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THE CHARACTERISTICS OF THE INFORMATION SYSTEM OF WAREHOUSE FACILITIES

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The basic components are discusses of the information service departments of the warehouse. To ensure coordination of service sales, in the first place, you can control the execution of orders and provision of services to clients. Logistics process in the warehouse is key to its profitability. The grouping of performance indicators of warehouse systems is carried out. It is noted that to optimize the timing and methods of execution of warehouse operations used modeling using different methods. Modeling of processes in the warehouse is used to determine routes of trade flows, the choice of standards document, formation of the organizational structure and the functioning of the algorithm.

Keywords: warehouse, modeling, algorithm, information system, management.

The maintenance of information warehouse is the management of information flows. It is the interface of all services of the warehouse. Information management can be an independent system based on mechanized warehouses) or an integral subsystem of the overall automated system of management of material and information flows (automated warehouses) depending on the technical equipment of the warehouse.

Information services include [1]:

- processing of incoming documents,
- proposals for the orders suppliers,
- execution of orders from suppliers,
- managing receptions and shipping goods,
- monitoring the availability of goods in stock,
- reception of customers' orders,
- preparation of documentation for shipment,
- a manager, including selection of the optimal batch shipment and preparation of delivery routes,
- handle client accounts,
- exchange of information with the operational staff and the top hierarchical level,
- preparation of statistical information.

To ensure coordination of service sales, in the first place, you can control the execution of orders and provision of services to clients. From their performance depends on the level of service.

Established logistics service buyers is important and plays a big role in the development of the company, moreover, is a strategic characteristic that distinguishes the firm from competitors.

There are three major categories of elements, namely: before sale, during sale and after sale. Implementation to sales services engaged in the sales Department (marketing service), and the warehouse ensures the implementation of sales and after-sales services. Sales services include sorting products, complete quality inspection of delivered goods, packing and packaging, substitution of the specified product (change order), services of expedition with the implementation of unloading, information services, contracts with travel agencies. To after-sales services include installation of products, warranty service, spare parts supply, a temporary replacement of the goods, receiving a defective product and its replacement.

Rational implementation of logistics process in the warehouse is key to its profitability. Therefore, the organization of the logistics process must be achieved [2]:

- rational planning of the warehouse, highlighting work areas, which contributes to cost reduction and improvement of process of processing of the goods;
- use space efficiently due to the proper placement of equipment, which will increase the capacity of the warehouse;
- use universal equipment that performs most of the major warehousing operations that will give a significant reduction in the number of lifting-transport mechanisms;
- minimization of the routes inside the warehouses, which will reduce operating costs and provide increase capacity of the warehouse;
- the implementation of party of shipments and use of centralized delivery, which will allow to achieve a substantial reduction of transport costs;
- maximize the use of all functions of the information system that will significantly reduce the time and costs associated with the turnover of documents and exchange of information, etc.

Performance indicators of warehouse systems can be divided into the following groups [3]:

1. The indicators characterizing the degree of satisfaction of inquiries of consumers.
2. Indicators reflecting the quality of the stock.
3. The number and time.
4. The cost figures.
5. Indicators of financial and economic results.

The first group will include consumer assessment of the level of performance of the order, return of goods by consumers due to improper picking, packing violations, etc., the number of delays in the shipment of goods, complaints from consumers, service-level metrics and others.

The second group of indicators is partially complementary to the first, but mostly contains indicators that characterize the quality of warehouse work. These indicators are divided into indicators reflecting the accuracy of performance of the order parameters (i.e., timeliness, volume, quality, variety, order picking, etc.), enforcement orders (accuracy maintaining inventory levels, inventory availability, compliance with the storage conditions, etc.) and compliance with the internal mode of operation of the warehouse (in case of loss, damage, theft, etc.).

The third group of indicators characterizes the logistic time series: the time of replenishment, processing of customers' orders, prepare, picking and delivery of orders, procurement of goods and others.

The indicators of the fourth group show the costs to manage inventory, transportation costs in the warehouse, processing of goods and their storage, packaging and other logistics costs.

In the fifth group shows the economic and financial results, which is a set of derived indicators include four groups. These include: inventory turnover (the number and duration of rotations), the number of congestion of the warehouses involved, the volume of the warehouse, the capacity of the warehouse, the number of operations for the day, logistics costs per unit of turnover by a certain amount of time, the turnover of capital invested in fixed assets, warehouse, payback of fixed assets between inventories, the costs of order picking, packing and other actions on a single unit of trade, and others.

Properly designed technological process warehouse enterprise must be [4-6]:

- timely receipt according to the quantity and quality of goods;
- rational ex-plantation combined mechanical means of handling and transport and storage operations;
- organized the check of products with maximum use of storage space for storage of goods and other material values;
- organization of trading rooms, operations in the selection of material assets, acquisition and preparing them for release;
- regular work submission and organization of timely delivery of goods to the halls sale;
- consistent performance of warehouse operations that ensure regular and predictable workload of warehouse employees and ensure favourable conditions of work.

To optimize the timing and methods of execution of warehouse operations used modeling using different methods. Modeling of processes in the warehouse is used to determine routes of trade flows, the choice of standards document, formation of the organizational structure and the functioning of the algorithm. The results of the simulations reveal the name of the operations at each

workplace, form routing processes, define job descriptions and pick up the equipment warehouse.

Modeling of logistics processes in the warehouse, you need to start with the standardization of warehouse processes. Standardization involves the development and use of standards for technological operations, including loading and unloading operations, acceptance of goods by quantity and quality, equipment, storage and many other warehouse operations.

High quality process, it is possible to provide, provided that each participant fulfills his role in it, and also trained in the actions that it needs to implement in various situations. It follows that there is a great need for formalization of processes, with clear description of algorithms of actions in special documents. It is important to compile all the documents into a single structure, to give them consistent and clear descriptions that are easily readable and do not admit of doubt.

Standardization of technological processes at warehouses can significantly reduce the cost of time for training employees, helping in solving problems on division of labor and cooperation [7].

Improve the quality of services and increase productivity (i.e. reduce downtime, processing time of freight) is the main goal of the development of technological standards.

Analysis of stages performing operations of technological processes at warehouses for trade reveals approximately the same nature of those operations and includes the following stages:

- unloading of transport;
- acceptance of goods in quantity and quality of the goods;
- styling products for preservation;
- direct storage of goods;
- sorting of goods;
- packing of goods in containers for transport;
- acquisition of the parties for delivery.
- loading of complete sets of goods to trucks for delivery to customers.

The future path of goods is determined by several factors, the main ones are: the type of the consignee and its location, method of shipment of goods, packaging of goods, type and method of execution of works, etc.

Currently there are two method of organization address of the warehouse: dynamic and static storage.

Static storage requires additional and sustained efforts that are aimed at streamlining the distribution of goods in the warehouse (split into commodity groups, each commodity group is rigidly assigned to a specific area of the warehouse and takes a certain amount of cells.

All merchandise entering the warehouse, placed only in those storage addresses that are assigned to a particular storage area corresponding product group.

The main advantage of this method of storage is the "transparency" of placing the goods in the warehouse (the whole group of goods in one place, minimum time required for training new staff and fast distribution of the incoming goods, but provided that the range of the company does not have strong changes.

The main drawback to this method is the complexity of technology embed because of the uneven fill assigned to each product storage areas.

When the dynamic storage area of the warehouse is not assigned to a specific product. The location of the incoming values is made on storage, that is, the goods are placed on any spare numbered storage location. When shipping is written down the required number of goods from the place of storage. All transactions on the receipts and expenditures accounted for in the system according to numbered cells (storage locations).

The main advantage of this method of storage is that it requires no special effort. There is no need to spend more time on systematic analysis of the range of goods according to the criteria of turnover and demand for the product when it is complete. In addition, this method makes it possible to effectively and efficiently use warehouse space [8-10].

The disadvantages of this method are the small complexity of search of goods in the warehouse, especially when a large number of titles (thousands) and in case of an error the account of the goods or failure in the information system, and substantial dependence on specific warehouse-pickers who owns the information about the product. The practice was also observed deficiencies when stored by this method, namely that all goods are heterogeneous and require different storage conditions and accommodation.

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ХАРАКТЕРИСТИКИ ИНФОРМАЦИОННОЙ СИСТЕМЫ СКЛАДСКОГО ПОМЕЩЕНИЯ

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Рассматриваются основные составляющие информационного обслуживания подразделений склада. Для обеспечения координации работы службы продаж, в первую очередь, предусмотрены операции контроля за выполнением заказов и оказание услуг клиентам. Логистический процесс на складе является ключом для повышения эффективности. Проводится группировка основных показателей складских систем. Отмечается, что для оптимизации временных ресурсов и методов проведения различных операций применяют различные методы моделирования. Процессы моделирования на складе определяют движение торговых потоков, выбор стандартов документов, формирование организационной структуры и алгоритмы, на основе которых происходит функционирование системы.

Ключевые слова: склад, моделирование, алгоритм, информационная система, управление.

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