Warehouse and distribution supply chain capacity center construction

1 Background

1.1 Service Introduction

JD started to build its own logistics in 2007 and established JD Logistics Group in 2017. The service products mainly include warehouse distribution, express delivery, large items, cold chain, cross-border services, etc. It has formed an integrated supply chain solution for the differentiated needs of FMCG, clothing, home appliances, household appliances, 3C, automobile, fresh and other industries. JD Logistics adheres to the core development strategy of "experience-oriented, technology-driven and efficiency-winning", and joins hands with all sectors of society to build the global Intelligent Supply Chain Infrastructure Network (GSSC). JD Logistics conducts index decoupling and process decoupling for warehouse and small parts business to achieve clear visualization of top-down business standards and costs.

1.2 Warehouse and distribution supply chain operation dashboard construction

In order to be able to divide and decouple the cost of all small and medium parts warehousing undertaken by the warehouse distribution supply chain, the warehouse distribution management dashboard is built according to the following caliber

- Associated warehouse information: architecture code, region, park, system warehouse name, distribution center ID, warehouse ID
- Overall cost: total amount of cost, sequential cost, outgoing unit quantity, outgoing unit quantity sequential cost, average cost per unit, sequential cost per unit
- Cost module: housing cost, labor cost, consumables cost, depreciation cost, transfer cost, lease cost, other costs

2. Capacity center of warehouse and distribution supply chain was established

2.1 Background

Customer customization needs are diverse, personalized operations are increasing, standardized warehousing procedures need to be improved, and the headquarters is not transparent about operation management, leading to over-service of front-line warehousing; There is no standardized and customized service combination in the system, and no matching between product service and WMS system is realized, resulting in insufficient flexibility of the system and complex master configuration.

2.1.1 Status quo

Low degree of standardization of operation: artificial judgment of operation operators and excessive service of warehousing; Lack of guided operation, high work rate

The management in the library is difficult, with many business links and complicated process links, and the management cost of first-line operation process is high

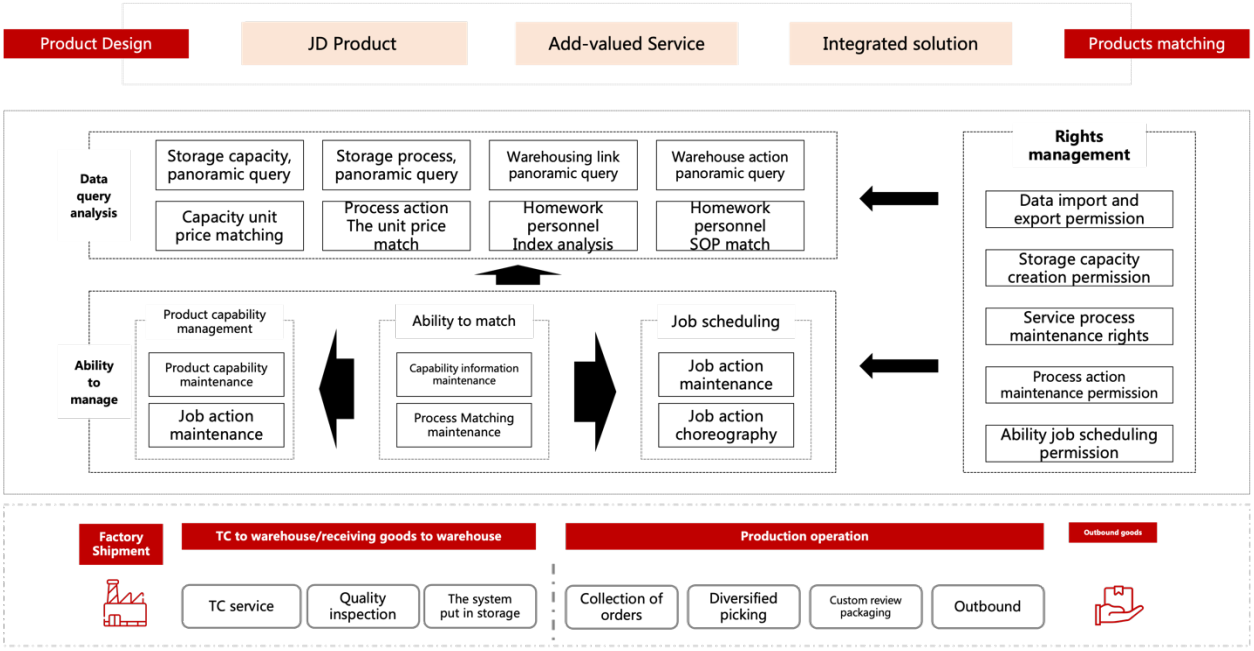
Low system docking efficiency: It is difficult for WMS to connect with ECLP/CLPS, and it takes a long time for system transformation to go online

2.1.2 Planning Direction

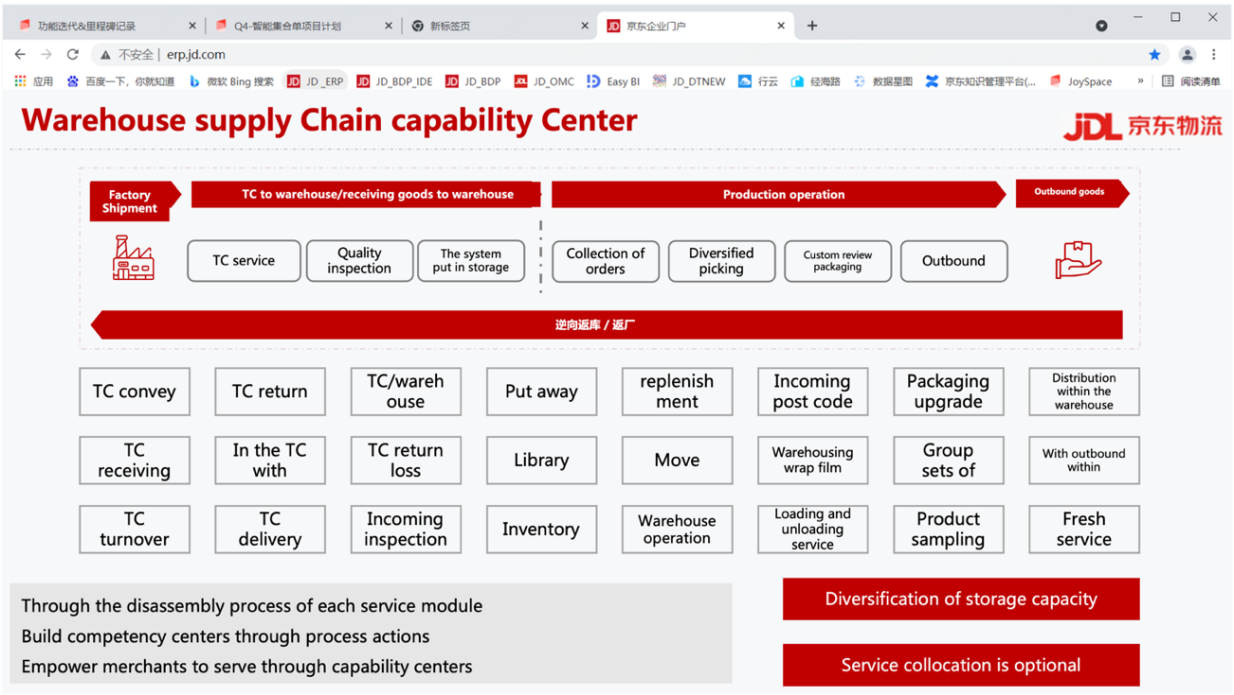
- Product: from the unified perspective of customers, sales and products, products guide sales to formulate sales plans, and products provide basic services to customers
- Ability: operation planning basic service warehousing process, operation process disassembling basic link action, warehousing ability enabling warehousing products
- Operation: the warehouse ability guides the warehouse operation, the warehouse operation is intuitive and transparent, and the system drives the standardized operation of the staff

2.2 Capacity center planning of warehouse and distribution supply chain

- From the perspective of operation planning, based on the existing operation process, service capabilities are disassembled and sorted according to the process and link of the smallest granularity, planned and combined into various business capabilities to quickly create personalized products.
- Customers can match service capabilities, processes and actions required, and warehousing can provide corresponding services according to product requirements.

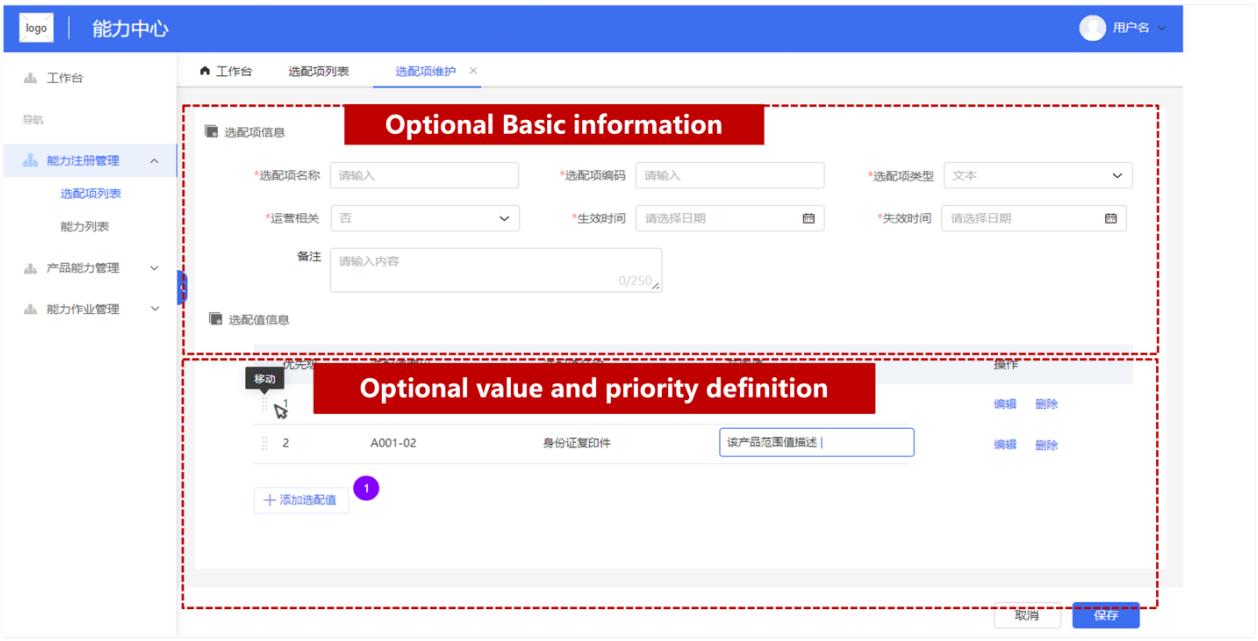


3 Warehouse distribution capability center interaction prototype diagram



3.1 Optional Items Maintenance

- Function: You can define public optional items. The bill return capability itself involves multi-dimensional operation steps, and the operation steps in each dimension are differentiated. This dimension can be defined as an optional item
- For example, signature return has multiple attribute dimensions, such as signature return type (signature, id card copy) and signature return type (signature, seal). The operations corresponding to each dimension are differentiated. In this case, you can use the Capability Registration Management - Capability Optional Item Maintenance function to define multiple dimensions of signature return.



3.2 Capability Binding Optional items

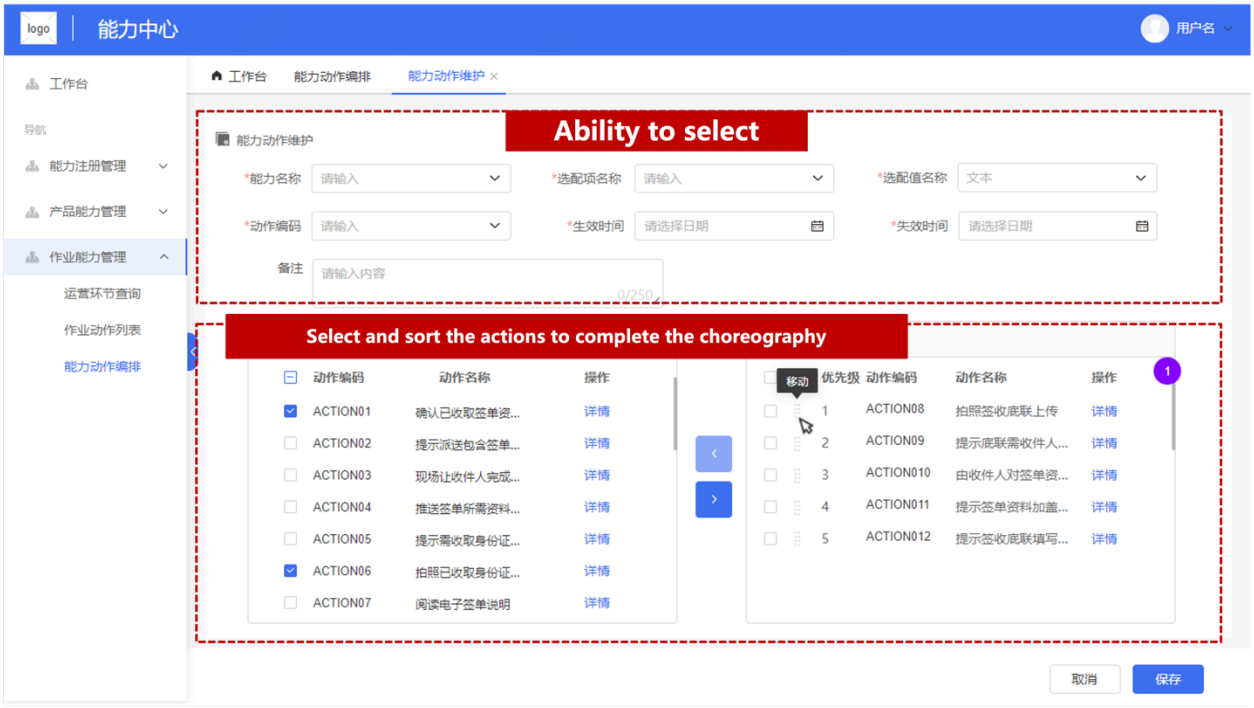
- Function: Ability registration requires basic ability information editing and ability matching Settings. Capability options and optional configurations are public information and can be defined in advance
- Example: sign back in the center of the ability is defined as an ability to operate, can first through the "registration management - ability list - new" page to sign back the definition of basic abilities, such as the ability to name a customizable, ability validity code automatically generated, customizable, positioning check binding to return after the completion of the single type, type of sign after receiving STH such as optional items

3.3 Job action maintenance

- Action model is divided into two layers: basic information and action attributes. Action name, meaning, operation hint, example picture upload and other information or constraints are defined through this interface to complete the definition of a basic action.
- For example: for example, the operation of PDA can be regulated by defining different operation actions such as operation hints (such as: operation of signing and receiving the signed sheet at the bottom) and sample pictures. In the follow-up, the definition content of operation actions will be enriched with componentization.

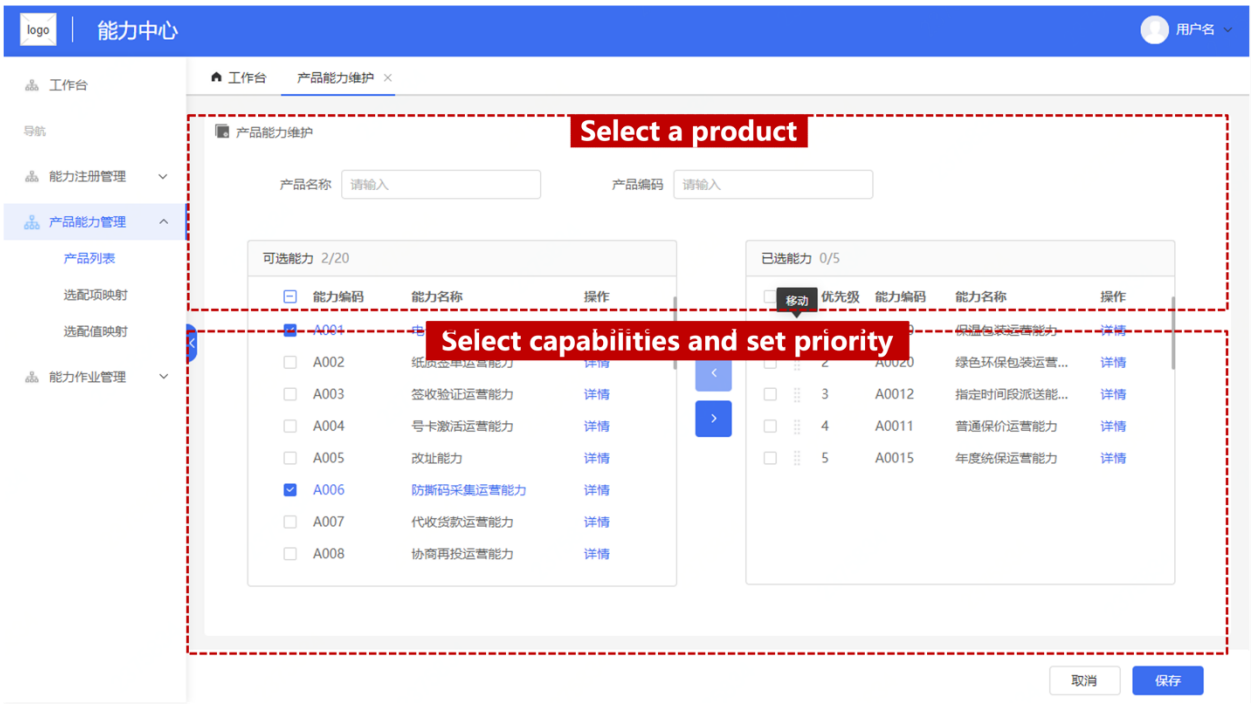
3.4 Ability scheduling

- Function: Through this interface, it can realize the action of borrowing capacity to the smallest dimension and sort the action to guide the operation.
- For example, the paper receipt return capability includes the following operations: 1. Operation prompt: Operation of the bottom line of the receipt prompt. 2. 3. Photo taking: The user can take a maximum of 3 photos, which can be flexibly defined in the ability center. And prioritize the actions.



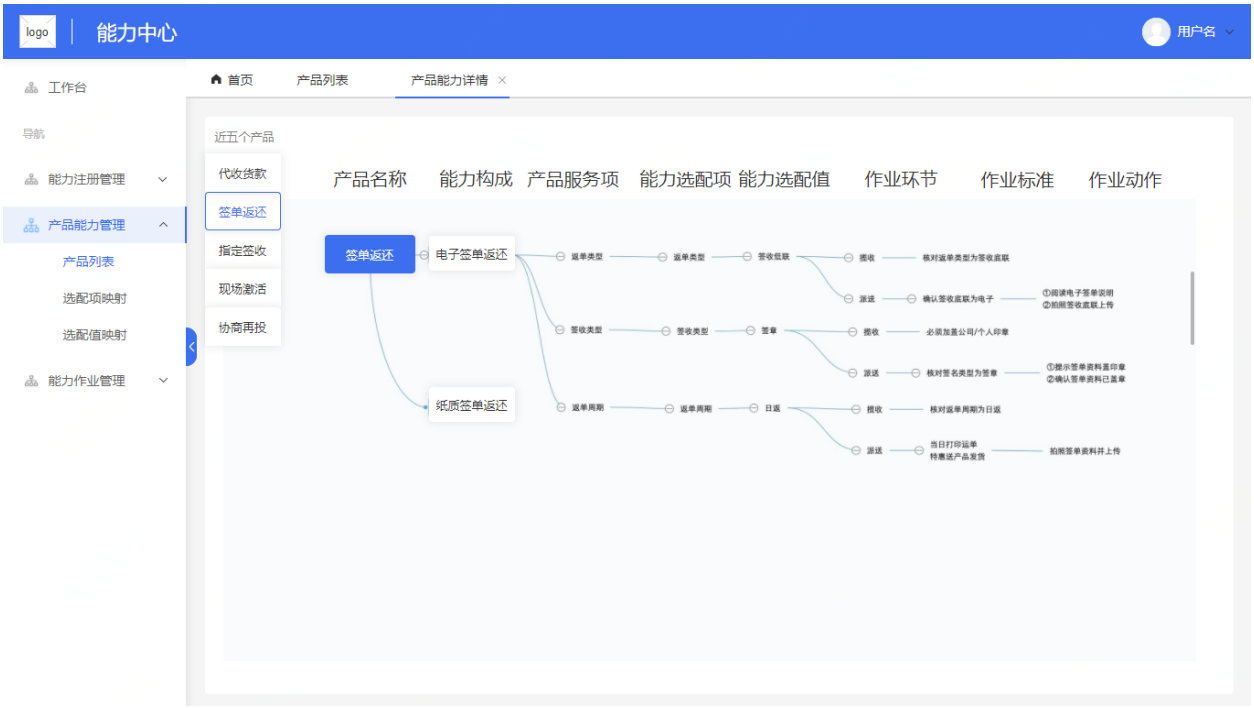
3.5 Binding product Capabilities

- Function: Capability center displays all unbound capabilities in the product center. A product needs to be selected and bound to a product. You can maintain the relationship on the Product List-Add page. Select the product information automatically synchronized from the product center and select the registered capability to save.
- For example, if the product is divided into paper signature return capability and electronic signature return capability, select the two capabilities, and save them to bind the product and capability.



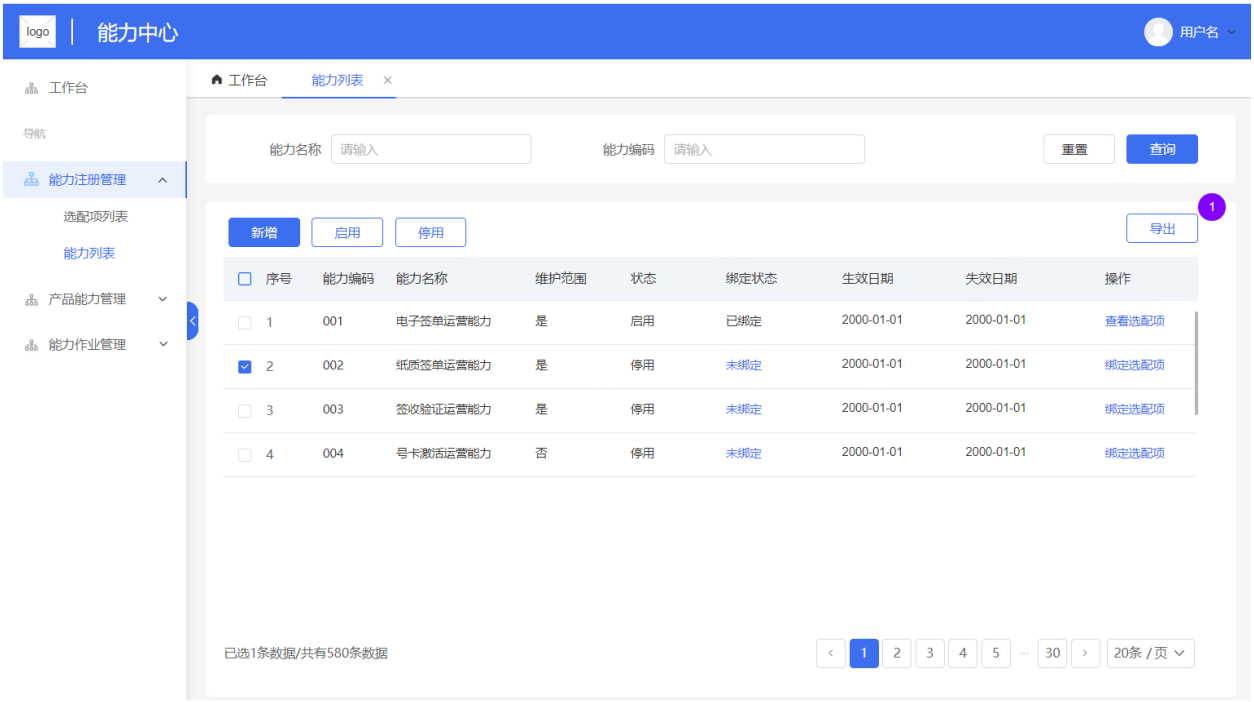
3.6 Product Perspective Capability panorama

- Functions: You can view and export the binding relationship between products, capabilities, and jobs on the Product Capability Management - Product Capability Query Panorama page.
- For example, there are electronic signature return capability and paper signature return capability. Under this capability, there are different options, such as order return type and signature receipt type, under which different operation links, operation standards and operation actions are defined. Including but not limited to product code, capability code, job code and other query conditions



3.7 Operational Perspective Capability Panorama

- Function: Export capabilities and job relationships from the perspective of operational capabilities (without product-related information). You can view or export them through the Capability Action List function. The visual interface is planned to improve readability.



4 Conclusion

After about 15 days of product design and 2 months of product development, we have completed the test of capability center-V1.0, which can realize the configuration and construction of storage capacity in each link and make the warehouse distribution cost structure more clear and transparent.