Food Emergency Supply Chain Logistics Based on Computer Epc Internet of Things System

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Abstract. In the process of food emergency supply chain logistics inventory and pick up, in order to improve the entry efficiency and accuracy of incoming items, EPC Internet of Things system can be used to manage items. This paper first briefly introduces EPC and analyzes the application of EPC in logistics for readers' reference.

Keywords: Epc Internet, Food Emergency, Supply Chain Logistics, Neural Network Software

1. Introduction
Nowadays, although barcode technology is widely used, the problem of barcode destruction exists in the process of using [1-3]. In order to improve the means of identification of items, EPC technology is applied in the food supply chain, which promotes the development of item storage.

2. The EPC profile
At present, EPC technology has been developed and popularized to a certain extent in China. China has established EPC technology alliance and user alliance and it has a relatively large development in the automobile and tobacco and alcohol industries. For example, in the tracking of raw materials for auto parts, EPC labels can be affixed before delivery, so that workers can at any time within the scope of authority to query the inventory and in-transit situation, if found that may cause a shortage of spare parts can quickly find other places to replace the accessories [4-6]. Convenient to management, maintenance, and the recall of products, on the one hand, it can effectively prevent car theft, the car keys on a EPC labels, EPC read device installed on the car, when the key in the ignition, read device can identify key identity, if can't pick up signals from the EPC labels, so will not be able to start the car. In the wine industry, labels are affixed to the bottleneck of the wine produced, so that the inventory personnel can quickly understand the product information through the reader, improve the inventory rate; On the other hand, you can quickly and easily understand the condition of the wine in transit. Since the traditional TWO-DIMENSIONAL code is easy to be destroyed in the process of using (as shown in Figure 1, the two-dimensional code for shared bikes is destroyed), the application of EPC technology should be strengthened.
3. Analysis of the application of EPC in logistics

3.1. Analysis on the application of EPC in logistics and warehousing

3.1.1. Application of EPC in logistics and warehousing
In loading and unloading the goods, by reading device to identify only the EPC tags on the items, read the EPC code, and pass it to the neural network software, and then under the condition of Internet pass through neural network software, with the object name resolution services, under the resolution of the object name resolution services for the server of a physical sign language, neural network, the software will be done in this server to find and send the request of physical sign language data, and finally the server request data is returned to the neural network software, and to regain the EPC code neural network software. In this way, the information of inbound and outbound items can be accurately and quickly obtained, reducing manual operation. In the process of inventory management, the EPC label is also read to quickly obtain the information of items, to classify items and timely know the location of items, quickly and accurately manage the inventory, and save costs.

3.1.2. Advantages of EPC application in logistics and warehousing
(1) EPC technology can effectively realize the information input efficiency of outgoing and incoming goods, and improve its accuracy. Before the application of EPC technology, a series of information, such as the name, attribute, batch, and other data information, had to be entered manually or recorded by bar code, which not only required a large amount of work, a long time of entry, but also was prone to errors. The application of more intelligent EPC technology to the input of information can make the tedious work easier.

(2) Application of EPC in information flow. Due to the continuous improvement of social information level and the gradual improvement of network construction, EPC system is directly connected to the Internet, and the information acquired by radio frequency readers can be directly uploaded and transmitted on the Internet, and goods in the warehouse storage management process to accurately flow of information. Therefore, EPC will replace the traditional circulation of goods information based on paper and other media, which is conducive to the management and inquiry of goods information, as well as warehouse management and other nodes in the supply chain for better information sharing and transmission, to improve the efficiency of the supply chain.

(3) EPC can realize automation and intelligence in the process of goods storage and delivery. By combining the supply chain planning system with EPC to make various plans, various business operations such as designated replenishment, putting on shelves and picking up goods can be completed efficiently in warehouse management. Through this way, not only can improve the speed of incoming and outgoing warehousing operations, but also improve the accuracy of various operations, reduce the manual operation of the wrong put, wrong take, theft, and other losses, with the replacement of manual machine, but also greatly save labor costs.
3.2. Application analysis of EPC in informatization operation

3.2.1. Application of EPC in logistics informatization
Modern enterprise logistics includes procurement and supply logistics, production logistics, sales logistics, waste, and recycling parts, among which seven functional modules are designed: transportation, storage, packaging, distribution, loading and unloading, circulation processing and logistics information. After EPC applied to the whole logistics process, each link by reading the EPC labels on the goods to the commodity information, which can identify read the EPC code, and convey it to the neural network software, and then under the condition of Internet pass through neural network software, to object name resolution services, under the resolution of the object name resolution services for the server of a physical sign language, neural network, the software will be done in this server to find and send request of physical sign language data, finally the server request data is returned to the neural network software, And the neural network software processes the recovered EPC code. Fast and accurate acquisition of item information can greatly improve the efficiency of each activity.

3.2.2. Advantages of EPC application in logistics informatization
In view of the characteristics of logistics information, such as wide sources, large amount of information contained and faster speed, EPC can solve the problems encountered in logistics information transmission.

(1) The functions of RADIO frequency identification technology in EPC system include: (1) can automatically identify items, high accuracy, can save a lot of time of manual input, and can automatically generate tables. Can recognize many items in a short time, and high accuracy. (3) you can identify objects without touching them. (4) you can identify items in the high-speed movement of items. (5) It can resist the harsh environment.

(2) As EPC is composed of network, it can realize the sharing of information through the Internet and update the data of its own information base through the network, to better meet the demand of fast update speed of logistics letter.

(3) Since the code of goods is unique in EPC system, unique goods can be determined by identification. To fundamentally prevent the occurrence of information confusion.

(4) Because logistics participants share all kinds of data, and EPC technology can be directly extracted from the database of the participants. In this way, the previous intermediate transmission can be subtracted, which can effectively prevent the "bullwhip effect" and ensure the authenticity and reliability of information.

3.3. Other applications
EPC technology has not only played a great role in the logistics field, but also played a great advantage for the whole supply chain. It can even be used with other systems in various aspects. The following introduces the combination of EPC and GIS.

3.3.1. Resource allocation
GIS system plays an important role in the allocation of social resources, including the rational distribution of food public facilities building location.

3.3.2. Strengthen the research on EPC system and reduce system cost
All commodities can join the Internet of Things, so that most enterprises can participate in it, to improve logistics efficiency. Strengthen the research progress, so that EPC tag price, reader price and so on can be reduced to the range that these enterprises can afford, then not only in logistics greatly improve efficiency, but also in the manufacturing industry will greatly improve efficiency. In this way, enterprises can obtain more profits, and they are more willing to try and promote EPC technology, which also plays a promoting role in the domestic economy (Figure 2 is EPC read-write device).
3.3.3. Improve the awareness of safety prevention in the process of EPC use and strengthen information security management

If the supervision is not strict, some people will take advantage of the network vulnerability to attack the enterprise’s EPC system or to steal the information in it. Therefore, the encryption degree of EPC is particularly important. Therefore, we must pay attention to the safety of EPC system and strengthen its safety.

3.3.4. Formulate corresponding laws and regulations to standardize the use of EPC

Each behavior if each enterprise does not go through the corresponding procedures on the direct use of the system, modify, abandon, etc., this will make the management work will be a mess, thus unable to ensure the normal operation of the entire system.

4. Conclusion

To sum up, EPC in logistics and warehousing has the advantages of improving the input efficiency and accuracy of goods in storage, adapting to the characteristics of logistics information, realizing the automation and intelligence of goods in and out of storage, and improving the efficiency of inventory counting. In logistics informatization, it has the functions of information management and information circulation, ensures the authenticity and reliability of information, and prevents the occurrence of information confusion. In addition, EPC not only plays a great role in logistics, but also in the whole supply chain, and can even be applied in all aspects together with other systems. The combined application of EPC and GIS can be applied in resource allocation and transportation management, etc. Because EPC has such a big advantage, therefore, we must promote the application of EPC in China, to improve the economic interests of enterprises.

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