The Analysis of JD Intelligent Logistics

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Abstract. With the need for new development patterns, it is necessary to form a new concept of logistics called intelligent logistics. Now more and more enterprises develop intelligent logistics, but at present, the research on intelligent logistics is not deep enough. So this paper, takes JD intelligent logistics, the leading enterprise in the industry, as an example to focus on the developments, achievements, and problems of intelligent logistics in operation management. This paper reveals that JD intelligent logistics has developments in distribution and transport. It shows that it has a high cost, imperfect management, and a shortage of high talent. These aspects can largely affect the efficiency of the operation in JD. So the JD company should make solutions such as lowing the cost and trying their best to train workers. The outcome of this study can be helpful to other companies in this field.

Keywords: intelligent logistics, operation management, distribution development

1. Introduction

Now with the development of science and technology, the living standard has improved and people have more demands. So the old way of development can not satisfy a great need. It must need a new form of development, In this development, intelligent logistics plays an important role. About intelligent logistics, professor Ge Xiao says that whether the development is successful depends on the situation of the intelligent logistics. the professor of Ha bin university Sun Ting Zhu shows that the development of intelligent logistics professional sections should be set up to cultivate talents and promote development. To research intelligent logistics service systems，with intelligent logistics, a famous enterprise such as Ali Ba Ba has economic growth of about 30%. So for these literature reviews, it can easily be further concluded that intelligent logistics is important in development [1].

Just as said before, JD company is a typical example to study intelligent logistics in all enterprises. Now in the current situation, there has not enough analysis about JD intelligent logistics, The impression of JD intelligent logistics is just that about automation, and digitization. The JD 2020 corporate report, showed that intelligent logistics meant digital transformation and there had been no announcement about the defects of the JD intelligent logistics. So, It is commonly believed that there is no harm in JD intelligent logistics. In other words, there is no resistance to the development of JD. But is the fact perfect? Are there any harm or disadvantages in JD intelligent logistics? How to analyze the JD intelligent logistics objectively? These are all aspects that should be carefully investigated.

In this paper, the structure of the JD intelligent logistics is the case- analysis-suggestion. To be more specific, in this paper, about the case of intelligent logistics, it is specifically thinned. First, it

defined carefully the logistics and intelligent logistics. From that base, the definition of JD intelligent logistics is presented. It, the distinguishing feature-the technology of its logistics operation of transport is introduced. For example, the author Chen Ji illustrates that JD operates over 200 warehouses and established distribution points all over the world which can implement point-to-point service, which improves distribution efficiency and it may also be helpful in transportation efficiency. After that, the analysis of JD intelligent logistics. Both advantages deflect are introduced. So it contradicts the common belief that there is no resistance in JD intelligent logistics. Finally, about the suggestion, there list three suggestions. These suggestions all correspond to the disadvantages just said before. The suggestions, it is divided into three parts: reducing cost, improving training mechanism, and changing the policy.

All in all, this article, emphasizes the feature and development of intelligent logistics and the most important part is the deflects and the solutions to them. From this paper, the JD merchants should care about these suggestions and apply them to the actual operation and improve the annual performance.

2.   JD Smart Logistics Basic Description

This paper, tells mainly about JD intelligent logistics. First, it illustrates the concept of intelligent logistics. Then it turns to the JD company and finally, it tells mainly about the introduction of JD intelligent logistics and the operation management of JD intelligent logistics.

2.1.   The Concept of Intelligent Logistics

First, introduce the logistics. Logistics refers to the material change in levels of time and location and is associated with the economy [1]. But with the development of society, intelligent logistics has gradually developed and plays an important role. Intelligent logistics is special logistics form and is made of high-tech, information, and automatic technology [2]. The aim of it is to improve the efficiency of logistics operations and lower all logistics costs. Furthermore, innovation and collaboration are the cores of intelligent logistics. So, in the future, the development direction of our intelligent logistics in China is to realize information sharing and to collaborate in different dimensions [3].

2.2.   JD Intelligent Logistics

In this essay, the topic is JD intelligent logistics. JD intelligent logistics is outstanding in the field of e-commerce logistics. In 2007, it began developing, using the form of self-operated logistics and aimed to meet the demand for orders [4]. Nowadays it has accumulated enough high-quality data resources and gained a customer base. Among these changes, they underwent lots of stages. Of course, first is its advanced strength. JD is the biggest B2C economic platform in China and it has its own advantages in its intelligent logistics operation. It has the most employees and it can have more resources to handle millions of orders. All employees are working hard and it can ensure and elevate working efficiency [4]. Second, the JD companies devote a lot to its construction of infrastructure. For example. In 2016, they established open technology which is related to all customers around the globe. In this way, they broadened their market of intelligent logistics and attracted potential customers from all over the world. They also operate over 200 warehouses and established distribution points all over the world which can implement point-to-point service. It can enhance convenience in all aspects [5, 6].

About JD intelligent logistics, the most distinguishing is its technology, and its logistics operation method. It can be divided into four service types. It can be concluded in Table 1.

Table 1. The operation method of JD.

Operation method	Its feature
FBP	JD companies are responsible for the whole purchasing and the customer must ensure that all the sales can be received. It can ensure the arrival of goods on time.
LBP	The merchant must deliver all the goods to the JD selling center on time and arrange the distribution and ensure timeliness.
SOP	JD companies only provide the platform service.
SOUL	The only task of JD is to distribute on time and in that method, JD only does one thing and enhances the professionalization of JD

From these four methods, it can be concluded that in the transportation system, JD companies pay more attention to timeliness and they get equitable distribution among all sections in JD. In these systems, they can complete the task efficiently and can get customer satisfaction.

3. The Advantage or Achievements of JD Intelligent Logistics

3.1. JD Intelligent Warehousing Mode: Asia One Unmanned Warehouse

Asia one unmanned warehouse covers large areas, especially Dongguan Asia One. It is the most automatic operation center, especially since it has large high-scale robots. Using the robot has several differences. It can promote the automation of dimensional transport, packaging, and sorting. In other words, it can promote the convenience of the service and can improve operational efficiency [7]. On the other side, the Asia One unmanned warehouse has the chance to devise an intelligent brain like AI and it is similar to the technology in our life. The intelligent brain is superior to the human brain. For example, when facing decision analysis, it can react in a short period and give answers which can be helpful and special. In these conditions, JD companies can get the analysis and conclude that Asia One unmanned warehouse is helpful and has improved the coherence of each link of the logistics and eliminated some superfluous time, realizing the synthesis of fast and single-used.

3.2. JD Unmanned Distribution Equipment

In September 2017, JD completed the task of the distribution robot for the first time, which represents the first show of unmanned distribution in China[8].In this way, the merchants can save lots of time and it can make the arrivals of goods faster. With the help of the distribution robot, it can analyze and make the best distribution route. So JD unmanned distribution equipment can be used in all courses of logistics distribution and increase efficiency.

3.3. Agile Improvement in the JD Supply Chain

JD companies can use their special platform and their self-established logistics systems to make predictions of customer demands and get to know all the prices and quality in advance. In that way, they can inform customers in advance and can assist merchants to make decisions, and can guide the operation of the industrial chain.

4.   The Disadvantages of JD Intelligent Logistics

But the JD intelligent logistics has several flaws which have the potential to amend.

4.1.   The Management of Intelligent Logistics is not Perfect

Although JD companies have set different types of systems all over the world, the arrangement of the layout is still unbalanced and it lacks some specific methods to manage different markets. Eventually, it is difficult to form a united market because its scattered method may lead to an imbalance between regions. The merchants can not boost economic development together in that management method. Lacked management can also lead to the waste of resources [1]. So the imperfect management of intelligent logistics can lead to different problems and it is not beneficial.

Plus: The regulatory measures are still imperfect. There are some problems such as UAVs disturbing aviation order in China, and the supervision measures of UAVs are not perfect enough, there are some gaps [9].

4.2.   There is a Shortage of High-end Talents

Although JD companies, there have large amounts of employees, among them there are fewer high-quality workers. According to the data in 2022, there are just 35 percent of workers have a college degree. This phenomenon happens because JD has little awareness of elevating their professional skills and they do not have enough competitive funds to attract highly skilled workers [10]. What they care about is just enrolling large amounts of workers, but they do not care whether they have the qualification or not. If there do not have enough highly skilled workers, they can not reach a higher platform and just stay still. So the problem of the shortage of talent is severe and the merchants can not make progress with this phenomenon.

4.3.   JD has Higher Operational Costs

According to the data in Fig. 1, the operational cost of JD has increased a lot, from 36800 million to 126700 million.
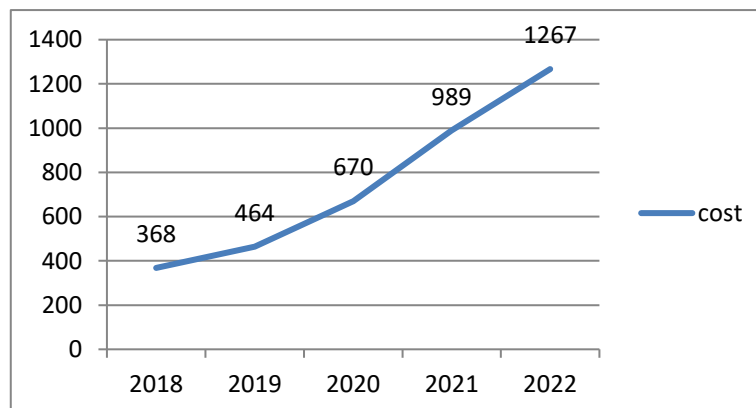

Figure 1. The operational cost of JD (photo credit: original).

JD has a higher operational cost because of the construction of the logistics center and if they want to meet the demand of the customers, they must devote a lot to the infrastructure and in the payment and warfare of the workers. By the way, the operational model of JD has to cost a lot. The consequence of high operational costs is that they have no opportunity to expand their business and attract some high-skilled employees. So as JD, the operational cost is becoming higher and higher,

which is a disadvantage because it may drag the development of their intelligent logistics.

5. Suggestion

Regarding the analysis of the advantages and disadvantages of JD, there can conclude three aspects of suggestions. from JD, all these suggestions can be extended to all the industries in our nation.

5.1. Improve the Policy System and Management Mechanism of Intelligent Logistics.

Now it can be seen that the intelligent logistics in our industry has the feature of "scattered, weak" because there have no policies and united laws to make management. Different businesses all have their own thoughts and they all follow themselves. For JD, it cannot adapt to different kinds of environments and lose away. From time on, some industries may lose some potential customers. It is not the consequence JD merchants want to meet. So they should improve the policy system. To be more specific, they should make united laws to manage from all aspects.

5.2. Improve the Training Mechanism.

Now in this circumstance, they must need high-skilled workers because the level of skills is related to the platform of the enterprise. they should try to develop their own space for developing skills. For example, now Shanghai JD department companies have set up their own technical colleges. They also set up some testing mechanisms and in this process, they can select strictly and choose qualified workers. These businesses have made huge progress with these new policies. So from this case, it can be known that for one aspect, colleges, universities, and even the government needs to set their space for cultivating the skilled because it may be helpful to be accustomed to reality, meet the trend, and the most important is to produce "marketable" professional counterparts. And from another aspect, the business should also consider establishing a testing mechanism for all potential workers [11].

5.3. Control the Operational Costs.

Cost is related to enterprise informatization. As a business, it must try to use the Internet technologies such as Big Data and cloud computing to save some unnecessary labor costs. It is also necessary to try to cooperate and absorb the quintessence to save lots of unnecessary spending. Regarding the management cost, paying attention to route planning and saving some repetitive work is important. If the business can control the operational cost, there must have lots of resources to develop the construction of high-skilled infrastructures and make improvements. Now because of the very competitive environment, every business should grasp and have enough financial strength to hold the upper hand.

6. Conclusion

This paper first defines the concept of intelligent logistics. And this paper shows that high cost, lack of skill, and low management method are all the resistance to JD intelligent logistics. From the merchants and suppliers, reducing cost, and skill training are needed to improve the outcome of JD intelligent logistics. Regarding the financial source, in the condition of low cost, there are more possibilities to extend the intelligent logistics. And about human resources and management, highly skilled workers are related to better efficiency and higher input and output. Getting the correct way of management can also promote efficiency, thus promoting the financial outcome, If the enterprise master the human, financial, and material sources, it is more likely to get success or make progress.
   This paper comprehensively analyzes different aspects of JD smart logistics. There extend to

some suggestions to JD. As JD merchants, improving management and training workers should be their first aim. About the suppliers, lowing the price and getting in contact with all the items is very important.

In the future, there should be more researchers to develop deep into intelligent logistics. If it is possible, there should develop an intelligent logistics mechanism that can be suitable for all enterprises.

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