



# An investigation of the impact of effective factors on the success of e-commerce in small- and medium-sized companies



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## ABSTRACT

Companies and organizations have to attract and retain customers so that they can survive. Electronic-commerce (e-commerce) is regarded as an appropriate strategy for marketing, selling and integrating online services which can play a significant role in identifying, obtaining and maintaining customers. E-commerce optimizes and enhances the relationship and communications between the organization, producers, distributors and customers. However, it should be noted that success in e-commerce depends upon determining effective factors in e-commerce. There is a set of effective inside organizational and outside organizational factors in e-commerce which should be taken into consideration. In this study, a model and framework was proposed for specifying the effective factors on e-commerce success. Structural equations with partial least squares (PLS- SEM) was used to investigate and experiment the proposed model. The obtained results based on the collected data from 180 staff employees of the Post Bank<sup>1</sup> in Eastern and Western Azerbaijan indicated that customer satisfaction, the amount of costs, infrastructures and knowledge and information are the effective's factors which have a significant impact on e-commerce success.

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## 1. Introduction

The relationship between commerce and technology has long existed and continues for a long time. Numerous developments and advances in ICT (information and communication technology) in the recent decades have led to many evolutions in many fields such as global commerce. Consequently, the processes involved in many fields such as commerce, economy, banking, customs, etc. have been evolved and changed (Rahayu and Day, 2015). As the time passes, the traditional commerce will no longer be able to respond to the modern requirements. Hence, new commerce methods will be required (Cegarra-Navarro, Jiménez, & Martínez-Conesa, 2007). At the present, small developing firms play significant roles in improving and enhancing the indexes of e-commerce and global economy. Thus, benefiting from novel and modern methods such as e-commerce in performing commercial processes can play important roles in the success of commercial firms (Sebora, Lee, & Sukasame, 2009). Nowadays, internet has become an

indispensable component of people's lives (Jai, Burn, & King, 2013). Approximately, people all over the world admit that internet plays a significant role in our lives and has led to the production of job opportunities and evolutions in business and commerce (Apavaloaie, 2014). Novel electronic technologies have extensively resulted in the production of opportunities through business patterns (Chen, 2003). Thanks to its remarkable and fruitful impacts on economy, science, society, etc., IT is considered to be one of the greatest innovations. The application of IT in operations related to commercial and economic processes have led to the creation of a new interdisciplinary, referred to as e-commerce, which plays an outstanding role in global economic affairs (Feizollahi, Shirmohammadi, Kahreh, & Kaherh, 2014). Undoubtedly, exploiting and benefiting from IT is one of the essential factors in enhancing the efficiency of e-commerce. For enhancing the efficiency of e-commerce, commercial notification and commerce should be facilitated. Commercial notification requires breaking information monopoly and provides the opportunity for competition and efficiency enhancement. Consequently, it provides the path for social justice. Also, for facilitating commerce and business, novel commercial methods such as barcode, standards for electronic exchange of data and paperless electronic deals and

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transactions should be used (Salehi, 2013). It should be pointed out that e-commerce has led to dramatic changes and evolutions in commercial affairs. That is, e-commerce has led to variations and changes in buying and selling products and items and has improved the relation and communication between the customers and suppliers. Furthermore, it has produced fundamental changes in business view in terms of better production and better relationship between customers and producers (Yang, Pang, Liu, Yen, & Tarne, 2015).

Developments and advances in IT is rapidly leading the societies towards knowledge and awareness-based societies. Information and communication technologies create the opportunity for the organizations to fulfill their commercial activities as fast as possible. The achieved developments in the late twentieth century resulted in the formation of e-commerce which revolutionized the field of commerce and business. In other words, e-commerce has dramatically changed the life styles of people in the developed countries (MacGregor, & Vrazalic, 2005). E-commerce is considered to be one of the best instances in which information and communication technologies are applied for economic purposes. Using this technology can support economic growth and development, enhance commercial efficiency and facilitate the convergence and unity of countries, particularly developing countries. As information and communication technologies develop, the available organizations in different industries have to use and apply these technologies so that they can benefit from their competitive advantages. Indeed, organizations have to stop using traditional commercial methods and welcome novel technologies which are based on worldwide web and, consequently, push the organization towards development and prosperity (Borges, Hoppen, & Luce, 2009).

The primary purpose of this study is to determine and specify the major factors which significantly impact on the success of e-commerce in small and developing companies and organizations. The followings are the main objectives of the study along the above-mentioned purpose:

- Providing a model and framework for a more comprehensive understanding of the effective factors on the success of e-commerce in SME companies and organizations
- Investigating the effects of infrastructures, costs, customer satisfaction, knowledge and awareness on E-commerce
- Examining and identifying the upcoming challenges and difficulties of e-commerce for the future studies

The remaining parts of the paper is organized as follows: Section 2 discusses related works. Section 3 describes the proposed model and hypothesis of the study in detail. Section 4 reports and discusses the method used in this study. Finally, Section 5 draws the conclusion of the study and directions for further research.

## 2. Related works

Nowadays, since technological tools and sophisticated communication instruments are produced and developed rapidly and replace the outdated and traditional operations and processes, the field of commerce has also commenced such a trend by quitting traditional and old-fashioned operations and adopting novel technology-based e-commerce (Ueasangkomsate, 2015). It has been approximately a decade that the concept of information and communication technology (ICT) has emerged as a new and robust phenomenon in the world. It has begun to influence people's lives directly or indirectly via its significant impact on cultural, economic, social and political structures. E-commerce has caused obvious changes and evolutions in the conventional foundations of

the administration of the societies by introducing a new system of management (Jai et al., 2013; Apăvăloaie, 2014). It should be noted that e-commerce is not a brand new concept but it has had increasing and unpredictable developments in recent years. Indeed, internet can be regarded as the major justification for the development of e-commerce. Inasmuch as successful administration and implementation of e-commerce call for a meticulous plan, hence, the available resources should be used optimally, needs should be identified and analyzed, customers' expectations should be respected, mutual benefits should be realized and the latest knowledge and technologies should be applied (Grandón, Nasco, & Mykytyn, 2011). In this section of the study, by briefly overviewing the previous works and studies, we try to identify the influential factors and parameters on the success of e-commerce.

Dyerson et al., classified the significant factors in the e-commerce and electronic careers of small companies which were dependent on internet technologies into the following categories (Dyerson, Harindranath, & Barnes, 2009):

- Scientific factors: this class of factors included the executive managers' knowledge and experiences, employees' expertise, customers' perceptions and awareness
- Environmental factors: this group of factors included markets, rules of government, producers and customers.
- Humanistic factors: this category is related to the accessibility and application of internal resources and the number of specialist employees
- Technical factors: this class of factors included technology, costs and security.

Ramanathan et al., investigated the impact of e-commerce in marketing and operational efficiency and the nature of its effect on the above-mentioned factors in small and medium Taiwanese companies (Ramanathan, Ramanathan, & Hsia, 2012). Using a questionnaire and statistical techniques, they proposed a conceptual model so that they can investigate and analyze the impact of e-commerce on small and medium Taiwanese companies. The results obtained in that study indicated that three underlying factors were responsible for the efficacy of e-commerce in Taiwanese companies:

- Performance factor: customers' satisfaction, improvement of process and competitive benefit
- Marketing factor: online advertisements, customers' awareness and brand recognition.
- Operational factor: quality improvement, internal communications, security of online payment, simple web design, comprehensive information.

Migiro investigated the barriers for adopting and accepting information technology in the development of e-commerce in small and medium organizations and companies (Migiro, 2006). 380 respondents were selected as the sample respondents from active companies in the industrial fields through whom data was collected via a questionnaire. The obtained results revealed that there are three barriers for developing e-commerce in small and medium companies, i.e. high cost of IT application, lack of financial resources and technical knowledge in companies.

Organization for Economic Cooperation and Development conducted a study for identifying significant factors in small and medium companies' application of internet and e-commerce in countries which are OECD members. It showed that IT awareness and knowledge inside the companies, access to IT services outside the company, access to internet with reasonable cost, the existence of remote communication infrastructures and appropriate

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