July - August 2020
ISSN: 0193-4120 Page No. 5872 - 5879

Research and Design of Automatic Tracking System of Railway Transportation and Logistics in Modern Enterprises

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Article Info
Volume 83
Page Number: 5872 - 5879
Publication Issue:
July - August 2020

Article History
Article Received: *25 April 2020*
Revised: *29 May 2020*
Accepted: *20 June 2020*
Publication: *28 August 2020*

Abstract

With the rapid development of modern society and economy, the flow of goods has become more and more frequent. In order to realize the fast, timely and safe arrival of goods, logistics has become the main way of commodity flow, and its advantages are obvious.Logistics has developed into one of the important parts of the international economic system, especially the express service, is now a fast developing logistics service industry.Not only to promote social and economic development, convenient to meet consumer exchange and demand, increase the employment rate and other aspects of the reflected driving role.However, under the current economic background, how to realize the optimization of express delivery, reduce logistics costs and improve the strength of enterprises has become a subject of much concern and discussion in the industry. Macroscopic speaking also offers the suggestion for our country distribution industry, enhances the distribution industry development level, simultaneously also speeds up our country distribution industry development step.China's distribution companies in the process of distribution management problems have reference significance, improve the modern enterprise railway transport distribution system, help to improve customer satisfaction and the company's economic efficiency.

Keywords: *Enterprise Railway, Logistics and Transportation, Automatic Tracking, The System Design;;*

Introduction

The modern enterprise railway transportation studied in this paper is a typical small and medium-sized logistics enterprise, which has formed a certain scale since its establishment more than ten years ago[1-3]. However, with the continuous development of the company's business, the railway transportation and distribution process of contemporary enterprises is not satisfied with the existing requirements. As a result, there are frequent distribution accidents, which affect the company's reputation. Therefore, it is urgent to change the current situation through research. So, in the contemporary enterprise railway transportation as the analysis object, depth analysis of contemporary enterprise railway transportation at present many problems exist in the logistics distribution, and then puts forward solutions to solve these problems and implementation methods, for modern enterprises to find new mode of development of railway transportation, to improve the operation

Published by: The Mattingley Publishing Co., Inc.

July - August 2020
ISSN: 0193-4120 Page No. 5872 - 5879

status quo, improve the comprehensive strength of the company[4-5].Mainly solve the problems related to the railway transportation and distribution management of contemporary enterprises and give corresponding solutions[6]. In order to improve the railway transportation performance of contemporary enterprises and improve consumer satisfaction.

1. Introductions to relevant theories of distribution management

2.1. Definition of distribution management

Distribution management is a special and comprehensive form of activities in logistics. It is the close combination of business flow and logistics, including business flow activities and logistics activities, is a form of several functional elements in logistics.

2.2. Delivery process

2.2.1. Replenish onr's stock

(1) Concept

It is the preparation work or basic work of distribution, the preparation work includes: source of collection, order or purchase, pick up goods, replenishment and related quality inspection, settlement, handover, etc.

(2) Purpose

The customer has required the warehouse to prepare the goods according to the actual situation, so as to minimize the defect rate, improve customer satisfaction and economic benefits. Another storage method is temporary storage, that is, in the specific implementation process of daily distribution, according to the requirements of sorting and distribution, a small amount of storage and preparation work is carried out in the tally yard. Since the total stock is dependent on the total stock, this part of temporary stock only affects the convenience of the work and does not affect the total stock, so the quantity is not strictly controlled.

2.2.2. Storage

Distribution reserve is the resource guarantee of agricultural products distribution in a certain period according to the distribution operation demand. The larger the quantity of such reserves, the more perfects the structure of reserves. According to the source and arrival of goods, the structure and quantity of working capital reserves and insurance reserves can be determined by planning. Reserves are allocated to ensure that there is sometimes a separate warehouse near the distribution centre.

There is another form of temporary storage, that is, the goods sorted and distributed after the formation of temporary storage distribution of goods. This temporary storage is mainly to adjust the delivery and delivery rhythm, and temporary storage time is not long.

2.2.3. Replenishment

Replenishment refers to the process of moving the goods from the storage area to the picking area with corresponding book handling when the inventory in the picking area is lower than the set standard.Its purpose is to deliver the right goods at the right place at the right time in the right quantity and in the most effective way to the designated picking area.

2.2.4. Sorting

The classification and distribution of goods is to improve delivery, support the preparation of delivery, the competition between different distribution enterprises and the inevitable expansion of economic benefits from the body, so it can represent the inevitable demand for the development of the advanced form of the distribution of goods.Sorting and distribution will greatly improve the level of distribution service, so sorting and distribution is the

Published by: The Mattingley Publishing Co., Inc.

July - August 2020
ISSN: 0193-4120 Page No. 5872 - 5879

key factor to determine the level of the entire distribution system.

2.2.5. Inspection and distribution processing

In distribution, the functional element of distribution processing is not generic, but it usually plays an important role in the functional element. Mainly to the distribution of processing, can greatly improve user satisfaction.

2.2.6. Installation and delivery

When the quantity delivered by a single user cannot reach the effective carrying load of the vehicle, how to load the scattered goods of different users together and make full use of the transport capacity and capacity becomes a problem. The difference between ordinary distribution and installation is that equipment distribution can greatly improve the level of distribution and reduce the cost of distribution. Therefore, equipment distribution is also a functional element with modern characteristics in the distribution system, and it is also the main difference between modern distribution and previous distribution. Distribution transportation belongs to terminal transportation and feeder transportation in transportation.

2.2.7. Delivery and delivery services

The delivery of the finished goods to the user is not the end of the distribution work, because the delivery of the goods is often not in harmony with the goods received by the user, thus wasting the previous distribution work. Therefore, in order to smoothly realize the distribution of goods, effectively and conveniently handle the relevant procedures and complete the settlement, we should also pay attention to the location of unloading, unloading method and other distribution services are the unique characteristics of distribution.

2. Logistics transportation management is based on the main problems of the demand side

3.1. Problems in the working system of distribution equipment

First of all, there is a lack of demand-side logistics management technology in modern enterprise railway transportation.With the continuous development and advancement of economy and society, the management and supervision system is the most lacking in the logistics management technology system based on demand side. At present, the biggest problem of logistics management in China is that there are many imitations of technology, but there is a lack of foundation in the development of demand-side logistics, which is lack of innovation for demand-side logistics management technology and restricts the development of information engineering in China to a certain extent. The society lacks the guidance for the logistics management technology based on demand side, which also makes it difficult for the modern enterprise railway transportation based on demand side to get effective innovation.

Figure 1. The "Silk Road" of railway transportation and logistics for modern enterprises.

In the actual logistics transport distribution equipment is too single, such a single system to the modern enterprise railway transport logistics classification and sales are a limitation.The normalization mechanism of management cannot run through the work of logistics management, and there is a lack of good working atmosphere. All these are

Published by: The Mattingley Publishing Co., Inc.

TEST Engineering & Management

July - August 2020
ISSN: 0193-4120 Page No. 5872 - 5879

extremely important for the theoretical training of logistics management. This is also the reason that leads to the current China's modern enterprise railway transport logistics classification logistics management work relatively primary.

3.2. Problems of the index system of distribution equipment

For example in marketing service quality level there are some lack of service system, index selection is still stay in the historical data and the classification of logistics cost control system, as shown in figure 2, the development trend of the more important of the enterprise is less consideration, including the future trend of listed companies, the overall strategic target and core competitiveness.

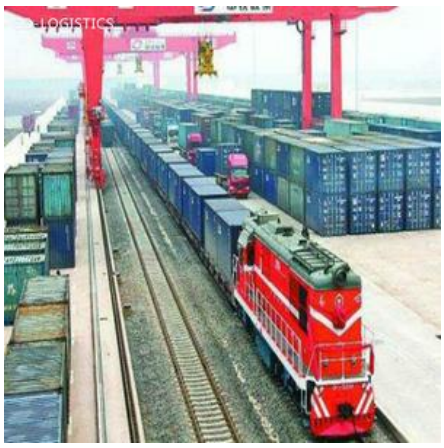

Figure 2. Railway transport logistics goods.

The reason for these problems lies in the short operation time of the enterprise logistics management system, the system is not perfect, can not achieve the full coverage of the field of enterprise logistics classification, but only pay attention to the financial cost data indicators, lack of logistics classification, enterprise management and other indicators of support and management.

3.3. Problems in the assessment system of distribution equipment

The equipment assessment system of modern enterprise railway transportation is too simple, and the equipment object is relatively simple.This is not comprehensive enough for the evolving and changing international situation. In the equipment system, most enterprises only pay attention to the operating performance of the equipment, but seldom mention the logistics management equipment system of logistics classification. As a whole, the indicators of equipment focus on results, while the systems of other aspects are not perfect. These reasons make the equipment system lack comprehensive and rigorous data support in the integrity of enterprise development.

Figure 3. Automatic tracking of modern enterprise railway transportation.

In addition to figure 3, modern railway transportation logistics management technology based on the demand side lacks a certain basis for transformation.Due to the lack of a good digital, intelligent and networked basis, demand-side logistics management technology has the problems of single industrial structure and serious resource waste, and it is difficult to form the upgrading and transformation development of the structure as a whole. Finally, there is a shortage of technical personnel for demand-side logistics management within railway transportation in modern

Published by: The Mattingley Publishing Co., Inc.

July - August 2020
ISSN: 0193-4120 Page No. 5872 - 5879

enterprises.Based on the demand side of logistics management deficiency also reflected in the absence of a more professional talent resources, the overall talent team strength is relatively weak, older employees lack of innovative ideas and consciousness, young professionals is a solid grasp of the theoretical knowledge is not enough, the lack of operation and practice experience, also is better than old employees in the work efficiency.

3. Problems existing in railway transportation logistics distribution management of contemporary enterprises

4.1. Poor delivery time

The category of goods distributed by the enterprise is mainly a series of large goods such as home appliances and furniture. Therefore, the demand for timeliness of logistics distribution is still high. There are two reasons: first, customers seek distribution companies to distribute goods so that customers do not need to carry them by themselves, which is convenient and fast. Second, most of the goods will have a price policy, the customer is also to ensure the delivery of goods on the way can be safe, the longer the time is more likely to accident. Therefore, the timeliness of distribution has become a prerequisite for enterprise distribution management to be guaranteed.

4.1.1. The number of vehicles delivered is small

Modern enterprises mainly distribute small and medium-sized vehicles in railway transportation, the distribution of customers is relatively scattered, the distribution capacity is beyond its distribution scope, the delivery personnel can not estimate the arrival time, the timeliness of distribution for Tianjin Julongda Co., Ltd. or customers is very important.However, there are still some bad situations in the connection between distribution and users. Because the number of company cars is very small, the logistics distribution capacity and facilities basically cannot meet the requirements of product logistics delivery, which leads to overtime delivery, leaving a bad impression on customers and reducing customer satisfaction.

Figure 4 Tracking the world of modern corporate rail transport.

For example, as shown in Figure 4, when a shipper needs urgent delivery and has paid the urgent fee, the company cannot provide vehicles for the urgent delivery, but also has to deliver the goods together with other shippers. If the shipper delivers the goods to the urgent shipper first, the other shippers will receive the goods later than the expected delivery time.Our goods cannot be delivered to our customers on time, which results in the delivery of some goods over time.

4.1.2. Low loading efficiency

Modern companies need to buy new vehicles every year to keep up with their business growth, which increases operating costs for companies.Through the analysis of the vehicle loading rate, the vehicle loading rate of the modern enterprise railway transportation has a great room for improvement. Through scientific planning, the existing vehicle loading capacity can be improved to meet the increase of the company's distribution volume and reduce the company's resource waste.The main

Published by: The Mattingley Publishing Co., Inc.

July - August 2020
ISSN: 0193-4120 Page No. 5872 - 5879

reasons for the low vehicle load ratio in modern enterprise railway transportation are as follows:

Figure 5 Railway freight with automatic tracking system.

In order to change the status of the existing process, the deployment in the process should be changed, the two-level deployment should be cancelled, the dispatch should be directly responsible for the deployment, and the intermediate link should be cancelled. At the same time, the supervision link of the post should be added in the process, and the feedback on the work should be enhanced for adjustment at any time.

4.2. Personnel issues related to distribution management

4.2.1. Low quality of operators

Contemporary enterprise railway transport service personnel number is numerous, good and bad are mixed.Most of the time, the staff mobility is too large, there are a group of temporary staff engaged in simple work, due to the lack of systematic training, after taking up the post, the business quality is not good, service attitude is not pass. The phenomenon of repeatedly throwing, throwing and throwing the express mail has caused a lot of damage to the express mail. Sometimes, the express mail will be lost at will, resulting in the loss of the express mail.In November 2019, Xie made a complaint against the railway transportation of contemporary enterprises due to the damaged express goods.The railway transport staff of contemporary enterprises are mainly migrant workers whose professional quality is relatively low.

4.2.2. Packaging personnel's business operation is not standard

According to relevant regulations, packagers should check the information of goods in the order and pack the products when operating the business. According to the size and weight, choose the right way of packing and packaging boxes for packaging, can't let customers from the outside to see the inside of the packaging of goods, choosing bags packaged goods can't more than 7 cm, through to the modern enterprise railway transportation, the survey found most employees for their work actual effect, choosing the method of packaging box is completed by their own intuition, when the goods in packaging box showing goods or goods high, they still choose the first choice of material and not to choose the right, so there will be a Courier damage phenomenon.

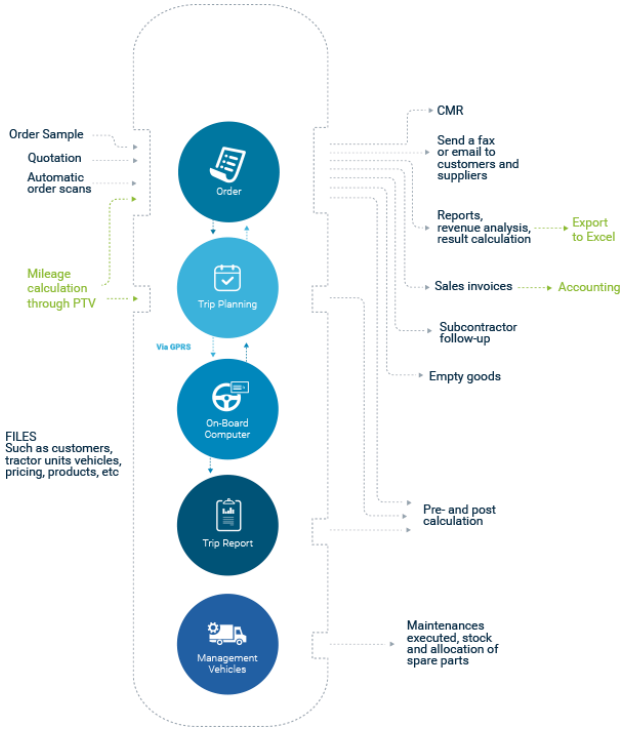

Figure 6. Automatic tracking of modern enterprise railway transportation.

As shown in figure 6, in order to complete the

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July - August 2020
ISSN: 0193-4120 Page No. 5872 - 5879

corresponding workload, employees usually do not check whether the goods are safe on the conveyor belt, but directly throw them on it according to experience.

4. Suggestions on improving railway transportation logistics distribution of contemporary enterprises

5.1. Improve delivery timeliness

As the most important part of demand-side technology in logistics and transportation management, the logistics management system of modern enterprise railway transportation is centered on the establishment of evaluation and supervision system.Most of the railway transportation in modern enterprises is based on the distribution of small and medium-sized vehicles. In the distribution, the number of vehicles should be coordinated and the distribution should be carried out in a timely and effective manner.

5.2. Strengthen internal staff training

Time depends on the development of talent, based on the demand side of logistics transportation management technology development, the construction of talent as the key to logistics management technology, in the contemporary enterprise railway transportation talents under the condition of lack of quantity and the quality of the good and bad are intermingled talents construction has become a bottleneck for the further development of the logistics transportation management technology.

The selection and establishment of benchmarking object is the first step in the management process and also a very important step in the logistics management of railway transportation in modern enterprises.By selecting benchmark objects, enterprises conduct overall analysis on the objects they want to learn and surpass; By choosing benchmarking objects, employees can set a good example for their work, so as to improve the quality of employees more comprehensively. However, when there is a large gap between benchmark objects and enterprises, the background conditions of benchmark enterprises are similar to the development of modern enterprises in railway transportation, which is more comparable and feasible in operation.

5. Conclusion

Through the research and analysis, it is shown that, with the help of modern information technology combined with the actual situation of logistics companies, the realization of logistics distribution information management, improve the management level, improve the service system, is the logistics companies to improve the efficiency of distribution, reduce operating costs, complete the logistics distribution of information and scientific main path.

Acknowledgments

1. Key scientific research projects of universities and colleges in Henan Province 20A580010 Research on the construction and development of multimodal transport system in Henan Province;

2. Henan Province Soft Science Research 202400410295 Coal-fired Power Plant Pollutants Deep Treatment Countermeasure Research.

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July - August 2020
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