



THE CONNECTION OF ELECTRONIC COMMERCE WITH ARTIFICIAL INTELLIGENCE

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<p>Received: 6th April 2023 Accepted: 6th May 2023 Published: 7th June 2023</p>	<p>With the development of information and communication technologies, artificial intelligence is becoming increasingly popular. The main aim of companies in today's e-commerce world is to influence customer behavior in favor of certain products and brands. The application of artificial intelligence as an innovative tool in the field of e-commerce may seem as a positive step forward. The paper focuses on the description of the essence of e-commerce and artificial intelligence and their benefits. The aim is also to evaluate the importance of artificial intelligence and its use in the context of e-commerce based on available studies on this issue</p>
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The modern information age brings along new possibilities, software, and technological innovations usable in marketing and shopping. New technologies force companies to be more creative [1]. Technologies help increase the efficiency, quality, and cost-effectiveness of services provided by businesses [2]. Contemporary creativity is based primarily on the development of the so-called information and communication technologies, which have a major impact on the development of the business environment. The effectiveness of information and communication technologies depends on several factors, such as investment in human capital and an appropriate combination of e-commerce solutions [3]. One sector where the digital transition and importance of e-commerce are particularly pronounced is retail, where digital tools, such as Web sites, replace (to a certain extent), or complement physical commerce [4].

Since being described for the first time in the 1980s, e-commerce has become a global growing trend and is now one of the most popular online activities [5]. The development of the Internet and the advancement of digital technologies has led to changes in consumer behavior. Now, people are increasingly using e-commerce to make purchases [6]. Electronic commerce, or e-commerce for short, means commerce that takes place in the online environment of the Internet, with the Internet being considered as a single platform that connects the seller and the buyer [7]. According to Ullman [8], e-commerce includes all commercial transactions carried out online. This category includes any Web site displayed on computers, tablets, as well as mobile phones, which is intended to generate revenue. E-commerce includes the use of the Internet, Web portals, mobile applications, and browsers to make a purchase. These are therefore digitally enabled business transactions between sellers and customers. Almost all Internet users are currently online shoppers [9]. The advantages of e-commerce for online retailers (see Fig. 1) lie mainly in a larger number of customers served, a larger number of orders and better provision of information. Online retailers can run an online store at lower operating costs than a brick-and-mortar store, which in turn translates into higher sales [10]. Ganapathi [11] states that online shopping offers several benefits to customers (see Fig. 2). The customer does not have to physically visit the brick-and-mortar shop, which saves time. The consumer has the opportunity to choose from a wide range of products and also the possibility to compare products or prices. Online stores also offer customers discounts that cannot be obtained in a brick-and-mortar store. The big advantage is 24/7 availability, so the online consumer can make a purchase anytime and anywhere.

E-commerce is the result of economic, scientific, technological, and cultural development. The development of e-commerce is changing the way businesses do business as well as consumer behavior and is making a significant contribution to the progress of the global economy [12]. As the importance of the Internet is growing, online commerce provides a competitive advantage to those who sell online. Internet commerce gives all businesses in the world access to a global online market in which they generally have the same chance to compete with each other [13]. Consumers are now imposing new requirements and businesses are constantly exposed to challenges of how to meet these requirements. The implementation of e-commerce in the company requires fundamental changes to be made in the current business models and business activities, as well as the implementation and use of sophisticated digital technologies [14].



Fig. 1 Advantages of e-commerce for online retailers



Fig. 2 Advantages of e-commerce for customers

Thanks to artificial intelligence, technical systems are able to distinguish the environment in which they find themselves, recognize the problem, and solve it, while working toward the predetermined goal. The computer system receives data that are prepared or collected by its sensors, such as cameras. It processes this data and then responds. Artificial intelligence systems can work autonomously and to some extent adapt their behavior based on the analysis of previous steps [15]. Over the last few decades, artificial intelligence applications have evolved rapidly. In the early stages, artificial intelligence was used in expert and knowledge systems to provide recommendations. At present, in the age of technological advancements, artificial intelligence has become more human and more capable of solving problems, learning, manipulating objects, and navigating physical space [16]. Thus, innovation and more efficient use of technology have led to the creation of intelligent systems that can manage and monitor business models with reduced human participation [17]. The development of artificial intelligence has brought enormous economic benefits to humanity, improved almost all aspects of life, and significantly promoted social development and brought about a new era [18]. Artificial intelligence is considered to be a new interdisciplinary technological science that develops theoretical methods, technologies, and applications for the simulation and expansion of human intelligence. The application of artificial intelligence has been examined in sectors such as health care, business, education, manufacturing, marketing, and financial management.

Artificial intelligence has an irreplaceable role to play in the development of the society and has brought some serious benefits (see Fig. 4) in terms of improving work efficiency, reducing labor costs, optimizing the structure of human resources, and creating new jobs [31]. Davenport and Ronanki [28] add better decision-making, improvement of existing products, employees focusing on more creative work, creation of new products, and monitoring new markets to the list of business benefits of artificial intelligence.



Fig. 4 Advantages of artificial intelligence

Today, e-commerce is one of the industries that makes the most of artificial intelligence by building a huge customer base, trying to understand customer needs, doing real-time research, coming up with ultimate solutions, and many other activities [34].

The e-commerce Web site is available to customers 24 h a day, 7 days a week, with 24-h customer support provided by virtual assistants/chatbots. The primary function of the chatbot is to automatically answer customer questions, respond to simple voice commands, and provide product recommendations using a natural language processing system. Chatbots can also be defined as a type of software application that uses artificial intelligence to conduct an online conversation via text or voice media with consumers visiting a given Web site or application. Chatbots are able to respond to customer questions and requests, which can help consumers find suitable products, check order status, compare different products, and help consumers with their payments. In case of complaints or questions, they will direct customers to the customer support service staff, who will take over. The aim of the paper was to describe the essence of e-commerce and artificial intelligence and their benefits. The paper also provides insight into the evaluation of the importance of artificial intelligence and its future use in the context of e-commerce based on available studies on this issue. In today's world of commerce and digital technology, e-commerce plays an important role. Today, people use the Internet on a daily basis; they are willing to try new products and brands, but they are also critical and demanding. In this case, e-commerce appears to be a suitable option to meet their requirements. The application of artificial intelligence in e-commerce has become the subject of interest of many business scientists and experts. Previous research has highlighted the need for further research that would contribute to the development of knowledge and strategies in the application of artificial intelligence in e-commerce. It is possible to expect that artificial intelligence in the conditions of electronic commerce will be used more and more often and will become an integral part of all companies of this type.

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