


The Research About the Relationship Between Express Delivery and Business Revenue in China

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Abstract: As e-commerce has grown and logistics have advanced, express delivery has become pivotal in modern society, transforming consumer behavior and driving economic growth. The surge in e-commerce and logistics innovations has made express delivery crucial. Serving as the backbone of e-commerce logistics, it not only creates opportunities and challenges for businesses but also drives expansion and service enhancements to meet rising market needs. This study discusses the impact of express delivery services on the revenue of enterprises by analyzing the growth of China's express delivery market and the financial information of businesses. According to the study, China's economy has experienced rapid growth in recent years, and e-commerce has emerged, enabling businesses to access more efficient delivery services. The express delivery sector has grown rapidly because of these factors. By analyzing a certain number of sample data from enterprises, it was found that the increase in express service is positively correlated with the revenue of logistics enterprises. This research concludes that delivery services help Chinese businesses expand and prosper by increasing their revenue. In the future, the researchers suggest further in-depth research into the impact of express delivery services on different aspects of enterprises to better guide business operations and government policy formulation.


1 INTRODUCTION

This study concludes that, in contemporary society, delivery services boost the profitability of Chinese firms, hence facilitating their expansion and prosperity. The introduction of expedited shipping options has changed consumer behavior and shopping habits. It holds great significance in driving economic development, promoting industrial upgrading, and enhancing consumer quality of life. For Express Delivery Services, the market's explosive growth has created previously unheard-of development potential, as well as new business opportunities and challenges.

The flourishing express delivery industry has grown as a result of the thriving expansion of e-commerce. As the last stage of the product's circulation in online commerce, express delivery services provide consumers with convenient and efficient product delivery services while also offering crucial support to e-commerce enterprises.

The express delivery industry's explosive expansion not only supports e-commerce but also brings new business opportunities and challenges to enterprises' core business. As the scale of e-commerce transactions continues to expand, the express delivery service market is also growing gradually. Major express delivery companies are expanding their company's reach and raising the caliber of their services to satisfy the expanding consumer demand. Various traditional industry enterprises have also turned their attention to express delivery services, expanding their express delivery services based on their core business and upgrading to adapt to market changes, and ensure stable revenues from their core business.

Analyzing the relationship between express delivery services and enterprises' main business revenue is of great significance due to the explosive expansion of the express delivery industry, which supports e-commerce. The purpose of this research is to completely examine the significant influence that express delivery services have on business

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operational performance. This paper provides references for enterprises to formulate rational development strategies and operational strategies, thereby enhancing their operational performance and competitiveness and promoting the steady and healthy development of the entire industry.

This paper employs methods such as literature review, data collection, regression analysis, and case studies to comprehensively examine the correlation between the express business and the main business revenue of the enterprise. The research content includes analyzing influencing factors, comparing the impact of different businesses on revenue, and predicting the impact of future trends on enterprises, seeking to comprehend their relationship in great detail.

This essay will be structured as follows: Section 2 will include a literature review, data analysis will be done in Section 4, an overview of the Chinese express delivery market will be introduced in Section 3, and conclusions and future prospects will be presented in the last part.

2 LITERATURE REVIEW

2.1 Related to Research Background

The Chinese express delivery market, as a typical representative of the booming service industry in China, is experiencing rapid development along with various challenges. Using research results from multiple scholars, this study examines the current development status, challenges, opportunities, and future development directions of the Chinese express delivery market.

Freund CL and Weinhold D (2004) found in their study that the rise of the Internet has stimulated the development of trade, significantly impacting trade and highlighting the Internet's crucial role in the global economy. In the context of challenges and opportunities facing the Chinese express delivery industry, innovative improvements in service levels are necessary to adapt to changes in market demand and achieve sustainable development. Meanwhile, SUN and YU (2012) argue that the Chinese express delivery market faces competition from foreign express logistics giants in the global modern logistics industry, as well as vigorous development from state-owned and private logistics enterprises. They propose competitive strategies such as integrated development, network operations, product systems, customer service, and pricing, emphasizing the need

for comprehensive strategic application to address challenges in a competitive market environment.

The COVID-19 pandemic outbreak at the conclusion of 2019 has resulted in significant disruptions to the global economy, affecting various industries profoundly. Gossling et al. (2020) point out that this is the most severe economic impact since World War II, which also affects the Chinese express delivery industry. Business models have been transformed as a result of the COVID-19 pandemic, according to Voorhees et al. (2020). Additionally, Liu et al. (2024) using the DID method, found that the COVID-19 pandemic has had a positive impact on the growth of the Express Delivery Service, but epidemic prevention and control (EPC) policies have brought negative effects on the growth of the Express Delivery Service.

The express delivery industry in China has maintained rapid growth over the past 20 years, and has ranked first globally for eight consecutive years, as noted by LIU (2022). The express delivery industry not only promotes employment but also makes significant contributions to the development of the Chinese economy. China's Express Delivery Service has continued to grow rapidly despite the economic disturbances caused by the pandemic in recent years. The State Post Bureau revealed that the business volume of national express delivery service enterprises increased by 29.9% compared to 2020, reaching 108.3 billion pieces in 2021. This indicates that the Chinese express delivery market will continue to maintain rapid growth.

2.2 Methodology

Sykes (1993) believes that multiple regression analysis is a useful statistical method that attempts to explain the relationship between a dependent variable and multiple independent variables. Compared with simple regression, multiple regression allows researchers to consider the influence of multiple factors at the same time, thus more comprehensively evaluating the contribution of each factor to the dependent variable. In multiple regression, in addition to considering the independent influence of each independent variable on the dependent variable, the interaction between them can also be considered. This method is particularly useful for analyzing complex real-world problems, because it can estimate the independent influence of each factor while controlling for additional factors.

In practical applications, multiple regression analysis can handle any number of independent variables and can estimate the equation of a hyperplane in multi-

dimensional space by mathematical methods, so as to minimize the sum of squares of errors between the actual value and the estimated plane. The plane is related to the coefficients of the respective variables, and the intercept represents the constant term. For n independent variables, multiple regression analysis will estimate the equation of a hyperplane in n -dimensional space to minimize the sum of squares of errors. The results of multiple regression analysis can help researchers better understand the influence of each factor on the dependent variable, and provide a scientific basis for decision-making.

In summary, multiple regression analysis is a flexible and effective statistical method that can be used to explore the complex relationship between multiple independent variables and dependent variables, providing essential data support for research and decision-making. The data analysis part of this paper will use the multiple linear regression method to analyze the relationship between express delivery and business income in China.

2.3 Related to Perspectives

Cai (2023), through empirical analysis of the total factor productivity of China's express delivery industry and listed express delivery enterprises, reveals several key findings. The Chinese express delivery market has economies of scale advantages, which can be utilized to improve productivity by enhancing scale and technical efficiency. Private listed express delivery enterprises have great efficiency, but market development is uneven, requiring attention to western and rural markets. Improving market operation efficiency also requires relying on state-owned enterprises to leverage non-economic value. Focus should be placed on regional development in the future, while also improving productivity, market efficiency, and non-economic value.

Zhang (2023) points out that the current global consumer market is moving towards digitization, necessitating corresponding adjustments. With the continuous development of technology, consumers are increasingly inclined towards online shopping and digital payments, prompting enterprises to accelerate digital transformation, optimize supply chain management, and enhance customer experience to adapt to contemporary consumer trends.

Katarzyna (2023) that more and more major express delivery companies rely on modern technology aimed at minimizing harmful substances released into the environment. By introducing electric vehicles, intelligent routing systems, and sustainable

packaging materials, the express delivery industry has made some progress in reducing carbon emissions and environmental pollution while also providing consumers with more environmentally friendly delivery options. This development aligns with the global trend of sustainable development, reflecting the continuous enhancement of corporate social responsibility awareness.

2.4 Summary and Evaluation

Overall, the Chinese express delivery market is experiencing rapid development, influenced by factors such as the pandemic, global digitization, and technological changes. While addressing challenges, the Chinese express delivery industry needs to strengthen innovation to adapt to changes in market demand and improve service levels for sustainable development. Furthermore, attention should be paid to digital transformation, the application of environmentally friendly technologies, and the enhancement of market efficiency, particularly in rural markets, and the leveraging of non-economic value. This paper believes that the relationship between express delivery services and the revenue of enterprises' core business is inseparable. High-quality express delivery services directly drive sales and market share growth, enhance customer loyalty, and indirectly promote the revenue of core business. Express delivery services can optimize supply chains, reduce costs, and further promote the development of core business. This paper analyzes the impact mechanism of express delivery services on the revenue of enterprises' core business, aiming to provide references for enterprise managers to better understand the role of express delivery services in business operations, thereby optimizing business strategies and enhancing performance.

3 DEVELOPMENT CHARACTERISTICS OF CHINA'S EXPRESS DELIVERY INDUSTRY

3.1 Historical Development of Express Delivery Service in China

From the late 1970s to the early 1990s, when China began implementing the reform and opening-up policy, China's express delivery industry developed. At that time, international trade became frequent, the economy gradually entered a period of rapid

development, and domestic and international express delivery services increased dramatically, leading to the rapid rise of the express delivery industry. At that time, international trade became frequent, the economy gradually entered a period of rapid development, and domestic and international express delivery services increased dramatically, arousing the rapid growth of the express delivery industry.

From the early 1990s to the early 21st century, China's market economy witnessed comprehensive development, and there was a surge in demand for express delivery services. With the advent of the 21st century, China's social and economic sectors, especially e-commerce, experienced rapid development. The development of the internet also brought additional opportunities to the express delivery industry. Some enterprises began to provide express delivery services independently, such as EMS, SF Express, and some e-commerce enterprises started self-delivery and developed into leading companies, such as JD.com, TB, etc. Additionally, current types of express delivery companies such as YTO Express, STO Express, YUNDA Express, ZTO Express, etc., emerged, providing enormous development space for China's express delivery industry.

3.2 Characteristics of China's Express Delivery Industry

3.2.1 Distinct Regional Characteristics of Express Delivery Industry Development

There are clear regional differences in China's express delivery market. Express delivery services are primarily located in the eastern areas, with notable discrepancies between the center and western regions, owing to variations in economic development levels.

The percentage of Express Delivery Service in the eastern region is 75.2%, the percentage in the central region is 16.7%, and the percentage in the western region is 8.1%, according to State Post Administration statistics from 2023. The percentage of business revenue in the central region is 14.1%, the percentage in the eastern region is 76.2%, and the percentage in the western region is 9.7%.

In the central region, the share of Express Delivery Service volume increased by 1.0 percentage points and the share of Express Delivery Service income increased by 0.7 percentage points when compared to the same period last year; in the western region, the share of Express Delivery Service volume increased by 0.6 percentage points and the share of

Express Delivery Service income increased by 0.7 percentage points.

3.2.2 Seasonal Characteristics of the Express Delivery Industry

The express delivery industry exhibits strong seasonal characteristics in terms of order volume. Peak consumption during holidays and the fourth quarter of each year, which represents a peak in social trade and transportation business, form the peak season for express delivery service demand. Conversely, during the Chinese New Year holiday, business activities are inactive, representing the low season for the express delivery industry.

Using 2023 as an example, the express delivery industry generated 124.14 billion RMB in revenue in November of that year, with a volume of 13.64 billion pieces. Express delivery income was 1.46 times higher than that of February in the same year, while its volume was 1.486 times higher than that of the same month the previous year. The aforementioned data make it clear that the express delivery sector has seasonal volatility characteristics.

3.2.3 Significant Differences in Specialized Express Delivery Services

There is a significant gap between the different specialist express delivery services. Cross-regional services contribute the majority of income in the express delivery industry, highlighting the commercial importance and status of cross-regional express delivery services.

In contrast, express delivery in different places has higher business volume and revenue than same-city and international/Hong Kong-Macao-Taiwan. In 2023, the proportions of same-city, cross-regional, and international/Hong Kong-Macao-Taiwan Express Delivery Service volume were respectively 10.3%, 87.4%, and 2.3%, and the proportions of business income were respectively 5.9%, 49.7%, and 11.6%.

3.3 Development Trends of China's Express Delivery Industry

China's express delivery industry is experiencing steady growth as a result of the development trend. The steady growth in revenue and business volume of China's express delivery industry from 2014 to 2023 in Figure 1 is a testament to the industry's continuous expansion. The increase in business volume has driven the growth in revenue, demonstrating a clear

positive correlation. Data from the past decade shows that the average revenue was approximately 6.336 trillion yuan, and the average business volume was approximately 728.11 billion pieces, indicating relatively stable growth momentum in the express delivery industry during this period.

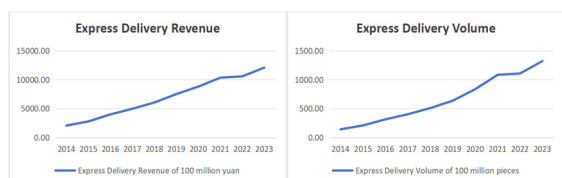


Figure 1: China express business revenue and business volume development trend chart.

4 DATA ANALYSIS

4.1 Data Analysis Method

The data for this paper are sourced from the financial reports published on the official websites of various companies.

This study employs multiple regression analysis method, and the formula studied is as follows:

$$\text{Total Revenue} = \alpha + \beta * \text{Express Delivery Service Revenue} + \beta_1 * \text{Material Sales Business Revenue} + \beta_2 * \text{Freight Forwarding Business Revenue} + \varepsilon \quad (1)$$

Logistics Express Delivery Service revenue, material sales revenue, and freight forwarding agency revenue are selected as the research data objects. Logistics Express Delivery Service revenue plays a critical role in enterprise financial management as a key financial indicator. With the increase in logistics Express Delivery Service revenue, the company's market share will correspondingly expand, helping to enhance the company's position and influence in the industry. Material sales revenue is of significant importance in enterprise financial performance, and its increase strengthens the company's position and competitive advantage in material supply chain management. Similarly, freight forwarding agency revenue (X3) is an critical component of enterprise transportation services, and its increase will contribute to enhancing the company's position and reputation in the freight forwarding agency market. Therefore, this study selects logistics Express Delivery Service revenue, material sales revenue, and freight forwarding agency revenue as the research objects.

The data show the impact coefficients and statistical significance of various express delivery companies on the revenue of the company's core business. The coefficients reflect the extent to which express delivery companies affect the revenue of the company's core business, while the P-value indicates whether this impact is statistically significant. Larger coefficients and smaller P-values both signify a more significant impact.

4.2 Regression Analysis of the Impact of Various Business Revenues

4.2.1 Significant Differences in Specialized Express Delivery Services

From the Table 1, it can be seen that the coefficient for STO Express reaches a significant positive level at the 1% significance level, at 0.990. This indicates that the revenue from STO Express's Express Delivery Service has a significant positive effect on its core business revenue. Similarly, the coefficient for ZTO Express is also significant at the 1% level, at 0.995, indicating that the revenue from ZTO Express's Express Delivery Service also has a significant positive effect on its core business revenue. Additionally, the regression results for YTO Express, SF Express, and JD.com are consistent with the aforementioned two companies, adequately demonstrating that the Express Delivery Service of these companies has a significantly positive impact on their core business revenue.

Building upon the above research, this study additionally created relevant trend charts. Through Figure 2, this paper can observe that the trends in total revenue for STO Express, ZTO Express, YTO Express, SF Express, and JD.com are totally consistent with the trend in Express Delivery Service revenue. This demonstrates a significant correlation between the two.

Table 1: Regression result-Basic.

	Coefficients	Standard error	t Stat	P-value	Lower 95%	Upper 95%
STO Express	0.990	0.010	94.849	0.000	0.945	1.035
ZTO Express	0.995	0.014	68.668	0.000	0.932	1.057
YTO Express	1.081	0.032	33.335	0.001	0.942	1.221
SF Express	1.014	0.004	253.487	0.000	1.002	1.027
JD Logistics	7.419	0.932	7.963	0.001	4.832	10.006



Figure 2: Express business and enterprise main business income trend chart.

4.2.2 Regression Analysis of Material Sales Business Revenue Impact

Table 2: Regression result—material sales income.

	Coefficients	Standard error	t Stat	P-value	Lower 95%	Upper 95%
STO Express	2.341	4.008	0.584	0.618	(14.905)	19.587
ZTO Express	1.248	0.445	2.803	0.107	(0.668)	3.163
SF Express	0.551	0.208	2.644	0.077	(0.112)	1.213

From the Table2, it can be observed that the P-value for STO Express is 0.618, indicating that the revenue from STO Express's material sales business does not have a significant positive impact on its core business revenue. Similarly, the coefficient for ZTO Express is 0.107, indicating that the revenue from ZTO Express's material sales business does not have a significant positive impact on its core business revenue. Additionally, the regression results for SF Express are consistent with the aforementioned two companies, adequately demonstrating that the material sales business of these companies does not have a significant positive impact on their core business revenue.

4.2.3 Regression Analysis of the Impact of Freight Forwarding Business Revenue

From the Table 3, it can be seen that the coefficient for ZTO Express is also significant at the 1% level, at 1.072, indicating that the revenue from ZTO Express's Express Delivery Service also has a significant positive effect on its core business revenue. Additionally, the regression results for YTO Express are consistent with ZTO Express, fully demonstrating that the freight forwarding business of both ZTO Express and YTO Express has a significantly positive impact on their core business revenue.

Table 3: Regression result—freight forwarding income.

	Coefficients	Standard error	t Stat	P-value	Lower 95%	Upper 95%
ZTO Express	1.114	0.084	13.323	0.006	0.754	1.473
YTO Express	1.072	0.222	4.835	0.040	0.118	2.025

4.3 Reason Analysis

The underlying reasons behind this phenomenon are worth exploring. The success of the e-commerce industry has a direct impact on the rapid development of the Express Delivery Service. The demand for express delivery services is on the rise as the e-commerce market expands. Express delivery services are essential for meeting the demand created by the rapid expansion of the e-commerce industry's market, due to their efficient and reliable logistics services. The rapid development of the Express Delivery Service is directly affected by the success of the e-commerce industry. The demand for express delivery services is on the rise as the e-commerce market expands. To meet the demand created by the rapid expansion of the e-commerce industry's market, express delivery services are essential, as they provide efficient and reliable logistics services. By providing superior-quality express delivery services, these companies can enhance customer satisfaction, increase customer loyalty, and consequently promote the growth of their core business. Furthermore, the continuous expansion of network coverage provides customers with more convenient service experiences, further attracting more customers. The sustained development of the e-commerce industry provides continuous momentum for express delivery services. As consumer demand for online shopping continues to increase, it drives the flourishing development of express delivery services, thereby providing a stable guarantee for the continuous growth of core business revenue for companies.

5 CONCLUSION

The relationship between express delivery services and core business revenue is closely related and mutually reinforcing. Firstly, the provision of express delivery services has a direct positive impact on a company's revenue. This is because the timely delivery of products through express delivery services ensures that products are delivered to customers on time. This rapid delivery process not only meets customer needs but also promotes sales

volume growth, thereby promoting the growth of core business revenue. Secondly, high-quality express delivery services not only improve customer satisfaction but also establish an excellent brand reputation for companies. This additionally enhances customer trust, thereby increasing customer loyalty and repurchase rates. Customer satisfaction with express delivery services reflects the company's attention to customer needs and the professionalism of its services. The company earns the respect and trust of customers, which not only promotes repeat purchases from existing customers but also attracts more current customers, injecting sustained momentum into the growth of core business revenue.

Given the close relationship between express delivery services and core business revenue, the government can support the growth of the Express Delivery Service through the establishment of special funds to encourage technological innovation and equipment updates, thereby promoting industry development. This can improve the efficiency and quality of express delivery services, better supporting the development of core business revenue and promoting revenue growth. In addition, the government can encourage companies to strengthen internal management by incorporating express delivery services into their development strategies. Encouraging collaboration and communication between internal departments to achieve resource sharing can also promote overall competitiveness. Furthermore, the government can promote external cooperation by encouraging companies to establish stable partnerships with express delivery companies and logistics service providers to jointly optimize delivery solutions, improve service levels, and enhance brand image and revenue growth. Through these measures, the growth of the Express Delivery Service can be effectively promoted, providing strong support for the growth of core business revenue.

With the continuous progress of technology and the innovative development of the express delivery industry, the relationship between express delivery services and core business revenue will become even closer in the future. It is expected that express delivery services will become more intelligent and personalized in the future. Through big data analysis and artificial intelligence technology, express delivery companies will be able to better meet customer needs and provide higher quality services, further enhancing customer satisfaction and loyalty. Meanwhile, with the advancement of globalization, express delivery services will also face broader market opportunities. Companies will be able to further expand market share and increase core

business revenue sources through cross-border e-commerce and international logistics cooperation.

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