

Research on the Development Strategy of Private Express Enterprises Based on Big Data

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Abstract—In order to solve the problems of blasting warehouse and low clients' satisfaction in the development of express enterprises, this article adopts reference investigation and comparative analysis method to find and analyze factors influencing the development of private express enterprises. It can be seen that unsound information platform and backward status of relevant tracking data are the core problems in the operation of private express enterprises. Express enterprises should establish a correct identification attitude, take the “Internet + Express” development strategy as an opportunity, actively apply big data logistics collaboration platform, conduct effective prediction and analysis, further promote the operation efficiency of express enterprises and rely on big data analysis to solve the issue of “the last kilometer”. Meanwhile, Express enterprises should emphasize the cultivation of professional talents of big data application, so as to promote the significant development of private express enterprises.

Keywords—*Big Data; Internet+; Private Express Enterprises; Strategies*

I. INTRODUCTION

The express enterprises exert a positive function in promoting economic increase, developing modernized service industry and other aspects [1]. Along with the constant development of E-business, it has directly accelerated the step of express logistics industry [2]. Relying on the occurrence of new consumption channels of internet, large amounts of electronic information occur. The express industry has entered into the era of big data. As the main big data logistics collaboration platform for express field, Cainiao Network has showed the huge potential of big data through data and technology collaboration and the enablement of logistics cooperation partners. Private express enterprises should actively utilize big data platform, conduct huge amounts of data analysis, study the delivery habits of consumers, optimize the position and quantity of delivery network stores, and comprehensively improve the handling efficiency of orders for the express industry, so as to promote the long-term development of express enterprises.

II. RELEVANT REFERENCE REVIEW

Big data are applied in various industries, and the development of various industries is benefited from big data, including the express industry. In the research about the development of express industry under big data, Yan Jun (2013) pointedly analyzed the huge amount of data flow contained in the operation activities of express industry; big data can provide data handling analysis scheme for express enterprises, and can reinforce prediction and supervision, so it can effectively decrease customer complaint. In the research about the development innovation of express industry during the era of big data, Yu Xianguang (2014) analyzed the current influencing factors for big data application in express industry, and put forward the reform measures for improving the development level of express industry. In the research based on the smart express dispatch operation mode during the era of big data, Huang Yongbao (2015) introduced smart information technology, put forward the operation mode of express enterprises under the era of big data, and essentially saved time and decreased cost. Under the background of big data, Li Pengfei, and Zhang Pan (2014) analyzed the current development status of express industry under the background of big data in the research about the joint development strategy of E-business and express industry, and meanwhile, studied the factors restricting the joint development of E-business and express industry, and finally put forward relevant suggestions and strategies, and pushed the joint development of E-business and express industry. In the research about the development strategies of express industry for Jiangsu Province during the era of big data, Yang Jing (2015) elaborated the connotation of big data, analyzed the influence of big data on express industry, and provided strategies for the development of express industry in Jiangsu Province. The aforementioned scholars have analyzed and studied the development strategy of express industry under the background of big data from different perspectives, and also fully demonstrated the significance of big data under the development strategy of “internet+”, and specified correct direction and thought for the development of express enterprises.

III. CHARACTERISTICS AND FUNCTION OF EXPRESS INFORMATION DATA DURING THE ERA OF BIG DATA

During the era of big data, huge amounts of express data possess “4v” characteristics; firstly, it has huge volume; in 2017, 40.06 billion pieces were accumulatively completed for the business volume of express service enterprises nationwide, with 28% of increase on a year-on-year basis; RMB 495.71 billion were accumulatively completed for business incomes, with 24.7% of increase on a year-on-year basis. It can be seen that, the amount of data information related to express business volume is huge; secondly, there are varied varieties, and the express business can almost involve all fields of human life; secondly, the generation and handling speed is fast, and with the application of code technology, radio-frequency technology, cloud technology and other information technologies, the generation and handling speed of express related information is fast; finally, the value density is low, and although the information amount generated on the basis of express packages, the varies of information are relatively few, and the information mainly includes the phone number and address information of clients, and there are few information about others. However, huge amounts of information related to express remain to be developed; if the big data logistics collaboration platform can realize the client information docking between E-business and express companies, and meanwhile conduct in-depth express information data digging and effective analysis, it is very important for promoting the long-term development of express enterprises.

IV. THE BIG DATA PLATFORM FOR EXPRESS FIELD—CURRENT STATUS ABOUT THE DEVELOPMENT OF CAINIAO NETWORK AND ITS INFLUENCE

As the min big data logistics collaboration platform of express field, Cainiao Network plays a decisive role in the development of express enterprises in the recent three years. Cainiao Network is mainly constituted by logistic storage platform (ground net) and the logistic information platform (sky net) based on big data. Cainiao Science & Technology Network Company was established in May, 2013 and then in May, 2015, Cainiao Network was positioned as a platform that implemented socialized logistics collaboration and took data as the driving force. In May, 2016, Cainiao started “County Region Smart Logistics+” Plan, and currently, “County Region Smart Logistics+” Plan has covered 530 counties and 30,000 villages. In 2017, “County Region Smart Logistics+” continuously improved county coverage rate, and the plan was to cover above 2/3 counties nationwide. Currently, about 70% express packages in China are operated by thousands of domestic and overseas logistics and storage companies as well as above 2,000,000 logistics and dispatching personnel on Cainio Data Platform. During the “Double Eleven” period of 2016, Cainiao Network helped merchants and logistics cooperation partners handle 657 million packages. Through relying on Cainiao Network, the package handling speed for the express industry was constantly improved, taking the time for sending 100,000,000 packages as an example, it required 2 days in 2013, 24 hours in 2014, and then increased the speed to 16 hours in 2015, and then 14 hours and 33 minutes in 2016; as can be seen from the data, Cainiao Network exerts a powerful

promotion effect on the development of express industry. Meanwhile, there are above 450 million Cainiao Network stations relying on communities and schools, and Cainiao Network stations mainly provide express collection for others, autonomous package receiving and sending and other terminal services, with simple operation, strong autonomy, and certain privacy protection function [3]. It can effectively help express companies to realize the aggregation of the last kilometer.

V. DEVELOPMENT STRATEGIES FOR PRIVATE EXPRESS ENTERPRISES DURING THE ERA OF BIG DATA

“Internet+” has promoted big data application to a new climax, and “internet+ express” have provided new market opportunities for the development of express enterprises; however, private express enterprises like “STO Express, YTO Express, ZTO Express, Best Express, and Yunda Express” occupy above 80% of the market share; meanwhile, most private express enterprises don’t have emergency plan, and the phenomenon of basting warehouse can mainly occur in these private express enterprises. Therefore, private express enterprises should fully realize the importance of big data, and the big data application can correctly predict the flow direction and flow of orders; through relying on big data analysis, express enterprises can effectively optimize procedures, and improve operation efficiency; by virtue of the big data platform, it can also comprehensively improve user experience, and the occurrence of self-pick-up cabinet can effectively solve logistics terminal dispatching problems. Through big data application, it can also comprehensively improve the clients’ satisfaction degree for private express enterprises.

A. *Apply big data to conduct effective prediction and promote the operation efficiency of express enterprises*

As private express enterprises, they should establish correct cognition on the big data platform, and the objective for big data analysis is to screen out valuable information from huge amounts of basic data, and help enterprises find potential market profit-making opportunities. By virtue of big data platform, it can improve the order handling and response speed of enterprises, and finally decrease cost. Dai Dingyi, the Expert of Logistics holds that, smart logistics is the development objective of logistics, while big data can support the development of smart logistics, and logistic industry and enterprises should well utilize big data, to truly obtain benefits from the reform [4]. Before 2013, “the problem of blasting warehouse” was common in express industry, especially during the period of “Double Eleven”, the problem was more prominent. After 2013, through applying Cainiao Network Big Data Platform, the accurate route prediction conducted thereby effectively alleviate the problem of blasting warehouse, and improve the express “last kilometer” dispatch service quality. Enterprises like “STO Express, YTO Express, ZTO Express, and Yunda Express” have fully utilized Cainiao Network Data Platform, to improve the express business handling speed, and shorten the express package handling time. Best Express also attempts to apply big data to manage, analyze and judge the operation behaviors of franchised network, and establish data analysis model through the steps of network within the system, and then successfully predict several network abnormalities.

This has not only improved the operation efficiency of the enterprise, but also improved the clients' satisfaction degree of the enterprise, and also decreased the clients' complaint rate. Through the collecting and analyzing big data, the shopping records of each client can be obtained, and predict the next possible shopping objective of clients, and then implement E-business warehouse link, and conduct the direct delivery and "flash" dispatch mode from the manufacturer to the logistic warehouse.

B. Rely on big data analysis and effectively solve the problem of "the last kilometer"

As the terminal link of express service, "the last kilometer" is based on "door-to-door", and its completion quality can directly influence the clients' satisfaction degree. The data in Table 1 have provided the specific classification of valid complaint problems from 2013 to 2017, of which the proportion for problems such as the delivery service, delay, loss and shortage has been relatively high among the complaints over the recent 5 years. Therefore, it is extremely important to effectively solve the issue of the "last kilometer".

TABLE I. SPECIFIC CLASSIFICATION OF EFFECTIVE COMPLAINT PROBLEMS FROM 2013 TO 2017

	Delivery Service	Delay	Loss and Shortage	Damage	Posting Service	Illegal Charges	Collection on Delivery	Others	Total
2013 (Piece)	57412	85164	30921	12562	800	1691	2046	450	196046
Problem occupation rate%	29.3	43.4	15.8	6.4	3.4	0.8	0.9	6.6	100
2014 (Piece)	82188	82988	40679	15551	7969	1781	2075	1466	234679
Problem occupation rate%	35	35.4	17.3	6.6	3.0	0.9	1.0	0.2	100
2015 (Piece)	86227	103666	52559	20088	7988	2262	1614	1200	275884
Problem occupation rate%	37.6	31.3	19.1	7.3	2.9	0.8	0.6	0.4	100
2016 (Piece)	99144	75768	52838	22940	7739	1984	1385	1125	262743
Problem occupation rate%	37.7	28.8	20.1	8.7	3.0	0.8	0.5	0.4	100
2017 (Piece)	89519	68291	46256	18972	5558	1588	1007	672	231863
Problem occupation rate%	38.6	29.5	19.9	8.2	2.4	0.7	0.4	0.3	100

Data source: the statistic data collected by the State Post Bureau of PRC

Actually, the coincidence rate for the service time of dispatchers and the working hours of clients can reach to 85%, so lots of manpower and time will be wasted in the secondary dispatch incurred by the failure of clients in receiving goods on time. Meanwhile, while conducting dispatch operations, dispatchers will mostly use small 3-wheel car, which belongs to small batch and distributed type. Express enterprises should reasonably set the layout of transfer station by virtue of the big data platform collection and analysis data, perfect the receiving network organization structure, decrease the delay of fast express, and meanwhile, by virtue of the big data platform, optimize the setup of self-pick-up cabinet areas in various communities and schools, alleviate the conflicts of dispatchers and consumers in time, decrease the occurrence frequency of secondary dispatch, and improve the dispatch efficiency of fast express. Thus, few time and human resources will be wasted. Therefore, it is requested to pointedly improve the information technology application capacity and level of postal service, the internet of things for express and the internet, guide enterprises to reinforce data analysis and application, and realize smart dispatch [5].

C. Emphasize the cultivation of the professional talents of big data application

During the era of big data, if express enterprises want to realize high-speed development, big data platform is necessary, and by virtue of that, it can establish data assets management strategy as soon as possible; currently, the main problem faced by express enterprises is how to conduct the collection of basic data and apply it. How to better apply these basic data is essentially decided by the cultivation of professional talents for big data application. These professionals should be called as "data engineers", who possess mathematics knowledge, IT skills, business knowledge, and can also act as the "pioneer" for big data application, lead the enterprises to step over "data gap", and provide professional data application technology service [6]. Only when express enterprises can cultivate and possess these talents can they effectively integrate basic data by virtue of big data platform, conduct in-depth digging and analysis of data, and truly promote the transformation of express enterprises from homogenization to differentiation, and the development from simplification to diversification.

VI. CONCLUSION

To sum up, the actual value of big data is data analysis. The application and analysis of big data have an important and positive meaning for the development of private express enterprises, and the application of Cainiao Network Logistic Collaboration Platform can constantly shorten the order handling time for express enterprises and the operation efficiency; besides, the organic combination of big data platform and express self-pick-up cabinet can also alleviate the bottleneck issue of “the last kilometer” to some extent. Under the background of big data, while private express enterprises are developing, the urgent demand of private express enterprises for the professional talents of big data application can also be reflected. Private express enterprises can only realize faster and better development through seizing the trend of “internet+ logistics”, and relying on big data platform.

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REFERENCES

- [1] Shan Lele, Development of Cainiao Logistics and the Influence on Chinese Logistics Industry [J], Chinese Market, 2014, 38:25-26.
- [2] Wang Yu, Analysis on the Current Status and Prospect for the Development of Cainiao Logistics [J], Times Finance, 2016, 32: 294-295.
- [3] Wang Boyi, Research on the Development Countermeasures for the “Last Kilometer” of E-business Logistics—Taking Cainiao Station as an Example [J], Journal of Jilin Engineering Normal University, 2016, 32 (1): 47-49.
- [4] Yu Xianguang, Research on the Development Innovation of Express Industry during the Era of Big Data [J], Chinese Market, 2014 (44): 23-24.
- [5] Che Xiaoying, Zhu Ning, Lao Jing, and Qiu Yahong, Research on the Problem and Countermeasures for the “Last Kilometer” of Express Enterprises, Journal of Qinzhou University, 2016, 4: 44-47.
- [6] Wei Jihua, Research on the Influence of Big Data Application on the Competitiveness of Logistics Enterprises [J], Commercial Times, 2014 (22): 29-31.