

SATISFACTION ON PERFORMANCE OF EXPRESS LOGISTICS SERVICE COMPANIES IN BEIJING CHINA

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Abstract: With the rapid development of China's e-commerce, the express delivery industry has already become a key sector in China's industry development. According to the survey, there are still many problems in the express service that need to be improved by express logistics service companies, such as low timeliness of pickup and delivery, long express transit duration, and bad service attitude. Literature research and empirical research methods are used in this thesis to provide solutions for improving the capabilities of express logistics companies, improving the performance of express logistics companies and their competitiveness, and promoting the sustainable, healthy and orderly development of express logistics companies. After reviewing domestic and foreign literature and studies, analysis is carried out on the logistics capabilities of express logistics companies and the performance of express logistics companies in multiple aspects in combination with the characteristics of express logistics companies. In this paper, a questionnaire is designed according to the capabilities and performance of express logistics companies; SPSS software is used to sort and filter the data; descriptive analysis, reliability analysis, and validity analysis are used to conduct the study; and the result proves that the time control capability, cost control capability, flexibility, and resource integration capability of express logistics companies have a positive impact on satisfaction on company performance. This paper puts forward new suggestions for future reference by researchers concerning the improvement of express logistics service company's capabilities in order to improve the performance of express logistics companies.

Keywords: Express logistics, service, company performance, satisfaction

1 INTRODUCTION

China's e-commerce logistics has become an important part of the modern logistics industry and a new engine for the national economic development, and drives the rapid development of China's express delivery industry. According to statistics collected by the National Bureau of Statistics, in the first half

of 2015, the revenue of Chinese express service companies was 119.57 billion yuan, 8.46 billion of express packages are delivered, indicating an increase of 43.3% over the year earlier. (Data from China Baidu News, 2015)

In 2019, the revenue growth rate of China's express delivery industry was 4 times that of the national GDP growth rate. Under the complex and volatile economic environment at home and abroad, the express delivery industry has bucked the trend and has become a highlight of China's economic development. According to the "Report of Contribution of China's Express Delivery Industry to the Society 2019" released by the China Express Association at the China International Fair for Trade in Services 2020, China's express delivery business volume exceeded 60 billion in 2019, the revenue of China's express delivery business exceeded RMB 700 billion, accounting for 0.76% of GDP, and the industry's revenue growth was 4 times that of China's GDP. The scale of China's express delivery industry has ranked first in the world for six consecutive years. China has continuously applied advanced technology to the express delivery industry. It already has 232 large-scale automated express item sorting centers. In August this year, China's express delivery development index reached 327.3, indicating an increase of 53.9% over the earlier year. China's express delivery market will continue to develop. (China Express Association, September 2020)

In 2020, the express delivery business volume will reach 83 billion pieces, with outlets basically covering towns and villages. The reporter learned from the National Postal Management Work Conference 2021 held by the State Post Bureau on January 4 that according to preliminary calculations, the national postal industry has achieved a business income of approximately 1.1 trillion yuan in 2020, wherein the express delivery business volume were 83 billion pieces, and the business revenue were 875 billion yuan, indicating an increase of 30.8% and 16.7% on a YOY basis, respectively. (People's Daily, 2021)

In this article, an indicator system of logistics service capabilities and company performance. The impact of logistics service capabilities on the satisfaction of company performance is discussed and analyzed, the research on logistics service capabilities is enriched, and corresponding management recommendations are putted forward. Through an empirical analysis of the relationships between logistics service capabilities of China's express delivery industry and company performance, management suggestions for Chinese express delivery companies in improving logistics service capabilities, effectively managing company's logistics operations, and promoting the sustainable development of company performance.

2 RESEARCH CONTENT

The research content of this paper is mainly to find out the problems existing in the performance of express logistics service companies at first, and then review relevant literature on the performance of express logistics service companies, find relevant concepts and current status of express logistics services at home and abroad, analyze theoretical achievements of related studies on logistics service performance so as to obtain innovative theoretical results about satisfaction on logistics service companies. Questionnaire design, data collection and screening, and statistical analysis are carried out

according to the characteristics of express delivery companies' logistics capabilities and company performance evaluation indicators.

3 REVIEW OF LITERATURE

The relevant literature of China and developed countries in terms of China's express logistics service capabilities and company performance is reviewed to see the conclusions and prospects of existing literature.

At present, there are many researches on the characteristics and development status of China's express logistics service industry, ZENG, Xiangpei comparatively analyzed the advantages and disadvantages of domestic private express delivery companies, foreign-funded express delivery companies, and EMS Express, he put forward countermeasures and suggestions to improve the competitiveness of private express delivery companies in a fiercely competitive environment. (ZENG, Xiangpei, 2019)

According to Madden Bura's (2012) research on FedEx, with the acceleration of the global economic integration process, Chinese express logistics service companies need to focus on service efficiency and quality in order to maintain a stable market competitive position, the success of FedEx in the global express delivery market is the best example. Certainly, companies can also improve their competitiveness by other approaches in addition to improving service quality, but the improvement of service quality is still an effective way to enhance the competitiveness of companies. The overall quality of employees of many private express delivery companies is relatively low, and their service levels are also lagging behind foreign companies. Therefore, it is important for Chinese private companies to continuously optimize their service quality, only in this way can they better meet the diversified service needs of different customer groups. (Madden Bura, 2012)

ZHOU, Xiaoli believes that Chinese private express companies should find "blue ocean" service areas from the industry, and continuously permeate towards the high-end market. Chinese private express companies should provide more and higher-value services in terms of service quality, further expand the supply chain management model in terms of service functions, try to promote logistics financial services in terms of service functions. The rapid development of China's express delivery industry mainly benefits from the rapid development of e-commerce, especially the wide application of various online shopping platforms, which has brought bright market prospects to a series of private express companies such as Shentong, Yunda, Yuantong, and Tiantian. Therefore, the above-mentioned companies should further strengthen their connections with e-commerce platforms, actively seek out "blue ocean" service areas, continuously optimize their business models and service products, and lay the foundation for their long-term stable development. (ZHOU, Xiaoli, 2014)

There are few studies on express logistics services abroad, and the research content is mainly reflected in the evaluation system for the quality of logistics services. At the end of the 20th century, Parasuraman, Zeithaml and Berry proposed the SERVQUAL evaluation model. Foreign scholars began to conduct empirical research on its applicability, and combined with the relevant characteristics of logistics to improve the originally constructed SERVQUAL model. John T Mentzer and others

believe that logistics service is an attribute concept that includes physical distribution services and customer marketing services. After empirically testing the research hypothesis, he established a physical distribution service quality measurement scale that includes availability, timeliness, and quality. Subsequently, John T Mentzer constructed a comprehensive LSQ scale based on the SERVQUAL model, and used American DLA customers as the research object to verify and determine the final dimension of the scale. (John T Mentzer, 1999)

The most representative of the definition of logistics service capability is to divide logistics service capability into generalized logistics service capability and narrowly defined logistics service capability. Compared with the related research of European and American scholars, most of the research of Chinese scholars mainly focus on the definition of logistics capabilities, and the evaluation or relationship analysis of logistics capabilities. ZHAO, Meng et al. discussed the relationship between logistics capabilities and company performance from two levels of customers and information to construct elements of logistics capabilities. Then, using the fast-food industry as the research background, they analyzed the relationship between the customer satisfaction and interaction, potential additional effects caused by the mutual influence of operational capabilities and correlation capabilities, and proved that there is a direct relationship between customer satisfaction and interaction, potential additional effects. (ZHAO, Meng, 2001)

4 RESEARCH METHODOLOGY

This paper explores the relationship between express logistics service company's capabilities and the satisfaction on company performance, and studies the correlation between independent variables, time control capability, cost control capability, quality control capability, flexibility, and resource integration capability. The research is carried out in combination with the hypotheses and questions put forward in Chapter 2 in this paper to obtain the ratios of independent variables related to the dependent variable.

The quantification of the research in this thesis refers to: the researcher first puts forward hypotheses and determines causally related various variables, and then uses particular tested tools to measure and analyze these variables, thereby verifying the researcher's predetermined hypotheses. The research literature is abundant enough, so quantitative deductive methods can be used for research. In the study using the deductive method, descriptive research is adopted for dialectical analysis in this thesis. Descriptive research refers to the research used to describe phenomena related to a particular subject group or to describe the percentage of subjects with certain characteristics to the total.

4.1 Data Collection Method

The data collected in this research paper are the original data, which has not been explained or announced and is the original work or represents official opinion or position. The reference of this paper is from the discussion of express logistics service companies in the online second-hand data and reference literature, the relevant statistics about the data of satisfaction on company performance, and the interpretation of the original survey research data.

4.2 Sampling Design

Sampling is performed according to the principle of sampling survey on the basis of the discussion of China's express logistics service companies as well as the purpose and requirements of the survey of satisfaction on logistics companies' performance in combination with the actual situation of the express delivery companies, so as to design a set of express delivery company samples with high accuracy and covering various regions. Throughout the research process, sampling is to obtain a conclusion about the entire population by selecting certain elements in a population. (WilliamG.Zikmund, 2012)

4.3 Specified Population

This thesis mainly studies the relationship between China's express logistics service company's capabilities and the satisfaction on logistics company's performance. The research objects are the Haidian District, Chaoyang District, Fengtai District, and Shunyi District of Beijing, and then specific samples are drawn therefrom. Due to the epidemic, government control has brought many disadvantages to the author's research, which can only be done through online approaches such as telephones, videos, emails, WeChat, and QQ.

4.4 Sampling Elements, skills, size

The sampling elements in this paper are all employees of the express delivery companies. During sampling, the survey and research objects are randomly selected from the staff of the express delivery companies, so as to better ensure the accuracy, authenticity, and reliability of the research results, thereby avoiding errors that may be caused by artificial factors.

In the sampling frame used in this paper, the members in the samples are selected by probability sampling. During sampling, the locations of express logistics companies are relatively scattered, and the regions of the express delivery companies are different. However, for express logistics companies, the situations of employees in different express logistics service companies are basically the same, which is helpful for random questionnaire and makes the scope of this paper more extensive.

The questionnaire can be randomly issued according to the status of the employees of express logistics service companies, or distributed to the competent departments for random sampling to carry out the research in this thesis, which is more representative than the traditional random sampling method. Since the status of employees of express logistics service companies are roughly the same, the proportion of sampling elements is designed to be 75% for each company.

The sampling size of this paper is selected as shown in Table 3-1. Sampling is performed using a total of 600 employees of express logistics service companies as the representative, with a confidence level of 95%, an error tolerance of $\pm 3\%$, and a confidence interval of 60%-70% (HONG, Wenliang, XIE, Jinqing, 2002). The table is an ideal sample effective number comparison table, and sampling is

performed using 75% of the employees in each company as the sample number according to the above ratio. The sampling ratio meets the design requirements.

The number of survey and research questionnaires distributed is 500, and 452 valid questionnaires are returned, with an effective collection rate of 90.4%. Therefore, the sampling size of this paper is 452 copies.

For the sampling size of this paper, as shown in Table 3-1, sampling is performed on 600 employees from the five representative express delivery companies, SF Express, Shentong Express, Yunda Express, JD Express, and EMS Express, in the express delivery areas according to the confidence level of 95% and the error tolerance of $\pm 3\%$. The effective number of samples is 452.

Table 1: Number of People in Samples

Company Name	Number of People	Sampling	Questionnaire Distribution	Valid questionnaire
SF Express	130	75%	100	98
Shentong Express	126	75%	100	95
Yunda Express	99	75%	100	75
JD Express	117	75%	100	88
EMS Express	128	75%	100	96
Total	600	75%	500	452

Source: Compiled by the author of this paper

4.5 Research Tool

The research of this paper is conducted by means of the questionnaire method to perform descriptive data analysis. The questionnaire structure is divided into two parts, with a total of 23 questions. The first part is composed of questions 1-15, designed for investigating questionnaire respondents' satisfaction on the performance of express logistics service companies in time control capability, cost control capability, and quality control capability. The second part is composed of questions 16-23, relating to the personal information of the respondents and including questions about, for example, gender, age, marital status, education level, average monthly income, position, working age and so on.

The Likert Scale response method is used in this thesis to design the survey and research questions, so that the answers of the questionnaire respondents can be fully reflected. The entire process of the questionnaire survey is divided into four stages: the preparation of the questionnaire, the trial stage, the formal distribution stage, and the data statistical analysis stage. The purpose of the questionnaire trial is to make sure that the questions of the questionnaire are clear and easy to understand. At the

stage of test survey, 100 questionnaires were randomly distributed at SF Express, 98 of which were recovered, so the number of valid questionnaires is 98. In order to save time and costs, the questionnaire is sent by the author to the sampled staff by e-mail and printed out by the person in charge. The supervisor in SF Express issued the questionnaire to the staff and collected in person. The questionnaire was issued on December 8, 2020.

4.6 Data Processing

In this paper, after the questionnaire is collected, the data organization is performed, including reviewing the questionnaire, numbering the data, analyzing the data, recording the data, and calculating the error. Statistical analysis software is used to analyze data to draw conclusions in this paper.

4.7 Data Analysis

Descriptive analysis, also called statistical analysis, which is used to describe the distribution shape, position, and spread of statistical data is used in this thesis. Average and mode are common position measurements, and are both called central tendency or central measurement. Frequency distribution, extreme deviation, and standard deviation are all data indicators reflecting the sensitivity of numerical differences or variability. The slope and kurtosis respectively describe the degree of deviation from the symmetry of the distribution and the relative flatness. Bar chart refers to a graph that represents data in the form of horizontal or vertical bars. The pie chart is a chart used to represent the relative proportions of the research object.

In view of the above, various forms are used to express the results of descriptive analysis of data in this research paper. These forms are different in specific applications by different measurement scales.

Table 2: Descriptive Analysis

Scales	Concentration analysis	Dispersion analysis	Shape analysis	Graph analysis
Nominal	Mode	—————	—————	Frequency table and chart
Ordinal	Median	—————	—————	Frequency table and chart
Interval	Average	Standard deviation	Slope and kurtosis	Frequency table and chart
Ratio	Average	Standard deviation	Slope and kurtosis	Frequency table and chart

Source: Compiled by the author of this paper

5 DATA ANALYSIS AND RESULTS

In this chapter, statistical analysis software is used to carry out specific description and analysis according to the questionnaire collected for the survey research on the relationships between time control capability, cost control capability, quality control capability, flexibility, and resource integration capability and the satisfaction on performance of China's logistics service companies in Chapter 3, research method and design.

A preliminary test is carried out after the questionnaire is compiled. In the preliminary test, the questionnaire is distributed to 500 people selected from SF Express, Shentong Express, Yunda Express, JD Express, and EMS Express in Beijing, and 452 copies of the questionnaire are returned. 452 copies of the questionnaire is valid. The purpose of the preliminary test is to make sure that the questionnaire questions are clear and easy to understand. The Cronbach's alpha coefficient values by the preliminary test according to the questionnaire on the relationships between time control capability, cost control capability, quality control capability, flexibility, and resource integration capability and the satisfaction on performance of China's logistics service companies are 0.765, 0.755, 0.762, 0.758, 0.743, respectively. The test results show that these questionnaires are relatively stable and consistent, and basically meet the requirements of the research in this thesis. Therefore, this questionnaire can be officially used to investigate the satisfaction on performance of China's logistics service companies.

A total of 500 copies of the questionnaire are issued for this thesis, and 452 valid copies are returned, with an effective recovery rate of 90.4%. The questionnaire meets the requirements and can be used for data analysis.

In this paper, principal component analysis is used to extract factors, the convergence validity of each item in the same variable and the discriminant validity of the low correlation between different variables are measured, and the correlation matrix is tested by KMO and Bartlett's sphericity.

After analyzing the collected valid copies of the questionnaire, the results of the validity analysis are as follows:

Table 3: Exploratory Factors of Logistics Capabilities and Company Performance

Variables	Operation definitions (attributes)	Factor loading	Total values	Cronbach's Alpha
Time control capability	Order placement	0.739	2.221	0.740
	Transportation	0.754		
	3. Delivery	0.728		
	4. Unit price	0.747	2.204	0.734
	5. Quoted price	0.724		

Cost control capability	6. Value added	0.735		
Quality control capability	7. Cheap	0.754	2.23	0.743
	8. Reliable	0.703		
	9. Accurate	0.748		
Flexibility	10. Risk	0.743	2.208	0.736
	11. Brand	0.739		
	12. Service	0.726		
Resource integration capability	13. Package	0.742	62.239	0.746
	14. Transportation	0.751		
	15. Transition	0.746		

Source: Compiled by the author of this paper

6 CONCLUSION

The research results show that the logistics time control capability, cost control capability, quality control capability, flexibility, and resource integration capability in China's logistics service capabilities are all at the levels of 0.740, 0.734, 0.743, 0.736, and 0.746. They are significantly positively correlated with satisfaction in the performance of logistics service companies.

In order to improve company performance and customer satisfaction, logistics service companies must develop and grow as quickly as possible to improve the five capabilities of logistics services. According to the research results of the impact of the five abilities of logistics services on the performance of logistics service companies, it is found that the logistics service capabilities that affect the performance of logistics service companies are time control capability, cost control capability, quality control capability, flexibility and resource integration capability. Among them, the logistics time control capability of the logistics service company will affect the customers performance of company; the cost control capability of the logistics service company will affect the learning and growth performance of the company; the quality control capability of the logistics service company will affect the customers performance of the company, and the flexibility of the logistics service company will affect the customers performance of the company; the resource integration capability of logistics service companies has a particularly significant impact on customers performance of the company. Therefore, based on the results of the empirical analysis, starting from the three dimensions of the five capabilities of logistics time control capability, cost control capability, quality control capability, flexibility and resource integration capability, the corresponding recommendations that can promote the

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