INFORMATION SYSTEMS IN BUSINESS LOGISTICS

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Abstract: Successful functioning of modern enterprise economy assumes the existence and the proper use of adequate information system, which is a very important business function of the company. "The information system is a set of relatively isolated information about specific phenomena and events that are organized and systematized to some common features and principles, and as such have become useful for exploitation by their users." The information system is a vital component of business management. Without a good information system there is no rational and efficient operational management. The information system includes the process of creation, distribution and the use of information [1].

Information is necessary and valuable at each step of the decision making process: before, during and after the business decisions are made. Accurate, timely and swift information is a prerequisite for undisturbed flow of logistic activities and operations. Logistics information system is a result of integrations between information and functional processes within the company [2]. Information system of integrated logistics is a computer-assisted system that provides integrated logistics support management of business activities and management within the logistics system itself.

1. INFORMATION IN LOGISTICS OPERATIONS

Logistics management is carried out by passing a number of decisions concerning different system segments, at different levels. All logistical decisions are based on adequate pieces of information available.

Information in logistics represents messages and notifications related to the operation of a logistics system. In essence, it concerns the means of understanding and communication. Information required for logistics activities is provided by the logistics information system. It is a subsystem of the overall logistics system.

Commonly used information in the logistics operations concerns:

- Present and future suppliers – their name, headquarters, the available range of goods, place and manner of delivery, payment terms;
- Current and potential customers – their name, registered office, the necessary quantity of the goods, delivery schedule, method of shipment of goods, payment;
- Competitors who provide logistics services – their name, residence, position in the market, the favor quality, as well as their logistics channels functioning;
- Own logistics system – which includes the level of organization, functioning within the system, business relations with the environment, position in the market;
- Members of the logistics system – their functional connectivity, the level of cooperation, communication;
- State and prospects for further development of logistics technology;
- Supplies of goods in logistics channels – the type, quantity, conditions in some segments of the system;
- Institutional solutions relevant to the operation of a logistics system – concerning legislation and measures of economic policy, economy, business and more.
- All the above information is provided by the logistics information system. It enables the creation, distribution and use of intelligence necessary for the implementation of logistics activities. Its operation is quite complex and involves a number of activities:
  - Collecting the necessary data,
  - Elaboration, systematization and processing of the data collected,
  - Creation of the desired information,
  - Storage facilities of the available data and information,
  - Distribution of the necessary information to its users,
  - Use of information [3]

There are two kinds of information used for logistical operations of particular importance - internal and external. The first ones are provided within the system and related to its operation, and the other ones, external information, derive from the environment and are important for business logistics.

2. THE BASIC COSTS OF INFORMATION IN LOGISTICS SYSTEM

The logistics system is a set of interconnected segments, organized so as to allow the successful movement of goods from producer to consumer. The main segments of the logistics system are: transporting, storage, packaging, handling of the goods, etc. In terms of functionality, the entire logistics domain consists of three subsystems, namely:

- Logistics in the supply business,
- Logistics in manufacturing, and
- Logistics in the retail business.

Between the subsystem and system segments very dynamic processes of goods and information flows take place. Their relations are closely correlated. Information flows can take place before, during and after the physical movement of goods. Given the resources and channels in the logistics system, there is business correspondence, direct communication by telephone, teleprinter, radio or television, direct conversation without adjuvants, and lately more and more use of computer data. Certain channels and connections are chosen according to their suitability for the transmission of information more efficiently by achieving greater consistency and compatibility with the objectives of physical logistics system at the right cost. Each of the communications facilities and connection channels has different characteristics in terms of speed, reliability, capacity, documentation and cost of information transfer, so it is not equally suited to every occasion and for every process. Communication tools and channels are selected primarily according to the scope and complexity of communication networks and to the requirements that are based on the quantity and the quality of information flow in a given time [4].

The basic flow of information in the business logistics system takes place between:
- Logistical services and suppliers,
- Logistical services and customers,
- The members of the logistics channel,
- Between the business functions in the company.

Important information for the marketing logistics is the one that occurs in the sales subsystem, related to any business relationships between logistics of the suppliers and customers. These relationships are achieved through ordering and delivery of goods or receiving and processing orders.

Order form is an important document in the relationship between customers and suppliers. By using it, the customer orders a desired quantity of goods. Order form must contain all the required elements that allow suppliers to perform their duties well on time. It is about necessary quantity of goods with agreed quality, exact time and mode of delivery, payment terms etc. Order form can be submitted to the supplier (vendor) in different ways - by mail, telephone, telegraph (fax), or using electronic means.

When this document is received, its treatment begins. At first, creditworthiness of customers and inventory are being examined. Financial service authority determines creditworthiness of customers. This is especially important if the buyer is for the first time in business relationships and when its creditworthiness is unknown. Status of regular customers is generally known. Inventory status is a prerequisite for timely and efficient fulfillment of customer requirements. Otherwise, the manufacturing should produce the required goods as soon as possible.

When the creditworthiness of customers is satisfactory, and the required quantity of goods is available, the supplier notifies the customer that his order is accepted to pursue its execution. Otherwise, the order will not be executed.

After the previous actions are taken, the implementation of operational activities for received and accepted orders begins. Primarily, storehouse receives an order to prepare the goods for shipment. At the same time the scheduling of all activities related to the delivery of goods like packing, loading and transportation to customer warehouses performs. The delivery of the goods and the invoice to the customer is then conducted along with changes made in the business records of the supplier.

Based on the above, it can be concluded that the flow of information starts with sending orders and ends with the delivery of goods and accompanying documentation. The successful implementation of the order depends on its efficiency.

3. COMPUTER APPLICATION IN MARKETING LOGISTICS

As mentioned before, the business in modern conditions is impossible without the use of electronic computers. This also relates to the field of marketing logistics.

The process of using electronic computers emphasizes the need for the development of the program and on this basis, translating information into the language of computers. Programming is used to define the times and ways of processing information on computers. While translating information into the programming language, the requirements in terms of content included in the information should be precisely defined. In the case of supply or purchase of products, the process begins with the following actions:

- Choosing standard program (Software) that will be used in the development of special programs for the supply and procurement;
Determining automatic processes for the elaboration of the system of products encryption, warrants and the name of the data bank, followed by the time required for the supply (or procurement), then the required amount of products for delivery, the name of the vendor (or supplier) and so on.

Receiving and processing orders electronically (on computer) provides a number of advantages. The whole process is carried out in high-quality, effective and efficient manner, which brings a number of benefits in business, especially in the process of foreign trade orders. There is a growing number of participants in the chain, while the activities are taking place in specific circumstances, more complex than the regular trade.

Electronic computers are very suitable for monitoring inventories so their application to provide timely, accurate and complete information in all aspects of the stock economy is significant. At any moment, data on levels of stocks, recorded changes, turnover ratio, the expected procurement and delivery, etc. is available to the managers.

Information on the environment is of great relevance, especially for marketing logistics. These are primarily market information, such as supply, demand, prices and conditions of competition, possible positioning and more.

Data bank has also an important role in the enterprise information system. Its role is to provide adequate data (information) necessary to make a number of decisions in the field of marketing logistics. In order to facilitate the use of information, data is classified, coded and stored.

The transfer of information takes place in more than one direction, and there is larger number of holders involved. Information flows move in the direction of administration, disposition, management, operationalization and inversely.

Information management systems are at the highest level of decision-making in the company. At this level, strategic decisions are made based on data from a variety of decision support systems. Usually, there are several systems that cover different areas of the business in the company. Based on the outputs of these systems strategic decisions are made, and then forwarded to the lower management levels. According to the system analysis of the logistics sub-system, strategic and operational decisions made by each subsystem can be set up. For any decision, a set of information affecting it could be defined [5].

Analysis of the company work is a preparatory stage for the process of designing an information system. Within this framework one should define:
- Levels of Management,
- All subsystems of the logistics system,
- Operational decisions in the subsystems,
- Strategic decisions in the subsystems, and
- A set of necessary information.

4. CONCLUSION

In addition to all the above mentioned advantages, the importance of logistics information systems to perform a variety of logistics tasks, such as the placement of new markets, changes in packaging design, selection of modes of transportation, increase or decrease in inventories and determining the level of automation of data processing systems is also evident and significant. In order to assist in making strategic decisions in the company, the role of information logistics system to the managers is indispensable.
Literature:


