

# Management of production resources of the enterprise Improving the algorithmic model of information-analytical support of the process

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**Annotation:** To reflect the specifics of the use of new approaches to management in the process of continuous development of structural and organizational changes in enterprises. Processes in enterprises that carry out the processes of production and distribution among consumers, considered as consumers and producers of material, energy, financial and information flows. The main goal is to improve the algorithmic model of information and analytical support of the process of resource management creation and development of information management system for.

**Keywords:** Information, resource, system, model, management, flow, enterprise, object, algorithm.

The main connecting element of the concepts of "enterprise", "organization", "management", "management" is information. In terms of information, an enterprise or organization itself is a collection of different information flows. Because management can be seen as a process of processing internal and external data and developing an economic solution. In practice, this means organizing the allocation and movement processes of an organization's resources based on a pre-designed strategy and constantly monitoring their results. More specifically, the management process is the purposeful change of information about an enterprise's economic resources.

It is advisable to group the resources of any enterprise according to the interests of managing its production. Such groups include:

- materials or material resources;
- equipment or fixed assets;
- labor resources;
- financial resources;
- orders for the supply of finished products.

These groups need to be supplemented with another, special type of resource. These are information resources that exist simultaneously in all types of resources and allow them to interact with each other.

The management of the enterprise is directly related to the last, sixth type of economic resources in its activities, and the main problem of management becomes the problem of collecting, storing, presenting and analyzing information.

In practice, most of the internal economic information about production resources is obtained from the accounting service, but the accounting data does not fully meet management requirements, leading to serious breaches in operational and strategic management.

This makes it even more important for the company's management to organize the effective use of information obtained from accounting systems. Because the study of the situation in real enterprises has shown that today in the management of the enterprise this information is used incompletely and inefficiently.

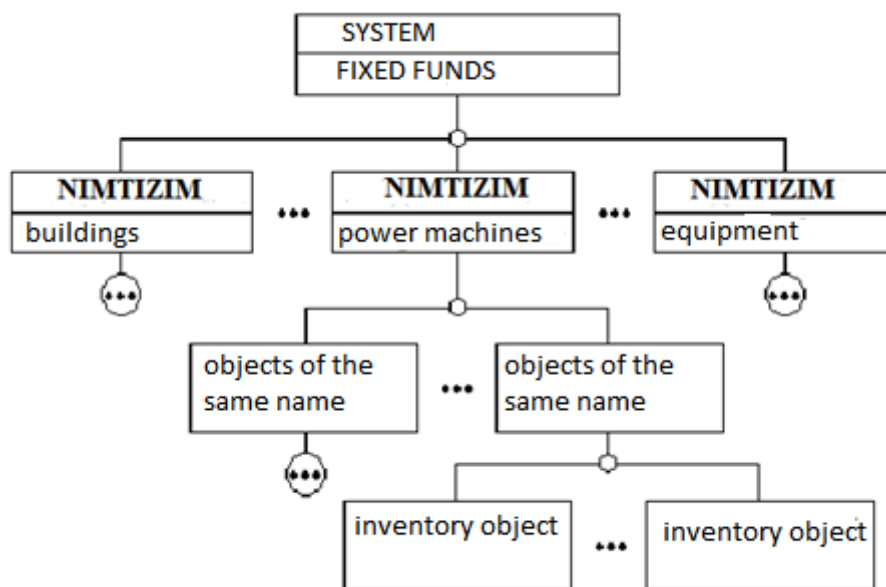
The analysis of information systems used to manage enterprises in different industries showed that in order to significantly increase the efficiency of production management, managers need to know the objective and operational It is enough to provide information.

For this reason, in the course of research on this master's dissertation, algorithmic models of the information-analytical support system of the process of logistics management of production resources of the textile enterprise were developed using the data of the three systems.

The system of fixed assets of the enterprise can be represented in the form of a hierarchical structure shown in Figure 1. This figure shows the traditional (usually) recognized groups of fixed assets. Such a situation (classification) is necessary for the formation of traditional accounting and the established report of the enterprise, but does not carry the relevant information load for the operational management of the enterprise, ie does not provide sufficient information.

Effective management of this system requires prompt information on the location of fixed assets, their attachment to the responsible persons, technical characteristics, level of obsolescence, etc. This defines the next level of the hierarchy - the objects of the same name, which contain technically the same type of fixed assets inventory objects.

Reliable information about the movement of fixed assets is necessary for management, but not enough. Fixed assets used in the production process transfer their value to the value of the newly created product in the form of the amount of depreciation calculated in parts.



1. Figure Hierarchical structure of the resource system "Fixed assets"

To calculate the amount of depreciation, the regulations provide for different methods of calculation, and most of them are based on the period of use (disposal) of fixed assets:

$$I = B \cdot A \cdot t$$

Here:

I - the amount of depreciation of fixed assets for the reporting period in soums;

B - book value of fixed assets, soums;

A - annual depreciation rate, % per annum;

t - is the period of fixed assets in the economy, years.

Thus, the depreciation value (amount) depends on time:

$$I = f(t)$$

At the same time, the distribution of the calculated depreciation amounts in the direction of production costs is made in proportion to the volume of work expressed by the object of fixed assets in traditional units.

In other words, in calculating the cost, the amount of depreciation is calculated depending on the volume:

$$I = F(V)$$

Or according to the expression

$$f(t)=F(V).$$

But such an equation is economically incorrect, that is, it is logically incorrect to equate work with time.

Current practice for resolving disputes a new method of calculating the amount (amount) of depreciation, which does not contradict the documents, is proposed. Figure 2 below shows the block diagram of the algorithmic model of the new method of calculating the amount of depreciation.

The following assumptions are made in the algorithmic model of the new method of calculating the amount of depreciation:

1. The amount of depreciation accrued on the subject of inventory for the reporting period should not exceed the amount of depreciation calculated by the current methods.

2. The depreciation amount consists of two components - production and management depreciation amounts.

3. The amount of production depreciation (IP) of an item of property, plant and equipment is calculated using the following formula in proportion to the time worked at the item of a particular cost:

$$I_p = \frac{B \cdot A \cdot R}{100 \cdot Z}$$

Here:

$I_p$ - the amount of production depreciation for the reporting period, soums;

B - book value of fixed assets, soums;

A – annu al depreciation rate,% per year;

R - hours worked for the reporting period, hours;

Z - is the annual loading fund of the object, hours per year

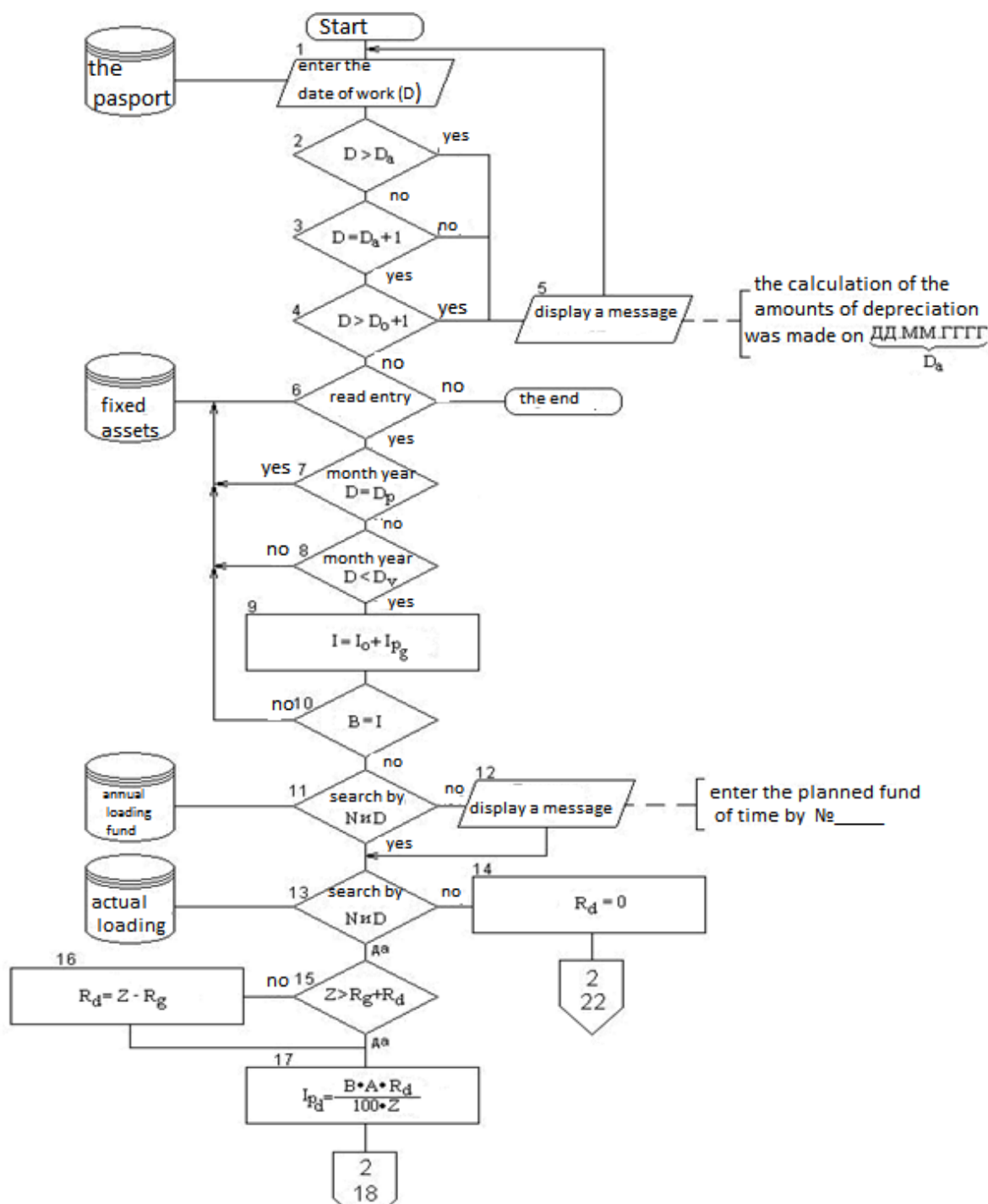


Figure 2 - Algorithmic calculation of the amount of depreciation block diagram of the model.

The development of information-analytical support algorithms for the management of production resources is inextricably linked with the need to establish a system for organizing the collection, storage and access to data. To do this, an appropriate database, its infographic and data models will be developed.

As an example, Figure 3 shows a screenshot of a simplified infographic model of the database used in the information-analytical support system of inventory management processes in a textile enterprise.

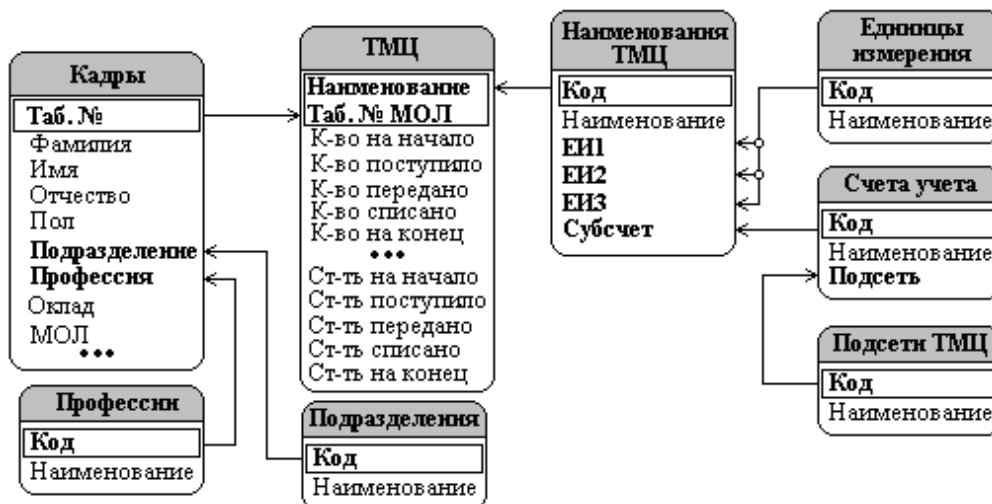


Figure 3. An infographic model of a database that provides information and analytical support for the process of inventory management simplified diagram

Informational support of the production process management process Management to the management (manager) for an arbitrary period of time to load directly from the production process in the production of both in-kind and value-added The various reports are presented in the form of tables, references.

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