ASSESSING THE IMPACT OF ARTIFICIAL INTELLIGENCE ON FINTECH BUSINESS MODELS

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Abstract. Artificial intelligence technology is the foundation that has promoted the development of global business technology. The progress in the economic field in recent years has also led to the continuous development of e-commerce and the continuous improvement of artificial intelligence technology. The integration of the two in various fields and levels will become closer. E-commerce based on artificial intelligence technology makes e-commerce an inevitable trend towards a healthy development. This article discusses the impact of artificial intelligence payment methods on the electronic business model B2B, and sort out the application of AI in e-commerce.

Keywords: *artificial Intelligence, E-Commerce, FinTech, B2B, Intelligent Decision Making*

Introduction

The Global Fintech Report (2016) believes that Fintech is a dynamic intersection of financial services and technological means [1]. The rapid development of financial technology has had a massive impact on the business models and payment methods of various industries, especially after the arrival of the Internet era. Among them, the widespread application of artificial intelligence (AI) and the diversification of payment forms provide businesses with more opportunities to implement different business models. Payment is an important link in e-commerce. For example, the method of payment or the speed of payment will determine the transaction rate of goods.

This article clarifies the following issues through research on artificial intelligence technology and e-commerce business models:

- The development of artificial intelligence promotes the diversification of business models.
- The rapid development of artificial intelligence has opened up a new business model b2b.
- Artificial intelligence technology has changed the traditional trading methods, greatly increasing the order turnover rate and reducing merchant costs.

Thus, the main research question this article asks is how has AI impacted FinTech with respect to E-Commerce Business Models?

An Overview of the Development of Artificial Intelligence Technology

In the summer of 1956, scientists such as McCarthy and Minsky met at Dartmouth College in the United States to discuss how to use machines to simulate human intelligence. For the first time, the concept of "Artificial Intelligence (AI)" was proposed, marking the development of artificial intelligence born. After the concept of artificial intelligence was put forward, the breakthrough progress in the early stage of development has greatly increased people's expectations of artificial intelligence. In the 1970s, a major breakthrough was achieved in artificial intelligence moving from theoretical research to practical application, from the discussion of general reasoning strategies to the use of specialized knowledge. Expert systems have achieved success in the fields of medicine, chemistry, geology, etc., pushing artificial intelligence into a new climax of application development. Due to the development of network technology, especially Internet technology, the innovation research of artificial intelligence has been accelerated, and artificial intelligence technology has been further moved towards practicality. With the development of information technologies such as big data, cloud computing, the Internet, and the Internet of Things, computing platforms such as ubiquitous perception data and graphics processors have promoted the rapid development of artificial intelligence technology represented by deep neural networks, which has greatly surpassed the gap between science and application. The "technical gap" between the two, such as image classification, voice recognition, knowledge question and answer, human-machine game, unmanned driving, and other artificial intelligence technologies have achieved technological breakthroughs from "unusable, unusable" to "usable" and ushered in the new climax of explosive growth.

An Overview of E-commerce

In 1995, Amazon and eBay were established in the United States. Since then, this emerging economic activity, which relies on the Internet for goods and services transactions, has rapidly spread globally. The e-commerce bred by the convergence of a new round of technological revolution and industrial transforma-

tion has greatly improved the quality and efficiency of economic operations, and changed the production and lifestyle of human beings. In 2016, the global e-commerce market exceeded 25 trillion US dollars, becoming a bright spot and new growth point for the world economy.

Success in the field of e-commerce is inseparable from the application of artificial intelligence technology. It can be said that there is a close connection between artificial intelligence and e-commerce, and the two influence each other and make progress together.

Application in the Field of Artificial Intelligence and E-commerce

Mobile payment is not only a payment method, but also greatly expands the boundaries of business model innovation possibilities, and has become a new driving force for economic and social development [2]. The system dynamics model of artificial intelligence in the field of e-commerce, and the mechanism of artificial intelligence in improving transaction efficiency, reducing enterprise costs, and improving user service experience. Intelligent tools, intelligent services, intelligent procurement and sales, and intelligent warehousing have been widely used in all aspects of e-commerce. In the future, the field of demand-oriented intelligent decision-making, the field of system optimization based on the entire chain, and the field of enterprise-level applications based on B2B may become important development directions for artificial intelligence in e-commerce [3].

The impact of artificial intelligence on the b2b model of e-commerce

In 1998, B2B e-commerce companies such as Alibaba and Made-in-China.com were established; in 2003, B2C e-commerce platforms such as Taobao.com and Jingdong Mall rose up, and China's e-commerce started two decades of rapid development. In 2016, China's e-commerce transaction volume was equivalent to 35 % of the GDP, and its role in promoting supply-side structural reforms has become increasingly prominent. It can be seen that artificial intelligence has the following effects on the e-commerce model:

a) The basic network conditions are gradually improved, the network access rate of enterprises continues to increase, and the continuous improvement of payment methods such as logistics express and electronic authentication provide favorable conditions for the rapid expansion of market business.

b) Improve transaction efficiency and reduce the cost of downstream buyers. B2B e-commerce is developing rapidly. The raw material suppliers and purchasers are directly connected through the platform, which greatly improves the efficiency of the supply chain. B2B e-commerce is playing the role of efficient Internet connection, realizing the efficient docking of upstream and downstream supply and demand, and helping companies resolve problems such as overcapacity, high circulation costs, and insufficient effective supply.

c) Reduce the workload of large cash payments. In the period of rapid development of e-commerce, information security is also very important. The emergence of biometric authentication technology has solved this problem. It can be identified through fingerprints, facial recognition, iris, etc. Identity, which will greatly improve the efficiency of corporate transactions while ensuring the security of transactions.

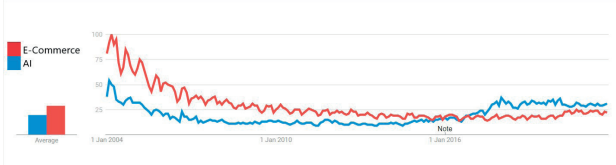

Fig. 1. Worldwide Google Web Search Trends — E-Commerce & AI (2004–2021)

Observing the global market trend, it is evident that the influence of AI cannot be underestimated. For example, as seen in figure 1, the Google Web Search Trends time-series plot reveals the rate at which E-Commerce (once a hot topic) has suddenly been overtaken by AI, from a worldwide search perspective. This represents the interest over time relative to the highest point on the chart. Thus, it can be concluded that AI is here to stay and is an important tool for entrepreneurs, startups, and business owners to ethically leverage on in order to increase business productivity, improve sustainability, increase revenue, and improve customer satisfaction [4, 5].

Conclusion

This article discussed the state of the art with respect to AI and its integration within e-commerce. The current technology still has certain limitations. For example, the current authentication requires a series of private information as an aid in addition to biometric identification. As artificial intelligence technology matures and its applications become more and more extensive, there will be more possibilities for the business model of e-commerce. There is a strong belief all across the globe that artificial intelligence will become an important boost for e-commerce transformation. There is the possibility of there being more convenient authentication methods, which no longer need more private information as an auxiliary in the future, but

a way to complete the authentication safely and effectively. For future research, it is recommended that researchers explore topics such as intelligent payment, i. e. the possibility to realize a mode of payment of different amounts through only a single medium; as well as the focus on developing ethical AI frameworks to be the backbone of e-commerce systems. These will go a long way to improve business processes and customer satisfaction.

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