

Perceived Benefits of E-Commerce among Manufacturing and Merchandising Companies

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Abstract

In today's economy, no company considers its operations without its virtual presence on internet. Therefore, companies are considering the efficiency and effectiveness of their implemented internet facilities. The main goal of this research is to examine the perceptions of manufacturing and merchandising companies' employees in Bosnia and Herzegovina (B&H) about the usefulness of Electronic Commerce (E-Commerce). Survey was developed based on five variables derived from carefully analyzed literature. Two hundred respondents from both manufacturing and merchandising companies were surveyed, and they generally agreed that E-Commerce can be a useful tool to make product available, attractive and suitable to sell it online. This research may be interesting that future studies can extend their operations according to the findings of the study.

Keywords: *Electronic Commerce, Bosnia and Herzegovina, Survey*

Introduction

New terms and understandings such as e-business, e-enterprise or e-commerce have emerged in knowledge based economy which is highly influenced by development of new technologies, especially internet. According to Cox & Dale (2001), E-business or e-enterprise is the term used to define a business that has a virtual presence or Web site on the Internet either to promote brand awareness or enable e-commerce. Liu and Arnett (2000) define electronic commerce as "a way of conducting business by companies and customers performing electronic transactions through computer networks".

Damanpour (2001) described “disintermediation” as one of the inseparable terms of new century in order to remove the boundaries between the firm and the customers, and stressed that it is a perfect time for cooperation, integration, and the consideration of customer loyalty, profitability and competition advantage.

Lack of reliable research about perceptions of e-commerce in Bosnia and Herzegovina with changing economy stimulates conducting this research in order to provide insights about benefits of e-commerce from the perspective of Bosnian manufacturing and merchandising companies. Therefore, it aims to be useful for both researchers and for potential future investors.

The fundamental objective of this research is to examine the perceptions of employees in manufacturing and merchandising companies of Bosnia and Herzegovina about their e-commerce benefits. Since Bosnia and Herzegovina is a relatively small country exhausted by war between 1991 and 1995, with a struggling economy and shaky political situation, the perception of Bosnian companies towards usefulness of e-commerce is important.

In this paper, a survey study is preferred as the data collection method. The survey was responded by 200 respondents.

In the remaining part of this paper, the literature review based on ten articles related to this issue is presented together with research model constructed in accordance with literature review. Also, summary of literature review is provided to understand the issue. Then, research methodology and every variable are explained in detail. All results are presented through adequate tables and also with the explanation of those tables. After discussion of results, the paper is concluded.

Literature review

Liu and Arnett (2000) define electronic commerce as “a way of conducting business by companies and customers performing electronic transactions through computer networks”. According to Laudon and Trevor (2003), the term electronic commerce (e-commerce) refers to a set of technology that is utilized to support online business transactions not only between the organizations and their direct end customers, but also between the organizations and others within their business network(s).

Even in 1994, e-commerce was a subject of research by Schmid (1994) who was briefly portraying the status quo of electronic markets in tourism, and in his article entitled “Electronic markets in tourism”, he discussed the foreseen technological developments, as well as possible architectures for the future tourism market and moreover their effect on the tourism industry.

In year 2000, Michael Fisher discussed e-commerce as a change that is not always good for the company. At that point of time, adoption of e-commerce is changed for most of the companies, and it was not an easy decision. His work may be helpful when it comes to understanding the ways in which e-commerce should contribute to the vision of the company. The author concluded that there are specific factors under which e-commerce is profitable and productive, and managers need to recognize these factors. If e-commerce does not support company's strategy, it is useless in that case (Fisher, 2000).

Cox and Dale (2001) argued that the lack of human interaction during the Web site experience means that determinants such as competence, courtesy, cleanliness, comfort, friendliness, helpfulness, care, commitment, and flexibility are not particularly relevant in e-commerce. On the other hand, they suggested the determinants such as accessibility, communication, credibility, understanding, appearance, and availability as equally applicable to e-commerce

as they are in physical services. Therefore, their paper argues the need for further research to identify suitable determinants for the e-commerce operating environment (Cox & Dale, 2011).

On the other hand, Khanh and Jay (2002), through literature review, analyzed industry examples of web-based businesses and offered a detailed analysis of various factors that influence the market success of an electronic service retailer and provides specific managerial implications for practitioners.

As e-commerce came along with technology development, Davis' (1989) Technology Acceptance Model (TAM) has been widely considered as an inseparable model when discussing this issue. Accordingly, Shin-Ping, Dennis, Chang and Kappelman (2003) applied TAM (Technology Acceptance Model) to identify the components of usefulness and ease of use to predict user attitude towards usage of standard user interface. This provided insight not only into usefulness, but also into ease of use of e-commerce sites for developers, practitioners and researchers (Shing-Ping, Dennis, Chang, & Leon, 2003).

As results of e-commerce are obvious, researchers are empirically testing its influence on the companies. One of those examples is the research of Ting-Peng, Cheng-Yi and Deng-Neng (2004) which reported findings on the effect of electronic commerce models and industrial characteristics on firm performance. Their results indicated that both industrial characteristics and e-commerce models have significant effects on firm performance (Ting-Peng, Cheng-Yi, & Deng-Neng, 2004).

Khairul and Maisarah (2005) made a research about e-commerce adoption among Malaysian public companies. They examined the adoption rates of web site and e-commerce technology by all 562 Malaysian public listed companies. According to the results, only 62 percent (351) of the 562 companies were found to have operable web sites; and 96 percent (336) of 351 companies were solely informational, leaving only 4 percent (15) that were equipped for e-commerce transactions. The authors concluded that having a web site would provide a major advantage in the marketplace for a public listed company (Khairul & Maisarah, 2005).

Yingli Wang, Andrew Potter and Mohamed Naim (2007) analyzed electronic marketplaces for tailored logistics. They found that the ELM (Electronic Logistics Marketplace) business model is still at its infancy stage but with huge potential for growth in optimizing supply chain networks, and enabling the provision of tailored logistics. In order to understand basic ELM model, it is important to understand the components of EM (Electronic Marketplace). Yingli, Andrew, & Mohamed (2007) used definition of Bakos (1991) who described EM as "an inter-organizational system (IOS) that allows the participating buyers and sellers to exchange information about price and product offerings". ELM proposes the interrelationships among "technology providers", "shippers" and "carriers". Their efficient/effective work results "reliable delivery" of the products to the customers. Accordingly, Yingli et al. (2007) concluded that ELM is a specific EM model which acts as an intermediary facilitating the exchange of logistics services (Yingli, Andrew, & Mohamed, 2007).

Since feedback of customers about the level of their satisfaction is a best indicator for company success, Qin Su, Zhao Li, Yong-tao Song and Ting Chen (2006) explored the structure of the concept of customer-perceived quality (CPQ) in electronic commerce. They found that online consumers give more importance to quality attributes associated with outcome quality and consumer service than to attributes associated with web transactions (Qin, Zhao, Yong-tao, & Ting, 2008).

Since the aim of all businesses is to produce more user friendly products compared to their competitors, Shin-Ping Tucker (2008) assumed that the future of economic competitiveness for most enterprises relies on the entrance and active participation in the e-commerce market. Tucker (2008) wanted to provide an implementation method through an artificial intelligence (AI) user interface with a standard navigation menu, called E-menu, to increase the usability of e-commerce. The results of his survey study were promising and indicated that e-commerce users accept the idea of the E-menu system (Shin-Ping, 2008).

Research Methodology

Research Model and Components

After going through literature review given above, it is obvious that there are strong interrelationships between E-commerce adoption and electronic marketplace. Also relationships between E-commerce adoption and Consumer-Perceived Quality and between E-commerce adoption and Organizational benefits are obvious. Additionally, E-commerce technology supports E-commerce adoption. All mentioned relationships are visible in the proposed model based on the literature review (see

Figure 1 - Proposed Research Model).

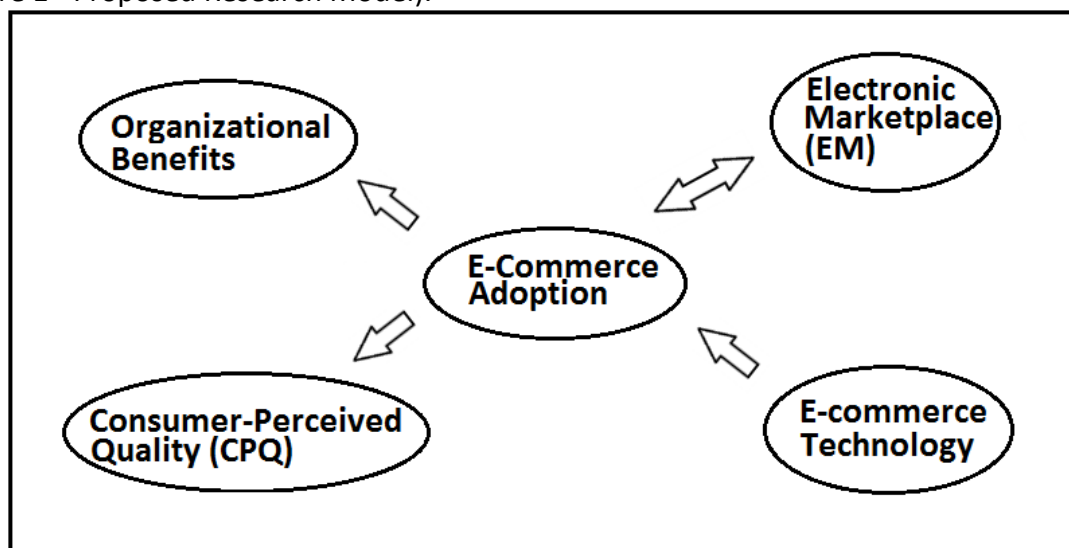


Figure 1 - Proposed Research Model

While developing variables and survey items, a variety of scientific articles was considered. In order to get closer insight into E-commerce's benefits from the perspective of merchandising and manufacturing companies in Bosnia and Herzegovina, five variables including E-commerce Technology, Consumer-Perceived Quality (CPQ), Electronic Marketplace (EM), E-Commerce Adoption and Organizational Benefits were identified based on the literature reviewed. In addition, for each variable, four measuring items were identified and based on those measuring items, twenty four survey questions are prepared.

E-commerce Technology refers to a set of technology used to support online business transactions not only between the organizations and their direct end customers, but also between the organizations and others within their business network(s) (Laudon & Traver, 2003). Accordingly, technology is necessary as a support in e-commerce adoption, and therefore, it is inseparable of e-commerce. E-commerce Technology includes the questions

about the level of organizational e-commerce adoption and employee perceptions about the role of technology in e-commerce adoption.

Consumer-Perceived Quality (CPQ) was first defined by Gronroos (1984) as the confirmation of a consumer's expectations of service compared with the customer's perception of the actual service. The main purpose of this variable is to give answers about the usefulness of e-commerce from the perspectives of employees about attracting new customers and providing better services.

Electronic Marketplace (EM) includes web-based systems designed to enable automated transaction, trading or collaboration between business partners (Daniel, Hoxmeier, White & Smart, 2004). This is core and crucial when it comes to e-commerce adoption. Employees' opinion about EM and its potential for business development indicates their perceptions about e-commerce.

E-Commerce Adoption is considered as the decision to use electronic commerce to conduct business (Rogers, 1995). E-commerce may mean a huge change for an organization, and it is not always feasible to implement it. Through this variable, surveyed participants give important insights for their understanding of reasons and initiatives of e-commerce implementation.

Organizational Benefits includes accessing to a wider range of markets, greater potential for partnerships, flexibility in administration and communication, information, improved customer services, updating the information, lower transaction costs, differentiation of products and services/customization, ability to enter supply chain for larger companies (Rosemary & Craig, 2004). Therefore, this variable aims to measure employees' perceptions about the achieved organizational benefits as a result of e-commerce applications.

Data and Methodology

Data was collected from both private and public organizations in different industries located in Bosnia and Herzegovina. The respondents include highly ranked employees such as CEOs, managers, directors, supervisors, and from other levels of employees including sales managers, marketing managers, project managers, IT experts, engineers etc.

The surveys were distributed both online and personally. Online version of the survey was developed, and its link was sent via e-mail to potential respondents. Total number of filled surveys, considering both online and hard copy versions is 200.

Collected data is numerical except demographics part which is categorical. Seven point Likert scale was preferred in order to test the agreements of the respondents on six variables through thirty questions. The collected data was then inserted into an excel spreadsheet and analyzed descriptively.

Results

Demographics

Demographics information includes respondents' department, positions within the department, experience in given position, education levels, gender and age. The survey is responded by 90 males and 110 females. It is observed that most of the surveyed people have high school degree (123/200).

Survey Results

According to Table 1, the respondents report that their organizations use e-commerce technology to develop new kinds of information-intensive services, used e-commerce technology increases the network among the employees and their information exchange through the world. Moreover, it also makes contributions for marketing and sales functions of the companies.

Table 1 –
E-commerce Technology

E-commerce Technology	Mean	Std. Deviation
<i>My organization use e-commerce technology to develop new kinds of information-intensive services</i>	5.3	0.93
<i>The use of e-commerce technology provides efficient networking for people of my organization</i>	5.5	1.05
<i>E-commerce technology provide global information exchange of the employees</i>	5.4	0.95
<i>Internet enhances selling products and services on-line, sharing information with potential customers, prospects, and business partners</i>	5.6	1.12
Average	5.5	1.01

According to the results, respondents believe that e-commerce makes the products more attractive, accessible, and easy to buy for the customers; however, the customers still prefer to see the product before buying (Table 2).

Table 2 –
Consumer-Perceived Quality (CPQ)

Consumer-Perceived Quality (CPQ)	Mean	Std. Deviation
<i>Making products available online and providing electronic services makes them more attractive for customers</i>	5.1	1.26
<i>Customers have increased access to products and they have more alternatives when shopping</i>	5.5	1.04
<i>Buying products using e-commerce is easier and simpler for customers</i>	5.4	1.06
<i>Customers are suspicious while buying online, and they prefer to see product before buying</i>	5.3	1.35
Average	5.3	1.18

According to the findings, respondents' agreed with the statements about importance of EM's role for business' success. They believe that e-commerce enhances the intermediation, consumer interaction and positive influence, provides a new market place, and saves money and time (Table 3).

Table 3 –
Electronic Marketplace (EM)

Electronic Marketplace (EM)	Mean	Std. Deviation
<i>E-commerce creates opportunities for intermediation</i>	5.7	0.91
<i>E-commerce redefined business processes and create a new marketplace for consumers</i>	5.5	1.04
<i>In EM firms and consumers interact and positively influence each other</i>	5.4	1.12
<i>EM is more efficient in terms of both. money and time</i>	5.6	1.05
Average	5.5	1.03

Respondents agree that their companies adopted E-Commerce in order to enhance their services and competitiveness. Accordingly, the adoption changed the industries and the market places by positively influencing the prices and the production (Table 4).

Table 4 –
E-Commerce Adoption

E-Commerce Adoption	Mean	Std. Deviation
<i>Companies in my country adopt e-commerce in order to improve their ability to serve consumers better and to become more competitive in the marketplace</i>	5.7	0.97
<i>Adoption of e-commerce influenced industries in my country and structure of the markets within them</i>	5.6	1.06
<i>E-commerce adoption in my organization positively influenced pricing products</i>	5.6	1.11
<i>E-commerce adoption positively support production of goods in my country</i>	5.3	1.27
Average	5.5	1.10

According to the results, the employees perceive that e-commerce provides benefits for both companies and customers. They agree that customers get better information about the products and services and become more aware of available alternatives. It is also possible to conclude that respondents agreed that E-Commerce brings specific benefits to the companies by enhancing electronic auditing, information exchange among business partners and processing/storing large amount of market information (Table 5).

Table 5 –
E-Commerce Benefits

E-Commerce Benefits	Mean	Std. Deviation
<i>E-commerce provides better information about products/services for customers</i>	5.5	1.13
<i>E-commerce increased customer's awareness of products/services' alternatives</i>	5.4	1.18
<i>E-commerce facilitated electronic auditing and provided easy way to get insight into the market</i>	5.5	1.17
<i>E-commerce facilitated information exchange among business partners</i>	5.5	1.16
<i>E-commerce enable companies to process and store large amounts of important market related information</i>	5.7	1.07
Average	5.5	1.14

Conclusion

This research was quite successful in terms of its provision of important insights into perceptions of employees of manufacturing and merchandising companies in Bosnia & Herzegovina. Results indicate that E-Commerce is perceived to be adopted in BiH. The companies are observed to have necessary infrastructure to provide their products and services online and the customers are believed to have qualified services. Therefore, a new marketplace has emerged. This adoption provides benefits for both companies and customers.

Table 6 –
Overall variables

Variable	Mean	Std. Deviation
E-commerce Technology	5.5	1.01
Consumer-Perceived Quality (CPQ)	5.3	1.18
Electronic Marketplace (EM)	5.5	1.03
E-Commerce Adoption	5.5	1.10
E-Commerce Benefits	5.5	1.14
Average	5.46	1.09

As Michael Fisher (2000) discussed e-commerce as a change, it influences both the companies and the customers by influencing buying behavior, therefore the ways of providing products/services and changing the marketplace. At that point of time, adoption of e-commerce is a change for most of the companies, and it is not an easy decision.

This study is expected to be helpful by providing the perceptions of employees coming from various companies, departments and positions within those departments. Because of the lack of available research about this issue in Bosnia, this research presents a very unique set of information. Also, instead of one specific industry, this research evaluated the diverse industries in B&H. Therefore, future researches can go more deeply into the issue and analyse similarly a specific industry. Also, similar studies are good opportunity for domestic

companies in order to evaluate different segments of their companies, and to identify specific problems.

When we consider Bosnia as a country still in developing process, this work is helpful when it comes to understanding the ways in which e-commerce should contribute to the vision of the company. We mainly suggest Bosnian companies identifying beneficial e-commerce practices and segments based on their strategies. It may be beneficial to conduct researches of same type in Bosnia and Herzegovina every year, and make time line in order to show progress empirically. As aim of all businesses is to launch products which are more user friendly compared to their competitors, Shin-Ping Tucker (2008) perceives the future of economic competitiveness as highly reliable on entrance and active participation in the e-commerce market. Accordingly, awareness of e-commerce importance, as a potential for competitive advantage, influences business performance. These need to be improved among employees of Bosnian companies.

This research provided respondents to increase their awareness about importance of e-commerce, and make them focused more on the discussed issues. Gaining competitive advantage through appropriate usage of e-commerce brings benefits to both companies and customers. The main benefit of this paper for research is that it can be springboard for further scientific research.

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