

Research Paper (Quantified)

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## Investigating and prioritizing the factors affecting the success of e-commerce using the best and worst (BWM) technique.

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### Abstract

The purpose of this research is to investigate and prioritize factors affecting the success of e-commerce in small and medium-sized companies in Mazandaran province. The current research is applicable in terms of purpose, and descriptive-analytical in terms of nature and method. The statistical population of this research includes 15 experts with master's degree or higher, and at least 10 years of work experience in the relevant field and managers, and experts of small and medium companies in Mazandaran. Fuzzy Delphi method was used for review and prioritization. The best-worst method (BWM) was used to prioritize the factors and its components, and Lingo software was used for analysis. Effective factors include the components of 1- infrastructure (access to the Internet network, electronic storage of information, security systems and electronic payments), 2- payment system (payment authorization, various customer payment methods, settlement operations), 3- Knowledge and awareness (customer notification system, customer privacy consideration, company's response to customers' frequent questions), 4- Customer satisfaction (variety of products and advertisements, company's seasonal auctions, timely delivery of goods, building trust).

The results show that the prioritization of factors affecting the success of e-commerce, respectively, payment system, infrastructure, customer satisfaction, and knowledge and awareness gained the first to fourth rank of importance.

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## **Extended Abstract**

### **Introduction**

The emergence of the Internet has made it easier for newcomers to enter, and as a result, the number of competitors in various markets has increased. Advances in information and communication technology and the rapid expansion of the Internet have undergone many changes and transformations in various areas of human life, as well as in various business fields. Changes in the business environment are the main characteristics of this century (Taghavi fard & Abdoli Masinan, 2020). New technologies have transformed the way of providing customer service in today's organizations (Sanyayan & Sanyaei, 2016). The digitization of businesses has changed many traditional businesses to electronic businesses, and this issue shows the growth of e-commerce transactions in the world, and the new systems that are recently used in e-commerce by governments and private companies are among the most effective factors for success in electronic commerce (Singh et al, 2017). In e-commerce, the conventional meaning of economic benefits largely refers to customer retention on e-commerce platforms, discounts, advertizements, or other preferred activities (Liu et al, 2019).

To measure success in e-commerce, it can be seen in customer satisfaction when searching for the desired product and buying online (Abdallah & Jaleel, 2015). Despite its advantages, e-commerce also faces challenges because changing people's habits is not an easy task. For example, researchers in e-commerce have mentioned the skills and techniques of gaining customer trust as an essential factor (Murphy & Tocher, 2011). Small and medium enterprises are a large part of industrial economies. Their growth and development is very important and many researches have been started to determine electronic business in small and medium companies. It is thought that the success of e-commerce in the small and medium sector will make the country more competitive, and this successful adoption and use of e-commerce technology is vital for survival.

Therefore, the researcher is trying to answer the question: what is the evaluation and priority of factors affecting the success of e-commerce in small and medium enterprises of Mazandaran province?

### **Theoretical Framework**

#### **E-commerce success**

E-commerce is the use of computers in one or more networks to create and transmit commercial information, which is mostly related to buying and selling information, goods and services through the Internet. On the other hand, e-commerce has certain advantages over traditional business; e-commerce changes the way business is conducted and thus transforms traditional markets into new forms and creates significant changes in competitive conditions (Ebrahim Shamirani, 2015).

#### **Customer satisfaction**

Satisfaction is wider than quality, and quality is considered one of the factors of creating satisfaction in customers. Satisfaction means the evaluation of customers about the product or service provided to whether it was able to meet the expectations of customers or not. In fact, customer satisfaction is the result of satisfying customer needs (Ahmadi et al, 2015).

Agheshlouei et al, (2023) investigated the presentation of a new business model to help entrepreneurs develop new businesses and e-commerce startups. The results of the research show that, in addition to improving the business model of Strowalder and Pignor, the business model presented in this study leads to a better understanding of the elements of the business model by entrepreneurs, and improves investment negotiations by creating convergence and

common understanding of business concepts between entrepreneurs and investors. Using this business model, entrepreneurs focus on the value proposition in addition to the technical details.

Atimehr et al, (2022) in an article entitled Development of the antecedent model of e-commerce success using structural equations and (IPMA) method, showed that among the explanatory variables of e-commerce success, the variable of electronic oralization has the most relative importance; while the customer support system variable has the least relative importance. Also, from the point of view of the respondents, it was found that the electronic satisfaction variable has the highest performance coefficient, while the customer support system variable has the lowest performance coefficient.

### Research methodology

The current research is applicable in terms of purpose, and descriptive-analytical in terms of nature and method. The statistical population of this research includes 15 experts with master's degree or higher, with at least 10 years of work experience in the relevant field, and managers and experts of small and medium companies in Mazandaran. Fuzzy Delphi method was used for review and prioritization.

### Research findings

In order to prioritize the factors and its components, the best-worst method (BWM) was used, and Lingo software was used for analysis. Effective factors include 1- infrastructure components (access to the Internet, electronic information storage, security systems and electronic payments), 2- Payment system (payment authorization, various customer payment methods, account settlement operations), 3- Knowledge and awareness (customer notification system, customer privacy consideration, company's response to customers' frequent questions), 4- Customer satisfaction (variety of products and advertisements, Company's seasonal auctions, timely delivery of goods, building trust). The results show that the prioritization of factors affecting the success of e-commerce, respectively, payment system, infrastructure, customer satisfaction, and knowledge and awareness gained the first to fourth rate of importance.

### Conclusion

The current research was conducted with the aim of investigating and prioritizing factors affecting the success of e-commerce in small and medium-sized companies in Mazandaran province. The results of this research are in agreement with the results of Agheshlouei et al, (2023), Atimehr et al, (2022), Lobel Trong Thuy (2021), Emami Meibodi (2021), Jalali (2021), Himanshu & Aggarwal (2019), and Choshin & Ghaffari (2017).

Agheshlouei et al, (2023) showed that, in addition to improving the business model of Sturwalder and Pignor, the presented business model gives entrepreneurs a better understanding of the elements of the business model and improves investment negotiations by creating convergence and a common understanding of business concepts between entrepreneurs and investors. Using this business model, entrepreneurs focus on the value proposition in addition to the technical details.

According to the present research, the following suggestions are presented:

Employees should be trained to use internet networks better

Creation of documents management and databases for electronic storage and security of information

Appropriate pricing according to competitors' prices and establishing cost management

Investment and innovation in the use of e-commerce in small and medium enterprises

Collecting customer information considering their privacy for their satisfaction  
Dealing with customer criticisms and analyzing them  
Evaluating the use of e-commerce