E-Commerce Reality and Controversial Issue

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ABSTRACT

Day by day, the number of companies and people engaged in E-commerce is increased as a result of the significant benefits provided by this commerce for consumers, companies and society. Achieving privacy and security of all E-commerce partners helps to overcome the obstacles and remove many of the concerns especially that related to financial transactions security on the Internet. This paper aims to explore the E-commerce reality and discuss the main issues that have received and is still receiving a lot of controversy, and that have to be considered by different parties to develop and promote such commerce. It also demonstrates the future of E-commerce in spite of these issues challenges. It is obvious that E-commerce will continue to grow in spite of barriers and rising threats.

Key words: E-Commerce, Privacy, Security, Trust

INTRODUCTION

Information technology or the information industry in the era of computing and communication created the real presence of E-commerce as it depends on computing and communication and the various technical means for the implementation and management of commercial activities. The electronic interchange of data (EDI) is considered as an early stage of E-commerce development. In 1960s, a collaborative effort between industry groups yielded the first attempt to develop common formats for electronic data, which was only for purchase, transport, and finance. In late 1970s, global standards for the electronic data interchange have been set, and then have been well developed in early 1990 to integrate information among large organization parts, so, all business parties can share information. EDI was limited because it was conducted over a private and costly network (Sengupta, Mazumdar, & Barik, 2005; Tassabehji, 2003). In August 1994, the first business transactions were conducted across the internet in USA (Feigenbaum, Parkes, & Pennock, 2009). This is paved the way to use the Internet for exchanging goods, services and information. The Internet has changed the business world, and has contributed to achieve the actual existence of E-commerce. The Internet value, as a strategic tool for business, cannot be conceived or measured. The Internet provides access for all business parties to world markets, and serves a communications link with stakeholders all over the year (Ariguzo, Mallach, & White, 2006). With the Internet emergence, the E-commerce term includes: **1)** Physical goods and information trading **2)** Normal trade steps, such as online marketing, payment and delivery support **3)** Providing electronic services such as after sales services and online legal advice.

E-commerce organizations are divided into three types; the first one is brick-and-mortar organizations, which use only physical channels to deal with consumers in the real world. The second type is the click-and-mortar organizations that combined E-commerce with the physical channels. The third type is the organizations dealing with E-commerce only (Olsberg & Perrakoski, 2005). E-commerce continues to grow, and it becomes the reliable and favored mean to trade goods. The objective of this paper is to explore the reality and future of E-commerce and highlight drivers, limitations and show the main issues in E-commerce that have to be considered by different parties to develop and promote such commerce. The rest of this paper is organized as follows. Section 2 provides an overview on E-commerce reality; its strategy drivers, challenges, threats, benefits and limitations. Section 3 addresses the controversial issues that have to be considered by different parties to develop and promote such commerce. Section 4 discusses and analyzes the issues

significance and policies role, current E-commerce size and future expectations. Finally, the conclusion is in section 5.

2. E-COMMERCE REALITY

2.1. Strategy and Drivers

Strategy is planning for the future to achieve the organization goals. For profit organization, the planning aims to increase the share of the organization at the expense of competitors, while for nonprofit organization, it aims to increase the value of the organization from the point of view of organization services beneficiaries. According to Porter (1996), strategy is at general management core, and it is the compatibility creation between the various activities of the company's. He indicated that the strategy core is doing the activities in different way from rivals or doing different activities (Porter, 1996). E-commerce needs strategies because its implementation is complex, hence, strategies are important to track environments change, understand and achieve customer needs (Olsberg & Perrakoski, 2005). Formulating the strategy aims to make a quantum leap for the organization to reach the desired future situation. Hambrick and Fredrickson (2001) focused on the strategy design, thus, they identified five elements that can compose strategy as follows:

1-Arenas   where to be active?
2-Vehicles   how to get there?
3-Differentiators   how to win in market place?
4-Staging   what is the speed to move?
5-Economic logic   how to get the returns?

They indicated that the strategy is not simply these choices, but the strategy is the integration of these elements as a cohesive whole. In addition, they emphasized that any business requires a sound strategy not just a strategy. Efraim et al. (2002) define three stages including the activities forming a sound strategy (Efraim et al., 2002):

1-Forecasting: scan economic, technological, and political environments

2-Resource allocation: human, financial, technology and knowledge

3-Core competence: combination between organizations resources and experiences.

The key drivers of E-commerce indicate the development stage of E-commerce in each country. These drivers can be measured by specific factors that can explain why E-commerce is better in some countries than others. Most of the researchers addressed several factors separately, but Tassabehji (2003) classified these factors as follows:

•Technological factors: the telecommunications infrastructure development level, which enables business and consumers to access the new technology (ISP, ADSL, ISDN).
•Political factors: the government role in creating government rules and regulations, initiatives and funds to assist using E-commerce and information technology.
•Social factors: IT education and training progress level, which can assist buyers and manpower to realized and use the new technology. Economic factors: includes Economic growth, Average income, Technology cost (hardware and software), Cost of access to telecommunications infrastructure, Commercial infrastructure (banking sector; payment systems).

2.2. Benefits and Limitations of E-Commerce

The great facilities offered by the Internet have helped to develop and increase E-commerce provided many benefits to consumers, organizations and society as a whole. These benefits (Anckar, Carlsson, & Walden, 2003; Kuzic, Fisher, & Scollary, 2002; Olsberg & Perrakoski, 2005; Tassabehji, 2003) can be summarized in Table 1 as follows:

Table.1 E-Commerce Benefits

To Organizations	To Consumers	To Society
International marketplace	24 hours access	Enables more working practices
Operational cost savings	More choices for purchasing	Connects people
Digitization of products and processes	New markets and Price comparisons	Facilitates delivery of public services
New business relationships	Improved delivery processes	
Mass customization	An environment of competition	
Inventories reduction	Convenient shopping	
Lower telecommunications cost	Access to extensive information	
More consumers	Time saving	
Business availability 24 hours		
Business efficiency		

Olsberg and Perrakoski (2005) classified the E-commerce limitations into technical (communication band width, security, E-commerce software incompatibility with operating system and other applications), and non-technical (privacy, Internet access difficulty and expense, consumers will to touch the products, loss in the social interaction) (Olsberg & Perrakoski, 2005). Tassabehji (2003) and Anchar et al. (2003) identified many limitations to organizations, consumers, and society. These limitations are summarized in Table 2 (Anckar et al., 2003; Tassabehji, 2003).

Table.2 E-Commerce Limitations

To Organizations	To Consumers	To Society
Lack of effective security solutions	More capital cost for computing equipment	Less human interaction since they interact electronically.
Try to cope with fast evolving and developing technology	Technical knowledge for equipment and Internet navigation	Social division between technical and non-technical people who become unable to get good jobs, which leads impact the social stability
Under pressure to gain new opportunities	Cost for Internet access	Dependence on power, IT skills and communications, which are scarce or underdeveloped especially in the developing countries.
Encounter great competition from local and global competitors	Ensure personal data security and privacy	Wasted resources due to continuously changing the old technology (soft and hard ware).
Compatibility problems between old and new technology	Electronic processes replace physical contact and relationships	Difficult to protect the Internet completely against crimes.
	Lack of trust in virtual sellers	
	Product Quality evaluation	
	Lack of enjoyment in shopping	

2.3. E-Commerce Challenges

There are many challenges that have to be considered when developing website such as market/ business sector, products/ services, value chain, innovation and technology, customer focus, role of government, managerial issues, administrative/ hierarchical structure, cost/ performance and risk/ reward (Ariguzo et al., 2006). Kuzic et al. (2002) addressed many challenges to be considered when developing E-commerce websites; (1) Technological challenges (Security, Web site issues, Technology issues including costs, software, and infrastructure), (2) Managerial challenges (People and organizational issues, Management support), and (3) Business challenges (Customer service, Legal issues) (Kuzic et al., 2002).

2.4. E-Commerce Threats

Conducting E-commerce via the Internet as a medium for the exchange of money, information, and various products and services, makes it vulnerable to many external risks that emerged and spread by the Internet for the purpose of surveillance, intrusion and penetration. In addition to these threats, the organizations suffer from internal threats caused by technology fault, employee's errors or disgruntled employees, which can be more dangerous than the external threats. Main threats (Sengupta et al., 2005) that face E-commerce include:

1-Malicious Code (viruses, worm, Trojan, etc)
2-Phishing and Identity Theft
3-Hacking and Cyber vandalism
4-Credit Card Fraud
5-Spoofing (Pharming) and Spam (Junk) Web Sites
6-Denial of service (DoS) attack
7-Port scanning
8-Insider Company threats (such as disgruntle employee).

Most of these threats are unauthorized actions and cause to data unauthorized disclosure, data alteration and theft.

3. CONTROVERSIAL ISSUES IN E-COMMERCE

3.1 Security Issues

The E-commerce encounters challenges in terms of high security risks due to open nature of the Internet and increasing technical knowledge, which enable the criminals to develop more sophisticated means to perform illegal attacks. Security is defined as "the protection of data against accidental or intentional disclosure to unauthorized persons, or unauthorized modifications or destruction" (Yazdanifard, Sadeghzadeh, & Ojaroudi, 2010). In E-commerce, security is very significant to achieve E-commerce success. High security's risks belong to E-commerce are laws and regulations defect, systems and technology flaw and the Internet (Yazdanifard et al., 2010). They investigated in his survey study the concerns of privacy and security of online IT users while shopping on the Internet, or using of e-mails. The findings showed that most of users are seriously concern about their privacy and security, and they considered them as the main barriers for E-commerce. Yazdanifard et al., (2010) considered that E-commerce security and privacy is an important issue of E-commerce that can impede the E-commerce growth and development. They concluded that the

key solution to solve the problem and improve customers trust is to construct a highly secured network that assures confidentiality and safety, and promote the present security measures in order to attract and retain customers (Yazdanifard et al., 2010).

In fact there is no effective solution against intrusion, in spite of the efforts of security society to develop detecting & preventing products. Hacker can find the flaws of the open system often, and penetrate the E-commerce network at any time, and cause damage. Sengupta et al., (2005) indicated that security solutions are not enough to secure E-commerce. Understanding the requirement of business and good management of information security resources of organization is needed to ensure optimal security (Sengupta et al., 2005).

3.2. Privacy Issues

Privacy is an old concept, but their implementation in the field of E-commerce is still new (Smith & Shao, 2007). It becomes a main part of E-commerce strategy, and providing better privacy protection leads to increase consumer trust, spend and loyalty. In order to perform E-commerce activities, a certain amount of personal information is required such as a personal bank account number or an address. Many people are reluctant to give this information for fear of disclosing by others and exploit for illegal purposes. Grandinetti 1996 and Martin 1973 define Privacy as "the rights of individuals and organizations to determine for themselves when, how and to what extent information about them is to be transmitted to others" (Yazdanifard et al., 2010). This means that only authorized person can access the information. Privacy is defined as an act of trade between two parties where exchange is negotiated on a set of conditions and satisfaction of both parties, upon development of trust between the parties. He stated that companies have to show the consumers the procedures for protecting their privacy to gain their confidence. In addition companies must take the right security measures to protect the consumer's information during storage and communication to enhance their trust in the services provided to them (Yazdanifard et al., 2010).

Head and Yuan (2001) developed a theoretical framework for privacy protection in e- commerce to better understand the main roles and responsibilities of various parties concerning privacy violation and protection. They identified four major parties involved in privacy protection: 1) the privacy subject, the consumer; 2) the collector, the company website; 3) the illegal user or violator and 4) the privacy protector, who protects the subject rights by deterring the violator and developing guidelines for the collector. They indicated that it is very important to protect privacy in e-marketplace by analyzing the activities and the flow of information among various privacy parties (M. Head & Yuan, 2001). Ackerman and Davis (2003) stated that privacy and security are significant issues for both E-commerce and consumers. Consumers are concerned on their financial data, and E-commerce sites are concerned on the financial losses resulting from the penetration and uncover the secrets of customers and the company. They emphasized on the organizational policies in supporting security and privacy achievement (Ackerman & Davis Jr, 2003).

Protecting consumer's privacy is significant and helpful to both consumers and E-commerce (Smith & Shao, 2007). Protecting the consumer's information privacy in E-commerce is not easy, since this privacy includes security problems of the stored and transmitted information. These problems are technical and non-technical such as laws and regulations, strategy measures, commercial idea and others (Meng et al., 2009). Developing new standards to secure consumer's privacy is significant for growing E-commerce, and adequate laws have to be enacted to guarantee consumer privacy. Consumers, companies and the government should cooperate to ensure the protection of consumer's privacy rights (Kraft & Kakar, 2009).

3.3 Trust Issues

Trust can be defined as "the willingness of a party to be vulnerable to the actions of another party, based on the expectation that the other will perform a particular action important to the trust or, irrespective of the ability to monitor or control that other party" (Pennanen, Kaapu, & Paakki, 2006). In E-commerce, trust is difficult to be developed, and even a critical key for success than in traditional commerce. It is a long-term assumption that may be difficult to build and easy to collapse (M. M. Head & Hassanein, 2002). Trust is an essential prerequisite for establishing and maintaining customer relationships. Marchany and Tront (2002) stated that news and stories of attacks on E-commerce sites and the violations of data privacy lead to loss trust in E-commerce. The loss of trust in E-commerce over the Internet may cause abandonment of a lot of good customers for use of the Internet and return to exercise traditional business (Marchany & Tront, 2002). Baig et al., (2011) indicated that trust on online sellers has a significant role and it can affect the E-commerce adoption positively (Baig et al., 2011). Gaining customer's trust is the obsession of E-commerce organizations to retain their markets share and enhance their growth. Customer's trust can be achieved by developing privacy policies that ensure security, and secure the consumer's information, in addition to legislation, regulation, and technical solutions (Kraft & Kakar, 2009). People trust in a business can be developed through their former experience, or through advice about that business from trusted party or other consumers (Shepherd, Dhonde, & Watters, 2001). Head and Hassanein (2002) emphasized on trusted third-parties assurances as one of methods that can be used to ensure consumers trust (M. M. Head & Hassanein, 2002), while Shepherd et al., (2001) stated that seals of approval and trust marks are not enough to ensure consumer trust unless they supported by label from trusted third party (Shepherd et al., 2001). Building trust with customers is very important to encourage them doing their business online. This process is not easy, and requires great efforts from organizations to create a new Internet culture based on security, privacy and trust.

3.4 Legal Issues

At the heart of E-commerce is the need for parties to be able to form valid and legally binding contracts online. Basic questions relate to how e-contracts can be formed, performed, and enforced as parties replace paper documents with electronic equivalents. Another legal issue is how to solve the cyber-disputes between E-commerce partners, according to

which laws and where. Other countries laws should be discussed and global standard policies should be adopted (Kraft & Kakar, 2009).

3.5 Intellectual Property Rights (IPR)

Intellectual property rights are rights approved and awarded by government legally to protect individual's efforts and creativity. Figure 1 shows some examples that covered by intellectual property rights. This issue is one of the most important consideration and big challenge in E-commerce since the Internet is an open network beyond the limits of time and place. The laws that protect these rights in the physical world are not capable to safeguard them efficiently via the virtual world. E-commerce companies must dedicate their efforts to meet the standards of intellectual property including the needs of originality in their work, to prevent any acts of violation of third parties who have similar intellectual property rights.
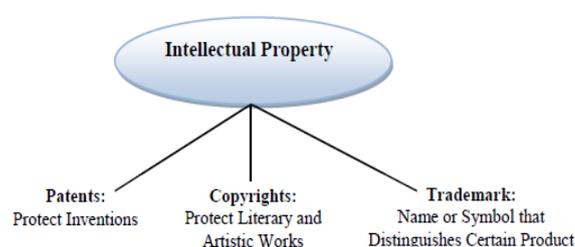

Figure.1 Entities Examples Covered Under IPR

3.6 Taxation

The large growth of E-commerce drew the attention of tax authorities in the world that realized the potential of earning large tax revenues from these sources. These authorities taken into consideration the tax implications of E-commerce transactions, and begin to develop mechanisms to collect taxes on these transactions. In fact, there is no precise estimation of the E-commerce sales, which makes it almost impossible to determine the taxes. Increased business through E-commerce stimulates the tax authorities to determine how to collect their share from E-commerce sales via the internet (Ariguzo et al., 2006).

3.7 Content Regulations

The Internet provides a quick, effective way to disseminate the information without restrictions of content, which leads to different concerns. While traditionally, there are many restrictions placed on the content of distributed information, the challenge is to put similar restrictions to regulate the information content on the Internet. E-commerce companies must commit to respect the different cultural and religious issues, national interests and global standards of ethics and morals. Company web site contents must be clear, low teach and contain necessary details on products and match cultures preferences (Ferreira, 2002); otherwise, the buyers will leave the company website.

3.8 Cultural Issues

The literature contains many definitions of culture. Solomon (2011) defined the culture as "the accumulation of shared meaning, rituals, norms, and traditions among the

members of an organization or society''(Solomon, 2011). Wasson (1975) defined it as an attitudes set or all types of behavior norms, while De Mooij (2010) described it as the glue that connects people with each other (De Mooij, 2010). In general, culture can be defined as the way of how people live (Baig et al., 2011). The culture has a great impact on the human behaviors such as his buying behavior, which represents a great challenge in spreading of E-commerce to large audiences via the Internet. Baig et al. (2011) indicated that culture has a direct effect on the consumer buying behavior across the Internet, and an indirect effect through E-commerce beliefs, moreover, the E-commerce websites design should take into consideration the cultural differences (Baig et al., 2011).

It is important to realize that the websites contents and display information are not effective for all culture, thus, companies should consider products localization to ensure their survival in the market competition (Ferreira, 2002).

Bohn (2005) conducted a cross-cultural study to explore the factors that affect individuals to buy or avoid buying online, and to identify the role of these factors in different cultures. The study confirmed the literature about the factors that affect the individual buying behavior positively in different importance level such as time savings, better prices, convenience and availability. But for all cultures, better prices are the significant factors affecting E-commerce adoption. The study confirmed also that privacy/security, credit card concerns; lack of touching the product, lack of interaction and lack of customer service are the factors that affect E-commerce adoption negatively. But it emphasized on the privacy and security as the significant factors that impede individuals to adopt E-commerce (Bohn, 2005).

4. DISCUSSION AND ANALYSIS

4.1 Issues Significance and Policies Role

Security, trust and privacy are critical and major factors for both E-commerce consumers and sites, but this does not diminish the importance of the rest issues for the expansion and success of E-commerce. In fact, the absence of one of these factors greatly can affect the success of E-commerce, but the absence of one of the other factors may have some effect but does not hinder the process of E-commerce.

In fact, all of these factors can be applied, and can play an effective role in the success of E-commerce in presence of effective policies and procedures that clarify the responsibility of all parties involved in the process of E-commerce. Policies can manage, control and secure E-commerce process. They identify the obligations and duties of all parties and define the procedures required to ensure E-commerce process continuity and success, and at the same time override the barriers. These policies should be combined with technology measures to ensure E-commerce success. While the policy controls and directs the processes and actions, the procedure defines and describes the policy implementation.

4.2 Current E-Commerce Size

Despite all the controversial issues in E-commerce, which represents determinants and barriers against its spread, the general guidelines indicate a steady expansion, where its

financial revenue exceeded what was anticipated. The revenues are expected to increase significantly within the next few years because it became inevitable issue that imposes itself easily and efficiently.

The Internet users are increasing rapidly. Nearly 27% of the world population now uses the internet, and the number will reach almost 38% by 2015. More than 85% of the world's online populations use the internet for marketing. The experts expect E-commerce type business to consumer (excluding travel) to increase from $572 billion in 2010 to more than $1 trillion by 2014, with about 35% of this coming from Europe. The total worldwide E-commerce will reach $16 trillion in 2013, when global business-to-business, travel and consumer transactions are added.

4.3 E-Commerce Future

The future of E-commerce is promising because it became a reality, and its potentials and prospects cannot be predicted despite the challenges and escalating threats due to:

1-The Internet is the appropriate and efficient medium for practicing E-commerce, where it saves time, expenses and efforts, in addition, it offers different options of products, services and prices.

2-The development of trade is linked to the evolution of the Internet, which is progressing rapidly.

3-The rapid increase of Internet users lead to rapid spread of E-commerce and increase its size.

4-The global trends impose the practice of E-commerce, where most of the companies in developed countries and many in developing countries are moving their business to E-commerce as result of its benefits.

5-E-commerce helps to create a competition environment between small and medium companies and large enterprises.

6- The ability of E-commerce to enhance the performance and processes efficiency of organizations.

7-The global trends are moving towards the development of laws and regulations to protect E-commerce processes, the confidentiality and the privacy of consumers' information.

5. CONCLUSION

Many of the indicators promise a bright future for E-commerce. In essence, E-commerce has become a reality, and its prospects and capabilities do not stop at an end. In E-commerce, security, trust and privacy are very significant to achieve E-commerce success. The most successful E-commerce enterprises are these who take the right measures and policies to ensure the business security and the consumer's privacy very well.

The E-commerce encounters challenges in terms of high security risks due to open nature of the Internet and increasing technical knowledge. Understanding the requirement of business and good management of information security resources of organization is needed to ensure optimal security. Consumers, companies and the governments should cooperate to ensure the protection of consumer's privacy rights.

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