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System Management of The External Infrastructure of a Production Enterprise: Structure and Development Trends.

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ABSTRACT

The article presents an analysis of the external infrastructure of a production enterprise, which includes a set of industries, enterprises and organizations that are part of these industries, and those involved in their maintenance. The organizations of external infrastructure are called upon to create conditions for the normal functioning of production and circulation of certain goods, therefore, the article considers the peculiarities of interaction of production enterprises with the banking sector, trade organizations, organizations providing information services to the enterprise, etc.

Keywords: production enterprise, external infrastructure of the production enterprise, production support and maintenance

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INTRODUCTION

The interconnection and interaction between the structure and functional capabilities of the production infrastructure system can be defined in this way: the broader and more diverse the industrial set of industrial infrastructure, the more its functional capabilities. If the target function of the production infrastructure is defined only as the provision of general conditions for the direct technological process, the structure of the production infrastructure system can be defined as a set of enterprises that provide auxiliary services to the technological process of the business entity. However, if the objective function is formulated as the creation of general conditions for the operation of the enterprise, the internal organization of the production infrastructure is expanded and supplemented by those areas of activity that require the involvement of the market environment or the enterprise. This can include information and banking services, research, business services, and then elements of the external environment can become internal elements of the production infrastructure system.

MATERIALS AND METHODS

The main criteria for selecting services related to the production infrastructure are: their direct or indirect relationship to the maintenance of the main production process; the degree of influence on the value of the enterprise's costs associated with its activities.

Using these criteria, in addition to organizations that provide material and technical supply and production and technical services, companies that are engaged in marketing services, advertising, consulting, engineering, information services in the area of information storage and processing, development and maintenance of databases, production software.

Define the role of the banking sector in the activities of manufacturing enterprises. Of course, the maintenance of the enterprise in terms of cash flow is the main function of banks. Accumulation of cash on accounts, conducting settlement operations, control over the movement of funds are all functions of financial institutions. The global role of banks also lies in the ability to lend to manufacturing enterprises both for the purpose of acquiring fixed assets and for carrying out current activities. Ancillary financial resources obtained with the help of credit are needed when the enterprise is in a difficult situation, when the sale of finished products has disrupted, but it is necessary to continue production when the suppliers have failed, and it is urgent to seek new ones and invest money in raw materials when difficulties arise with the payment of wages their employees, etc.

RESULTS AND DISCUSSION

In modern conditions, bank lending, unfortunately, is not fully implemented for a number of reasons:

- there is a "gap" between the theory and practice of bank lending, since the global mechanisms of lending, for example, in terms of lowering interest rates during difficult economic times, do not work in Russia;
- many commercial organizations can not afford credit because of their high cost and low level of provision with their own guarantees;
- risks in the activities of banks that are afraid of losing money; and organizations that can not timely repay loans due to low profitability of production, lead to disagreement over lending rates;
- the lack of regulatory documents that allow you to assess the creditworthiness of individual forms and conditions.

The use of integrated information systems, through which complete automation of production activities can be implemented, is the only right way for most enterprises and is the driving force that will ensure their competitiveness in the domestic and international markets.

Integration of data in information systems is the provision of access to data from many sources through a single unified interface. Information resources of some set of heterogeneous independent data sources are presented for a specific user in a unified form, as a new single source. Such features are provided

by the system of data integration. The undoubted advantage of this system is the release of users from unnecessary information (data from which sources they use, what their properties are and how to access them) [2].

There are two main approaches to the choice of the method of data integration - a virtual and current (materialized) representation of integrated data.

The process of integrating information support as any process in the modern world is characterized by advantages and disadvantages. Advantages of implementing an integrated information support system include:

- the transition of the enterprise management system to a qualitatively new level of development due to the emergence of the ability to collect the necessary information online on any request from all structural divisions of the enterprise, which allows to effectively manage and monitor the activities of structural units;
- a unified approach to the processing of data on the external environment and the activities of the enterprise, which leads to a unified understanding of the processes by all employees of the organization and greatly simplifies communications between departments, optimizes business processes by simplifying the interaction of departments and employees;

- building an integrated database that allows you to clearly identify and delineate access rights to the corporate information system;
- reduction of expenses for maintenance of various kinds of software due to reduction of their quantity and reduction in the number of links between programs;
- introduction of the systems of a single virtual office, corporate portals, intranets, which develop the communication system within the enterprise, increasing the speed of the process of making and implementing managerial decisions, and increasing the manageability of the enterprise.

We will also highlight the shortcomings of the process of creating an integrated information support system:

- a complex and rather expensive process of developing and implementing an integrated information system by restructuring the company's information links, possible malfunctions in the system that negatively affect the operation of the company's units;
- the need to use complex information security systems, since the integrated system contains information on the activities of all structural divisions of the enterprise (supply, production and marketing of products), and leakage of information can inflict great damage on the company's activities;
- Maintenance of an integrated information support system is a complex process and requires the involvement of highly qualified specialists who are difficult to find and who need to pay high wages;
- the introduction of an integrated information system requires the restructuring and reengineering of a number of business processes, the restructuring of the enterprise and the information technology department, which causes an increase in staff development costs, management costs, and control over the implementation of the corporate information system [2].

In order to get the most possible benefits from the implementation of the integrated information system and minimize all the shortcomings, the manufacturing enterprise needs to develop an information systems development strategy at the enterprise within the overall development strategy, draw up a plan for implementing the information system, and provide mechanisms and tools for managing the information system.

The efficiency of the production enterprises directly depends on the effective operation of trade enterprises, both wholesale and retail, since the producer directly learns about the tastes, the interests of consumers, and the demand for his goods directly from the trading enterprises that sell the goods in one or another quantity.

Wholesale trade acts not only as a connecting link between production and retail stores, it is an active

organizer of activities both in relation to production processes, and in relation to retail trade.

For industrial enterprises, retail trade activity is associated with the final stage of the promotion of products from the sphere of production to the sphere of circulation, that is, with the sale of products to the end user. However, the subject of retail trade is also the provision of additional services to retail customers, which also allows them to form their relationship to certain goods.

You can talk about the following retail functions, contributing to the development of the economy as a whole, and the activities of manufacturing enterprises:

1. meet the needs of consumers and bring them to the goods;
2. maintaining a balance between supply and demand;
3. active influence on production in terms of volume and range of products;
3. reducing distribution costs in the sphere of consumption by improving sales technologies, improving customer service, improving the level of information services, etc.
4. create jobs for people engaged in the trading process.

Also, the financial and economic state of an industrial enterprise depends largely on the sphere of material and technical supply. The activity of the manufacturing enterprise in the organization and management of purchases is aimed at obtaining the necessary raw materials, components and components at the right time and in the required quantity and quality, from reliable, proven or well-proven suppliers that fulfill their obligations in a timely manner, with the desired level of service and comfortable price.

The formation of a system of criteria for selecting suppliers depends on the strategy of a particular manufacturing enterprise, in terms of production, marketing and logistics. It is also necessary to bear in mind the fact that the system of criteria is dynamic and can change even during one planning period.

It should also be noted that the process of selecting providers of material and technical resources for industrial enterprises is often based on the study of a rather ambiguous, vague information about the numerous selection criteria. However, in order to achieve maximum objectivity in selecting a supplier, clear methods of processing information are necessary, and the method of analyzing hierarchies is consistent with this requirement. The hierarchy analysis method (MAI) is a mathematical tool of the system approach to complex problems of decision making about the choice of supplier. MAI allows not to prescribe to the person making the decision any "correct" decision, but gives an opportunity in an interactive mode to find the variant that is consistent with his understanding of the essence of the problem and the requirements for its solution in the best possible way. This method was developed by the American mathematician Thomas Saati and allows to structure in an understandable and rational manner a rather complex decision-making problem in the form of a hierarchy, to compare and perform a quantitative assessment of alternative solutions.

In order to translate the studied factors into an acceptable form for processing information, various hierarchical structures are used by the hierarchy analysis method: for example, the problem is pre-structured and represented as a hierarchy, for which the main objective of the study and all factors that to some extent influence the achievement of the goal, are distributed according to the levels, depending on the degree and nature of the influence.

So, at the first level of the hierarchy is the only vertex - directly the goal of the conducted research. At the second level of the hierarchy, factors that directly influence the attainment of the goal are formulated. In this case, each factor in the hierarchy being constructed is represented by a vertex connected to the top of the first level. At the third level, the factors on which the vertices of the second level depend, etc., are compiled. until the hierarchy does not include all the main factors or at least for one of the factors of the last level can not already get the necessary information [3].

Further, for each mother vertex, we estimate the weight coefficients, which determine the degree of its dependence on the vertices that affect it, but are at a lower level. The method of pairwise comparisons is used in this case.

Acting as a variety of the method of rating assessments, the hierarchy analysis method allows to make a systematic evaluation of suppliers and to carry out a comprehensive analysis of the investigated factors on the basis of prioritization and calculation, in spite of the complexity of calculations and the need to collect a large amount of information.

Technological changes, acting as a major factor in the transformations taking place in the economy, create opportunities for the emergence of new products acting in the form of services, for example, e-shops, electronic auctions, space tourism, etc., and also change the qualitative component of services. In ensuring and the results of traditional material production, an increasing share is occupied by complex equipment and equipment, which in turn requires an improvement in the quality of maintenance, for example, through the creation of specialized service centers, etc. These factors determine the role of the service in order to ensure the smooth functioning of manufacturing enterprises [4].

Technological changes that give rise to productivity, lead to an increase in material well-being, the quality of people's lives, and consequently, an increase in the proportion of free time. As a consequence, in modern conditions, people's needs are becoming more diverse, and the production sphere can not not react to it.

Current trends in socio-demographic processes also require expanding the range of goods and services used. Thus, the increase in the life expectancy of the population entails the need to develop social welfare and health care services for older people, and increasing the participation of women in socially significant activities, increasing the number of single-parent families entails an increase in demand for many household services (cooking, apartment cleaning, childcare, etc.), which also influences the change in the structure of demand and motivates producers to release new products.

Changes and various forms of social integration are undergoing changes. Thus, the creation of prerequisites for the personification of people's living conditions enables the development of modern technology and technologies, for example, through the spread of personal means of communication, and the increased complexity of increasing the number of forms of social integration also increases the demand for many services [4].

CONCLUSION

In modern society, demand is becoming more diverse, determining the trend towards a rapid increase in the range of manufactured goods and services provided for both consumer and industrial purposes, as well as improving their quality. Taking into account the aforesaid, there is an increase in the role of the service sector in the development of both modern production and the economy as a whole. Thus, one can speak about increasing the dependence of production enterprises on the subjects of external infrastructure, and the effectiveness of such interaction will depend on the effectiveness of the connecting tools used.

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