

Platform Research on Car Free Carrier Based on the "Internet +"

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Abstract. The no-vehicle-carrying mode can effectively match the car and cargo resources, improve the efficiency of logistics operations, reduce the vacancy rate of vehicles, increase the degree of organization, and reduce the logistics costs of society and enterprises. The "Car-Free Carriage" platform is a new thing arising from the integration of modern Internet technology and traditional logistics. This article firstly analyzes the problems of car-free transportation; secondly it proposes the idea of building a car-free carrier platform; finally, it sets up a car-free carrier platform website.

1. Introduction

The "vehicle carrier" was evolved from the term "truck broker" in the United States and is an extension of the Carless carrier on land. "Car-free carrier" refers to a person or unit that does not own a vehicle and engage in the transportation of goods. The "car-free carrier" has a dual status. It is the carrier for the real shipper, but it is also the shipper for the actual carrier. "Car-free carriers" generally do not engage in specific transportation operations, but only engage in transportation organization, cargo allocation, transportation modes, and selection of transportation routes. Their sources of income are mainly freight charges resulting from large-scale "wholesale" transportation. At present, due to lack of supply of idle capacity most logistics companies need to be integrated to improve competitiveness and efficiency. However, a large number of sources are eager to find reliable high-quality logistics providers. Therefore, the alliance is a trend, logistics companies need capital, powerful industry giants, accurate transport capacity, nurturing teams, to optimize the allocation of transport resources, improve the ability of cargo owners to visualize, network, scale, standardization services, to create a car-free carrier platform.

2. Problems existing in vehicleless carrier

2.1. lack of talent and low level of management

At present, there are a total of 50 non-truckoperating common carrier in the general cargo business department. Although they are now engaging in the logistics industry, there are very few professionals specializing in logistics research. Everyone is in the post to learn, there is no systematic theoretical knowledge of learning and training.

2.2. Information systems are immature

Binson Logistics utilizes the TMS platform and Nav-isphere platform to help shippers save on logistics costs, to reduce the cost of distribution and information systems for transport operators, and enhance their profitability. For OTM and MRT interconnection systems and downstream customers, MRT interconnection is not being used effectively. The matching of all goods and vehicles is mainly related to



the business personnel themselves, rather than the self matching of the system, just like the TMS system. At present, there are still some shortcomings and deficiencies in the information system, which reduces the efficiency of staff implementation, and has to be improved according to the company's situation.

2.3. Lack of credit data

At present, it is difficult to obtain effective data from the current extensive market management of Chinese government departments, and it is inconvenient to carry out risk control and qualification audits on the carriers (small and medium-sized teams or individual drivers). The problem of deck cars and multi family cars cannot be well solved in the market. However, carrier audit and access is the key to building a transport capacity system for a car free carrier.

2.4. Logistics management software is not fully utilized

At present, Jingbo Logistics Company contacts with truck drivers is mainly purely manual operations, such as the use of phone book numbers, and when vehicles are dispatched, they rely entirely on telephone calls and are relatively backward. The introduced Guanchebao software has not been properly used. Regardless of any link, all the business personnel went to the site for inspection and contract signing. Moreover, the authenticity of information is difficult to guarantee. The parties to the transaction can easily face each other. It is difficult to establish a Taobao model and thus cannot control cash flow.

3. The thought on the construction of vehicleless carrier platform

Taking Jingbo logistics company as an example, it can accurately match the needs of the owner, optimize the route planning, and finally create the one-stop delivery service. It began to cooperate with stable strategic partners to create an accurate fleet training plan and promote a car-free transportation plan. In the future, the strategic partners of Jingbo logistics will gradually increase, covering every link of the logistics industry chain system, and providing high quality services for the logistics industry.

3.1. Basic support

Vehicleless carrier platform can realize the network layout of multiple cities logistics information centers to provide infrastructure support for importing goods and docking capacity. It relies on strong logistics information technology and information platform support which can provide standardized operation mode, visualized tracking, and flexibly design, it also satisfies the logistics service in the customer supply chain process flexibly according to the individual demand of the customer, helps customers save cost and improve the efficiency of supply chain operation.

3.2. Optimization configuration

Through the cooperation of strategic partners to cultivate the fleet, the companies have a large number of vehicle sources, improve the allocation of capacity resources, and satisfy the network, scale, standardization, personalized service capacity of large cargo owners. Vehicleless carrier platform can make the carriers understand what the customers needs and help the customers to optimize the process.

3.3. One-stop service

Cloud merchants integrate vehicle and cargo sources by using vehicle carrier platform, performing effective matching and efficient operation. It can accurately meet the needs of the cargo owners, match transport capacity, optimize route planning, and provide the former information (car source and cargo source pushes each other), mid-term tracking (GPS positioning), late feedback (customer opinions) and other services. Ultimately Cloud merchants create a one-stop cargo delivery service, capacity terminal one-stop capacity supply chain service to minimize the intermediate redundancy links.

3.4. Setting up the credit system of vehicle and cargo matching

In the freight industry, integrity is related to the safety of goods, unit equity and logistics efficiency. Over the past period of time, because it lacked of contractual spirit and low cost of breach of contract,

integrity issues have always been the pain point in the freight industry. However, when the freight meets the "Internet", the establishment of an industry integrity system becomes possible. Jingbo cloud merchants can promote the construction of credit system from multiple levels. The fundamental link is to control the authenticity of users and source information, and to minimize the loss of users from the source, even without loss. In addition, in order to further promote the integrity of the platform, Jing Bo cloud merchants can set blacklists on untrustworthy users on the platform. Once they become blacklisted users, they can no longer use the various items of cloudless vehicle carriers service.

4. Car-free carrier platform website construction

The platform home page provides users with search functions for source information and vehicle information, as shown in Figure 1. Using the retrieval system, a large number of scattered and disorderly information are centrally processed and organized, so that the information can be ordered and systemized according to the needs of the user, and the user can efficiently, quickly and accurately search for the required information.

Figure 1. Schematic diagram of source and vehicle information query function.

The source information is mainly divided into loading area, unloading area, goods category and loading section, and vehicle source information is divided into departure, destination, goods category, vehicle load interval. It is convenient for the user to screen the requirement information according to the key information.

The source and source information scroll tips are shown in Figure 2 and Figure 3.

Capacity Inquiry-Car information			
Departure	Destination	Load	Update Time
Binzhou,Shandong Province	Chongqing City	10t	2018-3-2
Chengdu,Sichuan Province	Shanghai City	20t	2018-4-1
Zibo,Shandong Province	Beijing City	30t	2018-4-22
Jinan,Shandong Province	Shijiazhuang,Hebei Provinc	18t	2018-4-23

Figure 2. Capacity inquiries and car information.

Freight Inquiries-Source Information			
Loading Place	Unloading Place	Item Name	Update Time
Shijiazhuang, Hebei Province	Chongqing City	plug	2018-3-21
Shanghai City	Chengdu, Sichuan Province	cement nail	2018-4-11
Zibo, Shandong Province	Beijing City	screws	2018-4-12
Jinan, Shandong Province	Binzhou, Shandong Province	lock	2018-4-25

Figure 3. Freight inquiries-source information.

No-car carrier platform mobile phone construction shown in Figure 4.

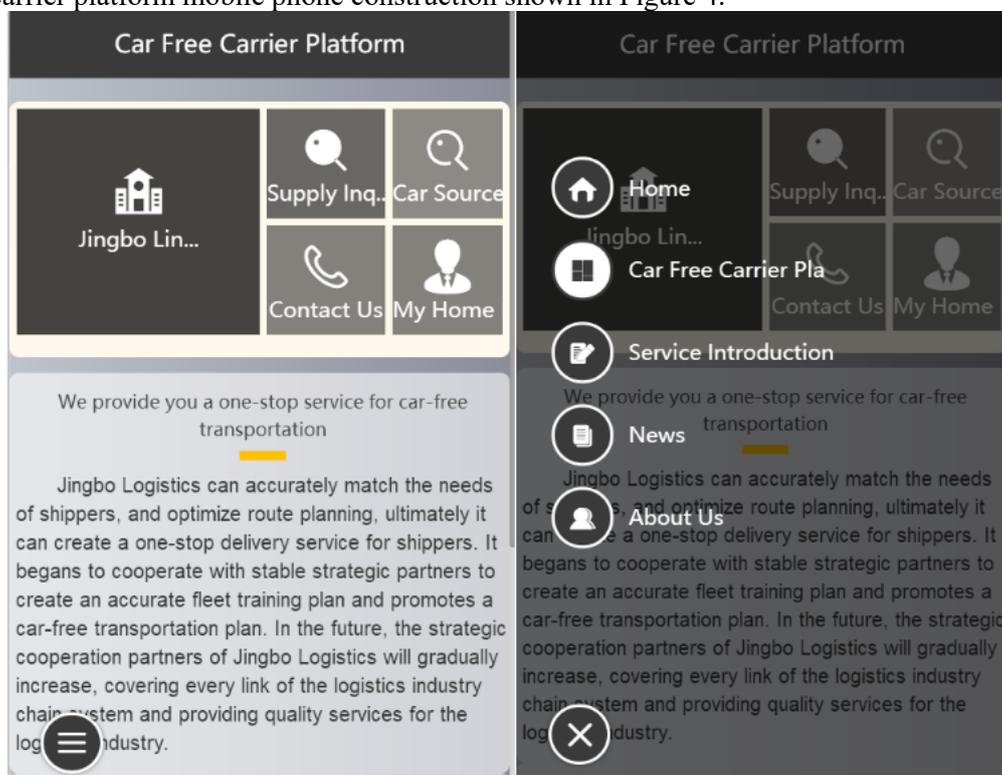


Figure 4. Car-free carrier platform mobile phone.

5. Conclusion

In the future, the vehicle-free carrier platform based on "Internet+" can not only provide all kinds of original single services, but also one-stop transportation services. Car-free transportation through diversified business, in order to achieve the purpose of multi-win-win situation, and combined with logistics information platform, has a wealth of sources of information resources, car sources, greatly improve the efficiency of logistics operations, reduce logistics costs, the source of goods Both the owner and the car owner can receive their own best interests. For society, they can also mobilize the enthusiasm of social investment. The overall development of the car-free carrier platform will bring immeasurable importance to the entire national economy.

References

- [1] Sang Shidong. Exploration on the reform of the driver and vehicle management model under the non-vehicle carrier business model [J]. Modern economic information. 2016 (17).

- [2] Bao Xingan. " No vehicle carrier "is expected to share the trillion-dollar market cake [J].
Transport manager World, 2016.
- [3] Wu Hong. " No vehicle carrier "heavy exploration [J]." China logistics and Procurement, 2016 .
- [4] Wang Ting. " Internet + "ERA road transport vehicle cargo matching platform development [J].
Integrated transport, 2015 (12).
- [5] HeRongxuan. Traditional logistics to modern supply chain management transformation Strategy
[J]. Enterprise Economy, 2011 (9).