy to conclude deals and contracts, using the technologies of knowledge for purchase through the Internet, including technology (Click and Pay), the fame of this technology has increased in terms of transactions over the Internet, and can be performed by consumers and businesses throughout 24 hours a day during all days of the year, [13]. [12] has been added the benefits of e-commerce to improve the company's image and effectiveness of customer service and to find new trading partners and facilitate operations and reduce the time period to send the products and services and increase productivity and

eliminate paperwork, reduce transportation costs and finally increase flexibility in transactions.

#### **4.2. Benefits of e-commerce to consumers**

E-commerce enables buyers to purchase 24 hours a day, and access to all markets in the world simultaneously from anywhere. In general, the e-commerce is cheaper for shopping, because the seller can be marketed on a lot of websites on the Internet and compares a company's goods easily with their counterparts, and eventually will be able to choose the best offer for him [12]. The benefits of e-commerce is reflected in improving services to the consumer, whether in transactions between companies and consumers (B2C), or through the purchase of the website directly (Online Shopping), or transactions between Government and people, which is known as the E- government[13]. It also enables of shopping through international networks and participation in the auctions directly without the limits of place or the distance or time[12].

#### **4.3. Benefits of e-commerce to society**

E-commerce allows an individual to work at home, reducing the default time for shopping, which means less congestion in the streets, thus reducing the proportion of air pollution [2]. It also allows people who live in third world countries to buy the products and goods not available in their home countries. They can also obtain the university certificates crossed Internet [14]. It also enables the creation of new opportunities for self-employment through the establishment of an opportunity for small and medium-sized businesses that connect to global markets at the lowest possible cost[15]. In addition to the above, e-commerce is also able to provide public services via the Internet, such as educational services, health care, and social services at the lowest price and highest quality[2].

[16] has emerged a new concepts to help companies to transition towards e-commerce, or the so-called external resource service (Outsourcing), which is based on the idea that, rental structure of e-commerce partially or completely rather than established within the company that want to convert their work, in order to be across the network so that all or part of the information infrastructure essential for any company is located away from company site under the management of the enterprise professional in providing such a service, which helps to reduce costs and reduce the time needed to fulfill customer requests.

### **V. Obstacles to the implementation of e-commerce**

Despite the multiplicity of benefits arising from the implementation of e-commerce, the Arab countries still face significant challenges, In general,

[2] has divided the obstacles into two types of obstacles, technical obstacles, and other non-technical obstacles as follows:

### 5.1. Technical obstacles

1. Lack of security system or to strengthen confidence in the transactions, and may not have adequate standards (and protocols) of the organization for commercial transactions that take place electronically.
2. Low percentage of Internet users because of high prices with a low individual income [17]. The number of Internet users in the Arab world about 29.4 million users by the end of 2007, which means only about 2.5% of the population of users in the world (Internet World 2008, Stats).
3. Tools for software development are still constantly changing and quickly and therefore difficult to connect the Internet and e-commerce software's with some applications and databases used [12].
4. The need to have a private networks and infrastructure for seller beside the general communications network sometimes may be expensive for some buyers, especially in the case of small enterprises.
5. Robberies of bank accounts through the computer, and the need for verification of the access of the amounts due for transactions with the parties involved and make sure there is no manipulation or fraud in the credit cards used [18].

### 5.2. Nontechnical obstacles

1. High implementation costs, where the costs of providing the necessary computer programs to deal implementation e-commerce systems is relatively high from the point of view of the ordinary consumer.
2. Fear of providing personal data, particularly related to financial aspects or exposure to electronic messages received without their consent [19].
3. Browse the Internet is still too expensive for many people and the connection speed is still slow in many of the countries of the world including Libya [12].
4. There are some legislative and legal aspects of electronic commerce has not yet been set clear and decisive solutions for any system applications.
5. The inability of the consumer to see the product visually before buying it online, plus it is possible to buy items unauthorized selling [18] as some customers want to touch the products before buying them as in traditional commerce.
6. The proliferation of commercial fraud and the absence of appropriate legislation and

weakness of the security of online communications is one of the obstacles that hinder growth of e-commerce in the Arab region [20].

7. The low level of awareness and knowledge about the e-commerce are a global problem faced by many countries, including developed [21].
8. The limited number of Internet users in the Arab world and not ready interesting in e-commerce practice.
9. The lack of attendance of Arab banks and services in e-space and low ownership rate of credit cards [22].
10. E-commerce is still in its first phase, which is characterized by rapid change; many people want to provide tangible things before investing [12].
11. The social and psychological obstacles that include language, lack of confidence between people and regulations, despite the entry of Arabic language in many of the software's, but the psychological barrier still exists [17].
12. Lack of paper documents supporting the sale and send the purchased products, this may raise the question of the obligations of contracting parties in laws, and which are still focusing on the priority of writing and written documents in proof.
13. There are cultural factors, especially the Arab society may play a main prominent role in making the most of electronic commerce transactions take place between companies between companies, and not between companies and individuals, as to go out shopping may be fun only for Arab women under the domination of the social barriers that limit women's freedom, and this desire to go out threatening e-commerce [20].

## VI. The challenges of e-commerce regionally and locally

The obstacles to the development of electronic commerce in the Arab countries in general, and Libya in particular [23] can be identified as follows:

1. Lack of the presence of the Arab banks on the web pages and non-issuance of credit cards.
2. Lack of awareness and the lack of awareness of the importance and benefits of e-commerce for individuals and businesses, as well as to the high proportion of illiterates in the Arab nation, which amounted to 38% by 2001 [24].
3. Arab governments did not adopt a strategy to raise the level of information and communications technology and their adoption only handicrafts.
4. The fragility of the telecommunications infrastructure in the Arab countries as the price is still a very high cost of communications, in

addition to other issues, most notably the weakness of the Internet, and the unavailability of telephone lines as required.

5. The absence of appropriate legal infrastructure and the legislation is the biggest obstacle in the development of electronic commerce in Arab countries, in particular with regard to the regulation of banking transfers or protection or to the prevention of fraud, piracy and the theft of electronic.
6. Despite the availability of the possibility of the development and design of the programs in most Arab countries, but so far have not been taking advantage of the huge potential in the development of information and communication technology sectors.
7. The absence of transparency and some Arab government's put some restrictions on dealing over the Internet, mostly for security reasons, it is difficult to the presence of data on national income and tracking income on the Internet, as well as fears of the emergence of electronic money and its spread resulting in facilitating money-laundering operations, thereby preventing the Central Government control on the circulation currency, for the purpose of controlling the money supply, if the private companies expanded issuing the electronic money [24].
8. The Internet suffers from the lack of security issues; this may be exploited by some pirates.
9. Reduction in the number of workers and employees, because of the use of the Internet leads to higher unemployment rates [24].

Based on the above discussion of the previous studies related to direct and indirect nature of the problem of the study, the hypothesis of the study can be formulated as follows

**'There is a significant statistical relationship between obstacles affecting the implementation of e-commerce and the level of use of e-commerce in companies (industrial and commercial) in Libya'.**

## VII. Methodology of the study

Descriptive analytical was selected because the objectives of this study focused on the relationship between the obstacles affecting the implementation of e-commerce and the use of e-commerce in companies (industrial and commercial) in Libya. The study relied on two types of data which are:

### 7.1. Secondary data

Preliminary data have been collected in the field through the list of the survey, which has been prepared on the basis of the findings of the results of previous studies to measure the variables in order to determine the variables to be measured and the

special constraints affecting the implementation of e-commerce and the level of use of e-commerce in companies (industrial and commercial) in Libya included a list of questions on the two sections. The first section is general information about the type of activity of the company and the age of the company. The second section focuses on the obstacles of the implementation of e-commerce and the use of electronic commerce. In this section, Likert scale with 5-point was used.

### 7.2. The sample of study

The list of the companies was obtained from the records of the commercial register offices in the Ministry of economy. The sample size was determined by the equation were selected from the previous studies by stratified random sample, where the sample size was 400 single stationed in the cities, (Tripoli, Sabha). Data were collected from the study targeted research in the period of time between March 2012 and October 2012.

### 7.3. Analysis and discussion of the results

The sample answers were coded to the questionnaire and entered into the statistical program SPSS (Statistical Package for the Social Sciences) and statistical program Excel then appropriate statistical methods were used based on the nature of the data to achieve the aims of the study, where standard deviation, covariance, the percentage of labs, Cronbach's Coefficient alpha, and finally Pearson test were used.

### 7.4. Test the validity and reliability of the data collection

The study adopted the report of the validity and reliability of the tool on the sincerity of arbitrators, where the tool in its initial wording has been displayed on the number of arbitrators in some Libyan universities and on professionals with experience and competence and then revised in the final wording. From the analysis of the data, the response rate was 80% of the total valid questionnaires collected for analysis.

## VIII. Results and Discussion

### 8.1. The stability of the questionnaire

The reliability coefficient questionnaire was calculated using alpha coefficient Cronbach (Chronback Alpha), where the value of the coefficient alpha Cronbach of the reliability coefficient was 0.938% and its high reliability coefficient, implying a high degree of stability and the health of the answers of respondents, and thus achieved the stability and consistency is acceptable for the purpose of scientific study, and the following table shows the value of coefficient alpha.

Table (1) the results of alpha testing of the validity and reliability of the questionnaire

No	Study Themes	Average scale	Scale variance	Validity index	Reliability index
1	The level of use of electronic commerce	21.537	6.948	0.238	0.737
2	Impediments to the use of e-commerce	21.216	6.552	0.451	0.670
3	Alpha value for the questionnaire			0.938	

The above table shows that all values of the alpha coefficients Cronbach are greater than 0.6 [25] which are acceptable, this indicates the stability and reliability of the questionnaire and relying on the tool for the purposes of the study.

**8.2. Characteristics of the study sample**

To know the characteristics of the study sample, the frequency distribution of the sample was obtained based on the kind of activity and the age of the companies as follows:

**• Type of activity**

Table 2 and figure 2 show the results for the type of activity, and it is clear that the percentage of commercial activity is the largest percentage of 63.66 %, followed by industrial activity 36.34 %. This shows the role and size of commercial activities and their impact on the Libyan economy.

Table (2): frequency distribution for sample by type of activity

Type of activity	Frequency	Percentage
Commercial	205	63.66
Industrial	117	36.34
Total	322	100

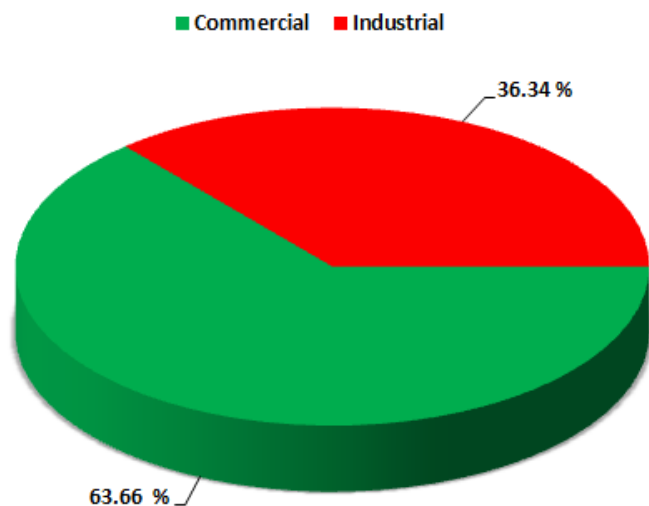


Figure 2. Frequency distribution for commercial and industrial activities

**• The age group of companies**

Table 3 and figure 3 show the results for the age groups of companies, it is clear that the age group from 5 to 10 years has the largest percentage (59.63%) among the age groups, followed by the age group from 10 years and more by 25.16%, and finally the age group (less than 5 years) by 15.22%.

Table 3: The frequency distribution of the sample by age group of companies

Age groups	Frequency	Percentage
Less than 5 years	49	15.22
5 to 10 years	192	59.63
10 years or more	81	25.16
Total	322	100

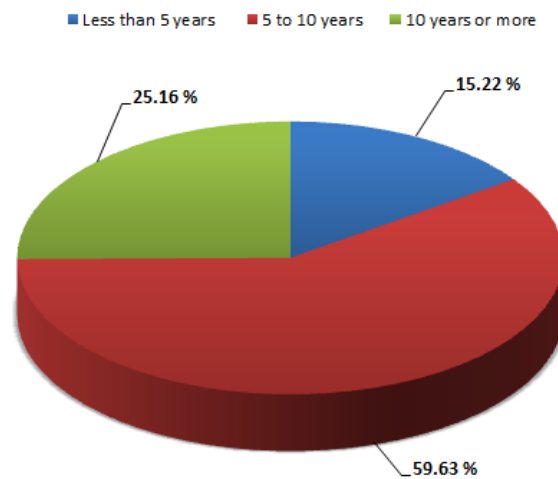


Figure 3. Frequency distribution for age group of companies

• **The level of use of e-commerce in Libyan companies**

For the purpose of identifying the level of the use of e-commerce, arithmetic average, standard deviation, and relative importance of the study sample were used. Table 4 shows the results of the level of use of the Internet in e-commerce by Libyan companies.

Table 4: The arithmetic mean, standard deviation, and the percentage of the level of use of e-commerce

No	Statements	Average	Standard deviation	The relative importance (%)	Ranking
1	Send and receive e-mail	4.38	0.83	87.58	1
2	Access to the latest news and information	4.15	0.93	83.04	2
3	Searching on sufficient information on the prices	3.95	0.98	79.07	3
4	Conducting international communications	3.79	1.20	75.84	4
5	The announcement of the company's products	3.75	1.14	75.03	5
6	Find enough information about competitors	3.75	1.16	75.03	6
7	Provide enough information about the goods	3.73	1.29	74.53	7
8	Searches for different websites	3.61	1.28	72.11	8
9	Getting requests and supply orders	3.58	1.03	71.55	9
10	Find new customers	3.57	1.08	71.37	10
11	Provide detailed information about the company and its products	3.56	1.18	71.12	11
12	Searching for new partners	3.25	1.07	64.91	12
13	Selling the company's products through electronic markets	3.25	1.27	64.91	13
14	Payment through credit cards or electronic drafts	3.00	1.17	59.94	14
15	The exchange of documents and contracts electronically	2.96	1.14	59.25	15

From table 4, it can be seen that the percentage and the arithmetic mean of answers respondents indicate that send and receive e-mail is

ranked first (87.58 %), followed by access to the latest news and information by 83.04 %, and followed find enough information about prices by



79.07% and conducting international communications by 75.84%. It is observed from analysis that lower relative importance to exchange documents and contracts electronically ranked by 59.25% in comparison to previous items.

Therefore, the previous results confirm that the Libyan companies practiced the e-commerce techniques only by sending and receiving e-mail and access to the latest news and information. This result is consistent with the study [26] which revealed the reality of the implementation of e-commerce in small industrial plants with small identifying the most important factors affecting them, which indicated that more areas of e-commerce used by the study population is (sending and receiving e-mail, access to the latest news and information, search for new customers, provide detailed information about the company and its products). On the other hand, the areas of e-commerce were less used by the population of the study consisted of (attend conferences through video, advertising, search for new partners and conduct international communications). This result is consistent with the study conducted by [22], which aims to evaluate the development of e-marketing in Yemeni companies, where it reached that there are weaknesses in Yemeni

companies dealing in e-marketing and is limited to the use of e-mail to exchange information with suppliers. And this also consistent with a study conducted by [27], which focused on identifying the areas of the use of e-marketing in the Libyan oil companies, and has shown its limitations in terms of using of e-mail and website to view the products and data about the company activity, as well as customer contact.

From the previous result, it can be reached to achieve one of the objectives of the study which seeks to identify the level of the use of e-commerce techniques practiced by Libyan companies.

### 8.3. Obstacles to the implementation and use of electronic commerce in Libyan companies

In order to identify obstacles to the implementation and use of electronic commerce, the arithmetic mean and standard deviation and relative importance of the answers of the study sample were used and Table 5 shows the results of the study sample answers of obstacles of the implementation and use of e-commerce.

Table 5 arithmetic mean and standard deviation, and the relative importance of obstacles to the implementation and use of e-commerce

No	Statements	Average	Standard deviation	The relative importance (%)	Ranking
1	The absence of security and confidentiality of the information on the Internet	4.19	0.91	83.85	1
2	Non-habitual consumers of this kind of trade	4.16	1.05	83.29	2
3	The absence of laws and legislation regulating the electronic commerce	4.13	0.98	82.67	3
4	Lack of Libyans for a Culture of use of credit cards	3.84	1.02	76.89	4
5	Consumer preference for buying through traditional shops	3.84	1.20	76.77	5
6	Lack of training programs on electronic commerce	3.84	1.17	76.71	6
7	Low intensity of competition between Libyan companies	3.75	1.21	75.09	7
8	The impact of the media in focusing on the negative aspects of the Internet	3.74	1.12	74.84	8
9	Scarcity of Arab sites on a network information	3.71	1.12	74.16	9
10	A few number of companies used the Internet in Libya commercially	3.70	1.16	74.10	10
11	Low level of English for clients with e-commerce	3.70	1.09	73.98	11
12	The Libyan banks are not support the e-commerce	3.57	1.17	71.30	12
13	Crashes and slow the internet in Libya	3.45	1.20	69.07	13
14	Weakness of the information infrastructure	3.37	1.19	67.45	14
15	Scarcity of human resources needed to deal with modern technology	3.35	1.20	67.02	15
16	Small size of the company	3.34	1.26	66.77	16
17	Lack of state support to disseminate a culture	3.28	1.14	65.65	17

No	Statements	Average	Standard deviation	The relative importance (%)	Ranking
18	of e-commerce E- commerce need a long time to be applied	3.02	1.35	60.43	18
19	High costs of implementation	2.90	1.30	58.01	19
20	The failure of the implementation of e-commerce in some of the companies	2.80	1.13	55.90	20

From Table 5 it can be noted that relative percentages and the arithmetic average of the answers of respondents indicate that the absence of systems security and confidentiality of information on the Internet has the largest effect on e-commerce by 83.85%, followed by non-habitual consumer on this kind of trade by 83.29%, and then followed by The absence of laws and legislation regulating the electronic commerce, which contributes by 82.67%, and lack of Libyans for a Culture of use of credit cards by up to 76.89%. From Table 5, It was noted that consumer preference for buying through traditional shops where it came in fifth place with 76.77%, while the lack of training programs on e-commerce have a percentage of 76.71%, as well as it can be seen from Table 5 that the decline in the relative importance of the high costs of implementation and the failure of the experience of the implementation of e-commerce in some companies have a little percentage of effect on the implementation of e-commerce compared to the other previous elements.

Through previous results, it can be noted that the result is logical, because the success of e-commerce cannot be achieved with the absence of systems security and confidentiality of information and with the absence of laws and regulations governing e-commerce. In addition to that, the success of e-commerce cannot be achieved by the lack of training programs on e-commerce and with the weakness of the information infrastructure in Libya, besides, the scarcity of human resources needed to deal with the modern technology. These results are consistent with several previous studies, where the study conducted by [28] shows that the absence of security systems and confidential information on the Internet are an important obstacle effect on e-commerce implementation in United Arab Emirates. The results are also consistent with the study made by [29], which found that companies in developing countries are facing many challenges for the use and exploitation of e-commerce.

These results are also consistent with the study made by [30] on obstacles to the implementation of e-commerce in Libyan commercial banks. The results

of this study indicated that there are many obstacles that hinder the implementation of e-commerce in Libyan commercial banks, such as the absence of laws and legislation regulating the electronic commerce, as well as the absence of security and confidentiality of the information on the Internet and the weakness of the information infrastructure in Libya.

It is noted that there are other studies did not address the infrastructure among the factors of the success of e-commerce, including studies made by [31-33]. These studies have been done in some of the countries of Europe and America, where the development of the infrastructure in these countries, but they focused on the topics of confidence and security. However, in most of the developing countries, the infrastructure, laws, and legislation are still the main factors hindering the growth and success of e-commerce.

From the previous result, the objectives of this study can be achieved, which identify the most important obstacles facing the implementation of e-commerce (technological, legal, human, and organizational) in Libyan companies (industrial and commercial).

From previous results, we can move to test the validity or deny of the hypothesis of the study.

#### 8.4. Test the hypothesis of the study

The hypothesis of the study states that **‘There is a statistically significant relationship between the obstacles affecting the implementation of e-commerce and the use of electronic commerce in companies (industrial-commercial) in Libya’.**

To test this hypothesis, simple linear correlation coefficient (Pearson) was used in order to determine the level of the relationship between the obstacles affecting the implementation of e-commerce and the use of e-commerce in the industrial and commercial companies in Libya, as can be seen from Table 6.

Table 6: the relationship between the obstacles affecting the implementation of e-commerce and the level of use of e-commerce

No	Statements relating to the level use of e-commerce	Pearson Correlation	Significant
1	Payment through credit cards or electronic drafts	0.396	**0.000
2	Searches for different websites	0.367	**0.000

No	Statements relating to the level use of e-commerce	Pearson Correlation	Significant
3	Provide detailed information about the company and its products	0.354	**0.000
4	Selling the company products through the site or through electronic markets	0.340	**0.000
5	Provide enough information about the goods	0.258	**0.000
6	Conduct international communications	0.249	**0.000
7	The exchange of documents and contracts electronically	0.246	**0.000
8	Find enough information about competitors	0.200	**0.000
9	The announcement of the company's products	0.133	*0.017
10	Access to the latest news and information	0.126	*0.023
11	Send and receive e-mail	0.123	*0.027
12	Searching for new partners	0.088	0.116
13	Searching on sufficient information on the prices	0.073	0.189
14	Find new customers	-0.018	0.751
15	Getting requests and supply orders	-0.092	0.099
16	The level of use of e- commerce	0.463	**0.000

\*\* Level of significance = 0.01

\* The level of significance = 0.05

Table (6) the results of the analysis of the relationship between the obstacles affecting the implementation of e-commerce and the use of e-commerce in industrial and commercial companies in Libya. The analysis shows that payment through credit cards or electronic drafts come in first place, while searching for different websites come in second place, and providing detailed information about the company and its products come in third place. As well as, simple linear correlation coefficient was also used to identify the level of the relationship between the variables in terms of the degree of influence at the level of significance ( $\alpha = 0.05$ ) or ( $\alpha = 0.01$ ). The results indicated that there is a very high correlation ( $\alpha = 0.01$ ) between the obstacles affecting the implementation of e-commerce and the use of e-commerce, according to the following terms.

1. Payment through credit cards or electronic drafts.
2. Searches for different websites.
3. Provide detailed information about the company and its products.
4. Sell the company's products through the site or through electronic markets.
5. Provide enough information about the goods.
6. Conduct international communications
7. The exchange of documents and contracts electronically.
8. Find enough information about competitors

The results also pointed out that there is a high correlation ( $\alpha = 0.05$ ) between the obstacles affecting the implementation of e-commerce and the use of e-commerce, according to the following terms:

1. The announcement of the company's products
2. Access to the latest news and information
3. Send and receive e-mail

The results also indicated that there is no relationship between obstacles affecting the implementation of e-commerce and the use of e-commerce, for the remaining terms.

Based on the above discussion, the hypothesis of the study can be accepted, which states that 'There is a statistically significant relationship between the obstacles affecting the implementation of e-commerce and the use of e-commerce in the industrial and commercial companies in Libya'.

The analysis results indicated that there is a very high correlation ( $\alpha = 0.01$ ) between the obstacles affecting the implementation of e-commerce and the use of e-commerce, according to the following terms.

4. Payment through credit cards or electronic drafts.
5. Searches for different websites.
6. Provide detailed information about the company and its products.
7. Sell the company's products through the site or through electronic markets.
8. Provide enough information about the goods.
9. Conduct international communications
10. The exchange of documents and contracts electronically.
11. Find enough information about competitors

The analysis results also indicated that there is a high correlation ( $\alpha = 0.05$ ), according to the following terms:

1. The announcement of the company's products
2. Access to the latest news and information
3. Send and receive e-mail

From previous results, it is clear that the obstacles have a very high correlation and influential role in the level of use of e-commerce and the evidence for that is indicated by the results of the field study at two levels ( $\alpha = 0.01$ ) and ( $\alpha = 0.05$ ) or most of the terms. The remaining terms have no effect on the level of

use of e-commerce. They have counterproductive in other obstacles. The study found that whenever the Libyan companies were able to overcome the difficulties and impediments to the implementation of e-commerce, the greater the level of use of e-commerce in these companies and vice versa.

This result is logical and consistent with many previous studies such as [33], which revealed the effect of the level of confidence in the use of e-commerce, and the presence of a significant correlation between the confidence and the level of use of e-commerce. This study also consistent with a study made by [34], which indicated its results to link of the obstacles facing the institutions of the role of the publishing and distribution of Arab, and which prevent the implementation of e-commerce. In addition to that, this study also consistent with a study made by [27], which pointed out that the correlation coefficient in its results to a positive correlation between the variable of confidence and security, and the use of e-marketing, the greater the degree of confidence in electronic dealing, whenever led to greater use of e-marketing.

This study also consistent with a study conducted by [30] which focused on the identification of the reality of the implementation of e-commerce and to identify the main obstacles to the implementation of e-commerce in the Libyan commercial banks. The most important results of the study indicated that there is a need to accelerate the implementation of e-commerce to take advantage of the benefits that can be achieved if applied, and the emphasis on the need for many of the ingredients (requirements), and increase the attention of the implementation of e-commerce in the Libyan commercial banks in order to increase the level of use of e-commerce in the Libyan commercial banks.

### **IX. Contributions of the study**

The present study supports the knowledge in e-commerce as the theoretical contribution to disclose the relationship between the obstacles of the implementation of e-commerce and the levels of use of e-commerce, whereas, the contribution in terms of management represented in clarifying the elements of the implementation of e-commerce in industrial and commercial companies where:

1. The results showed that the marketing of products which represents the marketing through personal selling is the most widely used, followed by marketing through exhibitions, and then followed by television marketing in the third place. And the results showed that low use of e-marketing in the marketing of the products from the companies with commercial and industrial activities.
2. With regard to the obstacles facing the study sample and the optimum implementation of e-

commerce, the study presented firstly, the absence of security systems and confidential information on the Internet. Secondly, lack of familiarity with the consumer this type of trade exchange. Thirdly, the absence of laws and legislation of e-commerce. Next, lack of Libyans for a Culture of credit cards. Fifthly, the consumer is preference for buying through the traditional stores or shops. Sixthly, lack of training programs for e-commerce. In addition to the high cost of communications and slow internet networks as well as the shortcomings of the qualification of human cadres, including serves the goal of growth of e-commerce.

### **X. Concluding remarks**

Based on the results of this study, this study suggests some recommendations, which contributes at least partially overcome the problems and obstacles that prevent the implementation of e-commerce effectively in various types of Libyan companies. It will also help official bodies in the development of strategies and projects leading to the spread of information and communication technology in Libya, the most prominent of these Libyan recommendations and proposals as follows:

1. Development of appropriate legislation to the requirements of e-commerce locally and internationally, and electronic security and safety when using electronic shopping.
2. Create a climate that aims to disseminate the concept, importance, and advantages of e-commerce, and increasing the consumer confidence and seek to literacy and increasing the technical scientific conferences and symposia.
3. Working on the lifting of the communications infrastructure level and improve its level of efficiency and development of infrastructure technological advancement means of communications and software industry and facilitating the conditions of participation in the international information network, and the lifting of the scientific and technical competence of the staff.
4. Communications and Web design companies must reduce the cost for enterprises used e-commerce so that they can develop their potential.
5. In order to reach the largest amount of users must, Arabic language must be added to the localize foreign websites on the international information network (Internet) in order to use the network on a large scale, which facilitates the growth of e-marketing process and the subsequent services.
6. Encourage and stimulate the banking sector to enter the field of e-banking services to facilitate

electronic payment operations and simplifying banking procedures associated with the bank.

7. The need to work on the establishment of a body to stimulate e-commerce aims to conduct surveys and studies to determine the needs of the companies relating to e-commerce and the issuance of periodic bulletins to promote e-commerce, so that it must be interested with all the latest developments in the area of electronic transactions and promotion incentives and providing the subsidies for small and medium-sized enterprises to practice e-commerce.
  8. The Parties dealing with e-commerce should be directed towards starting small business transactions in order to increase confidence among customers and dealers and reduce the level of risk, so that the size of those transactions can be increased gradually commensurate with the degree gain confidence.
  9. Development of the curriculums for all stages to keep up with the age of information and international information network (Internet) in the field of education and the creation of virtual universities and research centers in accordance with the plan meet the needs of the electronic market.
  10. Organizations that rely on e-marketing in Libya must take into consideration the social customs and traditions for the consumer, when the target community is conservative community.
- [8] M Serafi, *E-commerce*, a series of administrative knowledge books, International Foundation for publication and distribution, Alexandria, Egypt, 2005.
  - [9] A Ibrahim, *Commerce and e-business, Which Computer Services*, Alexandria, (n.d).
  - [10] M.I, Mansour, *The impact of e-commerce design accounting information systems (Proposed Framework)*, Alexandria University conference, The first volume, 2002.
  - [11] W Akram, *E-commerce faster road to success and wealth*, Library Ibn-Sina, Cairo, Arab Republic of Egypt, 2004.
  - [12] A Ali, O, *Advanced Studies in Marketing*, University House, Cairo, Arab Republic of Egypt 2007.
  - [13] R Mohammed, *E-commerce in the Palestinian commercial establishments: Reality and Challenges*", *Journal of the Arab future*, the Center for Arab Unity Studies, No. (400), the thirty-fifth year, June, 2012.
  - [14] A Murad, *E-commerce and buying and selling on the internet*, Alexandria, Egypt.
  - [15] M, Saied, *E-commerce technology*, modern offset printing press, Cairo, 2003.
  - [16] S.Ahmed, K, *An analytical study of the problems of a review of facilities that are transactions through e-commerce*, unpublished Master Thesis, University of Cairo, Faculty of Commerce 2006.
  - [17] S Hamza, *The entrance to e-commerce*, Khartoum, Sudan, 2004.
  - [18] A AbuBakr, *The customs and tax treatment of transactions carried out through local and international e-commerce*, The scientific journal of the Faculty of Commerce, Al-Azhar University, 2004, 11-73.
  - [19] A.H, Khairuddin, *Marketing concepts and strategies*, library Ain Shams, Cairo, 2003.
  - [20] S.Y, Ghalib. Bashir, A, *Relational, e-business, Dar curriculum for publication and distribution*, Amman, Jordan, 2006.
  - [21] M Ahmed, *The difficulties facing the Arab e-commerce from the perspective of the owners of the Arab electronic stores*, *Journal of King Saud University of Management Sciences*, the second edition, 193-371, 2002.
  - [22] K.M, Alcaldy, *Calendar-mail marketing companies in the Yemeni development*, unpublished PhD thesis, College of Graduate Studies, Sudan University of Science and Technology, Khartoum, Sudan 2007.
  - [23] M.O, Faitouri, *the elements and constraints of e-government*, Arab and international

## References

- [1] H Hamid, *E-commerce in the tourism beauty*, publisher, Cairo, Arab Republic of Egypt, 2003.
- [2] Efraim T, Jae L, David K, Michael CH. *Electronic Commerce: a managerial perspective*. *Electronic Payment*, 2006; 13.
- [3] Ellis-Chadwick F, Mayer R, Johnston K, Chaffey D. *Internet marketing: strategy, implementation and practice*: Pearson Education, 2009.
- [4] A.F, Musa, *Information technology and its role in traditional and online marketing, Etrak for printing and publishing*, Cairo, Arab Republic of Egypt, 2007.
- [5] Kotler P, Armstrong G. *Principles of Marketing 15th Global Edition*: Pearson, 2013.
- [6] R, Radwan, *The world of e-commerce, the Arab Organization for Administrative Development*, Cairo, Arab Republic of Egypt, 1999.
- [7] A.H. Bassiouni. Abdul, K. Abdul, Bassiouni, *E-commerce*, House of scientific books for publication and distribution, Cairo, Arab Republic of Egypt, 2003.

- experiences, *the Libyan International Conference on e-government*, Tripoli, Libya, from 14 to 15/07/2012.
- [24] A, Zaid, The reality of e-commerce and the challenges faced by the Arab world and locally, *October Studies University and Scientific Research magazine*, a series of economic and legal sciences, Fourth Edition, 2005.
- [25] Sekaran U. *Research Methods of Business- A Skill-Building Approach*, 2003.
- [26] M. Mohamed, H, *The role of e-commerce in raising the efficiency of marketing and small industrial facilities products*, unpublished Master Thesis, Faculty of Commerce, Ain Shams University, Egypt, 2004.
- [27] I.A. Alahbuna, The possibility of the use of electronic marketing and its impact on the marketing strategies of petroleum products, doctoral diss. University of Tanta, Egypt 2006.
- [28] H.S, imagination, *Factors influencing the adoption of consumers shopping across the international information network (the Internet)*, An Empirical Study in the United Arab Emirates, unpublished Master Thesis, Faculty of Commerce, Ain Shams University, Egypt 2002.
- [29] Molla A, Licker PS. eCommerce adoption in developing countries: a model and instrument. *Information & Management*, 2005; 42:877-899.
- [30] A, Saleh, *Obstacles to e-commerce in the Libyan banking application*, unpublished Master Thesis, Academy of Graduate Studies, Tripoli, Libya, 2011.
- [31] Wang YD, Emurian HH. An overview of online trust: Concepts, elements, and implications. *Computers in human behavior*, 2005; 21:105-125.
- [32] Akhter F, Hobbs D, Maamar Z. A fuzzy logic-based system for assessing the level of business-to-consumer (B2C) trust in electronic commerce. *Expert Systems with Applications*, 2005; 28:623-628.
- [33] Corbitt BJ, Thanasankit T, Yi H. Trust and e-commerce: a study of consumer perceptions. *Electronic commerce research and applications*, 2003; 2:203-215.
- [34] A Ibrahim, Impediments to electronic publishing institutions Arab trade and distribution application, *Journal of Business Studies and Research*, Faculty of Commerce, Banha University, 2002, 932-881.