

The Current Status of Commercial Logistics Development in the Context of Big Data in China: A Review

Jiarong Li^{1, a}

¹School of Business, University of Leicester, Leicester, LE1 7RH, United Kingdom

^aEmail: J1812@student.le.ac.uk

Abstract: Based on fourth technological revolution, global entry into the information age. This article provides some analysis of the current situation and future development of the logistics service segment of the e-commerce industry. The article deals with the significance to the construction of informationization, e-logistics production line and management line for logistics enterprises. Finally, the possible problems faced and feasible solutions are proposed.

Keywords: Big data, Logistics and distribution, E-commerce.

1. Introduction

From 1980 to the present, the Internet is indispensable to the public's daily life. The rise of big data, artificial intelligence robots and blockchain concepts has brought about the fourth industrial revolution. It is unique in that it has brought about the linking and communication between billions of devices, and these invisible connections make the world a "whole". These technologies are changing the manufacturing and service operations of the global supply chain all the time. At the same time, the e-logistics industry, which has emerged as a result of Internet development, is also growing at a rapid pace. In the face of the massive amount of data generated by the logistics industry, the introduction of new Internet technologies is imminent. Therefore, with the logic of what is the demand and how to meet the demand, this paper mainly elaborates the role and impact of Internet big data, proposes the development of big data logistics, and analyzes the problems and countermeasures that may be encountered. The development of new data supply chain processing models and procedures is also a way to improve the logistics supply chain management in this industry.

2. Big Data in China

Modern logistics as one of the most deeply popular life of the Internet e-commerce derivative industries in the last decade, the rapid and gradual development of logistics into the transition period, one is the development of the Internet led to the logistics industry needs to deal with the flow of data has become greater, the urgent need to introduce new technologies as a technical tool for industrial upgrading, and big data as a popular concept in recent years, has become the new era of the 21st century wind, but because the concept is relatively abstract, the definition of academia is not clear and each has its own statement. So far, there is still no organization or institution officially formulating the standard of so-called big data, but one concept is becoming clearer, that is, big data refers to the massive data that can be cleaned, extracted, and analyzed into valuable information [1], therefore, the technical processing capability of big data greatly fits the demand for data processing technology in the

logistics industry.

Most scholars have now put forward the current deficiencies and status quo of China's logistics industry, for example, China's logistics enterprises are highly humanized and the use of machines and procedures is still low [2], and the efficiency of logistics enterprises is stuck in a relatively awkward position due to the problem of low mechanization and efficiency [3], and this paper also mentions the related problems. However, the introduction of real-life cases will provide a deeper analysis. However, in addition to the study of the current situation, this paper has more futuristic conjectures about the e-commerce logistics industry that have not been mentioned by previous authors, and is updated in real time about the new changes and problems that may be encountered in e-commerce logistics. Therefore, this paper builds on mature theories and research to elaborate on industry upgrades and big data references in the e-commerce industry.

3. Current Issue of Logistics Enterprise Development

3.1. Insufficient attention to the logistics industry

As an indispensable link in today's e-commerce, this industry is also developing rapidly, but in fact, the logistics industry is not paid much attention in the development of the production chain. Up to now, the vast majority of logistics enterprises in China are more labor-intensive industries, with most of the tasks completed manually, and the use of big data in information management is not high. According to a survey conducted by Deloitte's in 2018 for 1,600 C-level executives in 19 countries and regions, more people focused on technical operations, that is, the development of manufacturing, which accounted for 73%, while only 6% of executives chose to focus on the development of logistics [4]. From this survey, it is not only the domestic logistics industry that is in such a dilemma, but also the use of robotics deep learning systems to build a modern logistics system with "online procedures and offline machines". An important weapon to compete [5].

3.2. The overall efficiency of the logistics industry is not maximized

At present, China's logistics industry is dominated by the state-run postal service, and many private logistics companies such as SF, Yunda, etc. Such a mixture of logistics companies are running their own logistics system, in the contemporary times of the great demand for universal logistics, the loose logistics information system and the pursuit of time-efficient industry service needs do not match. Therefore, some scholars suggest that the e-commerce distribution work of China's logistics enterprises lacks the sense of cooperation. In fact, this not only leads to the limitations of private logistics companies, but also limits the development of state-run logistics companies. For example, within the logistics field in China, private courier companies occupy the majority of the market share [6]. However, many areas of the country are not included in the business scope of private logistics companies, such as Inner Mongolia and Gansu. These remote areas often become logistics business gap areas because of the difficulty of distribution, long distribution time, and high potential distribution costs. But for China Post, as a state-run logistics enterprise, any corner of China can be dispatched, at this time, the postal network stores can share with other private logistics enterprises or the implementation of leasing mode, in order to obtain the integration of resources and maximize the use of resources, furthermore, the cooperation of private and private enterprises can complement each other's strengths and weaknesses, support each other in the fierce market competition, hand in hand, strengthen cooperation and contact, build More and more perfect resource allocation system, adapt to the current industry needs and industry prospects for sustainable development.

3.3. Lack of talent in big data logistics industry

Logistics industry as the industry gap of big data, not only because of the technology and personnel update and turnover need huge costs, but also because of the lack of professionals to guide. Many enterprises' computing talents are more concentrated in the backstage technology innovation department or product development department, and the demand for technical posts in logistics department is very little. Moreover, for big data logistics industry talents need to master a wealth of e-commerce logistics and distribution-related knowledge, but also to transport, warehousing, distribution and other aspects of this comprehensive cognitive and analytical finishing [7], requiring a certain technical threshold and experience in the field. Therefore, enterprises are looking for few such composite talents, and students who have just graduated from colleges and universities are difficult to perform the work that requires a lot of experience, while experienced veteran employees are prone to technical disconnection, because big data is, after all, an emerging and fast-changing discipline. In addition, it is difficult to cover such a small professional block that leans toward the cold side in the enterprise's induction training and direct promotion plan, which leads to the uneven comprehensive quality of staff involved in enterprise logistics work and cannot fully meet the needs of enterprise operation and social development. In the long run, the lack of high-precision talents in the industry will lead to the embarrassing situation that the industry with a bright future is faced with good rice without a clever woman, thus leading to the development of the whole industry is limited.

4. Big data-based Logistics Model Optimization

4.1. Effectively accelerate the operational efficiency of logistics companies

It is obvious that after each productivity revolution, the productivity of each industry is greatly improved. There is no exception in logistics industry.

In the traditional e-commerce logistics and distribution process, logistics companies are more likely to use customer research and practitioner experience to develop specific logistics solutions. And the use of big data technology, can be customer preferences, purchase frequency for scientific data classification, through big data and cloud technology to collect a large number of data, relying on a large number of data analogy integration of a specific user portrait, accurate mining of user information, clear market development needs, so that the competitiveness of logistics enterprises greatly increased, and even make "logistics " become the core competitiveness of certain enterprises. If a large number of modern mechanical logistics lines are introduced and equipped with advanced big data information processing logistics procedures, the efficiency of logistics lines as each basic unit can reach the maximum, and a large amount of information can be collected and classified without discrimination. As an aggregation of information, companies can still use manual monitoring to ensure humane and flexible decision-making, while also reducing the errors that arise when decisions are made solely by employee experience. In short, the use of big data technology as an advanced tool to simplify the boring and repetitive basic data processing process to the maximum extent, and directly transmit the information to the decision-making level, fundamentally accelerating the office and decision-making efficiency, and in general, enhancing the speed of profitability of enterprises.

4.2. Effectively enhance the experience of consumers receiving logistics

As the end of the production chain - the consumer, to enhance the consumer experience is the basis for the sustainable survival and development of an industry, such as Amazon's Prime service. In China, there are similar projects such as Jingdong's next-day service and Tmall's next-day service, which can enhance the consumers' sense of pleasure and stickiness by grasping the consumers' psychological activity of "quick access". At present, China's logistics industry competition is fierce, the logistics industry entry threshold is low, the service homogeneity is strong, in addition to price, speed and logistics products dirty degree, logistics services are difficult to make their own characteristics. The only speed, is the most direct breakthrough. In addition, through the robot AI technology in big data, Amazon applied for a patent for the technology of "expected transport" as early as 2014. By analyzing users' consumption habits and shopping history in the background to predict what consumers might buy next, Amazon can ideally "predict" consumers' consumption behavior and distribute products to sites in advance to further speed up logistics [8]. As a result, consumers would experience an unprecedented sense of "being served" and would place repeated orders on the platform, leading to high repeat business and revenue.

5. Development Measures for The Logistics Industry in The Era of Big Data

5.1. Making logistics services as a competitive lever to driving industry growth

As mentioned above, the investment in logistics systems can bring a lot of benefits to the company. Therefore, by "less investment for higher returns". Many e-commerce platforms have started to make efforts on logistics. For example, Amazon, in order to stop relying too much on outsourced logistics providers, created Amazon Logistics in 2018 to take care of the last mile of items to consumers. In 2018 alone, this project invested \$27.7 billion in transportation costs, with total logistics costs of \$61.7 billion accounting for 27.5% of Amazon.com's net revenue (Richer, 2019). Of course, excluding the large costs required at the beginning of the establishment of the logistics system in the first place, the costs that can be cut after the establishment is complete will only be more (e.g., reducing labor, increasing plant utilization, etc.). Amazon, as a global e-commerce giant, also has a staggering amount of capital, and the money it can invest in logistics is naturally substantial. This also allows Amazon has been sitting firmly on the throne of the world's e-commerce giant, even under the impact of the new crown epidemic still managed to increase turnover. Logistics services as a small "lever", almost once and for all to enhance the efficiency of Amazon's overall logistics services. For small and medium-sized logistics enterprises do not necessarily have to invest a lot of costs to establish intelligent logistics systems, can be optimized and improved through the simple introduction of intelligent parcel sorting machines and other small branches and panels, and finally gradually complete the mechanization of the logistics industry, modernization. The optimization of logistics investment is direct, the rate of effect is fast, as a lever to pry up greater business interests.

6. Conclusion and Outlook

To sum up, the logistics industry, which is the focus of this paper, can be successfully transformed from a labor-intensive industry by relying on big data technology to achieve industrial upgrading, using cloud technology and AI technology contained in big data, and using highly intelligent robots with deep learning to serve the logistics industry. These technologies will certainly create a lot of value for enterprises, consumers, and society.

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