

# Modeling of the Business Process "Strategic Planning" for Agricultural Organizations

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**Abstract.** The article The low competitiveness of many agricultural organizations is mainly due to the insufficient use of opportunities to improve the efficiency of their management. The effectiveness of the activities of agricultural organizations determines the provision of the population with food products. This indicates the paramount role of strategic management of the development of agricultural organizations, and, above all, strategic planning.

## Introduction

At present, there is an objective need to improve the strategic goals of the development of agricultural organizations and, accordingly, their organizational structure, due to the territorial dispersal of production facilities, an increase in the scale of production, and a low degree of business process manageability, which does not allow businesses to achieve maximum profit and competitiveness. Agricultural organizations are currently missing out on the following opportunities:

- 1) reduce the size of units and provide them with more qualified personnel,
- 2) reduce the number of management levels,
- 3) introduce a group work organization,
- 4) achieve the maximum degree of satisfaction of market needs,
- 5) to direct the staff to the realization of their abilities,
- 6) create profit centers,
- 7) respond quickly to change,
- 8) improve horizontal communications within the organization,
- 9) increase the rate of introduction of information technologies,
- 10) improve the quality of products and establish strong contacts with the consumer.

The issues of using the process approach in the practice of organizations are reflected in the works of Guyar F.Zh., Eliferov V.G., Kelly J.N., Repin V.V. Robson M., Hammer M., Champy F.

However, an analysis of the available sources on the management of agricultural organizations based on the improvement of business processes showed that these issues have not yet been sufficiently studied.

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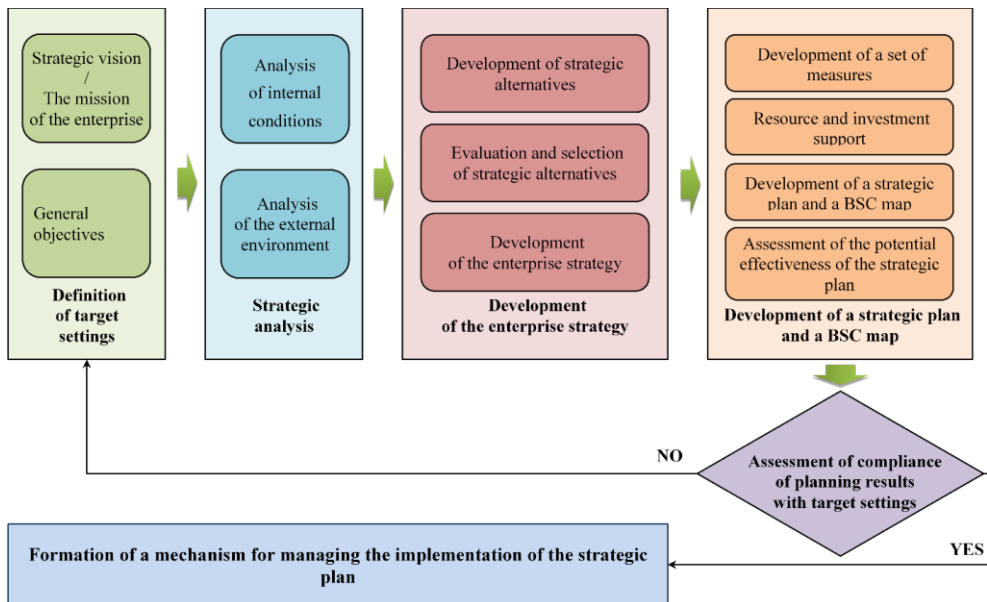
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Therefore, among the management business processes of agricultural organizations, first of all, the business process “strategic planning” needs to be modeled.

### Materials and methods.

It is well known that there are various techniques for modeling business processes. In our opinion, the most optimal for use in agricultural organizations is functional modeling (Fig. 1).

The proposed model allows you to optimally determine the distribution of resources between the operations of the simulated process, as it can give a complete picture of the functioning of the object (process) under investigation and all information flows [2, 4]. Within the framework of the functional modeling methodology, we use the IDEF0 methodology (Fig. 2)



**Fig. 1.** The mechanism for managing the implementation of the strategic plan Source: compiled by the authors taking into account [3]

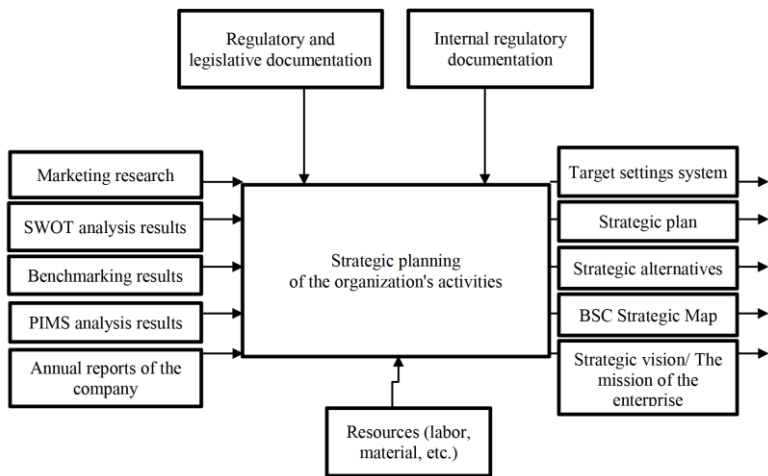
### Results and discussions.

Figures 3 and 4 show the decomposition to the second level of the business process "Strategic planning" for agricultural organizations and IDEF0 diagram of the second level of decomposition of the business process "Development of a strategic plan". One of the outputs of the “Strategic Planning” process for agricultural organizations is the BSC strategic map [1].

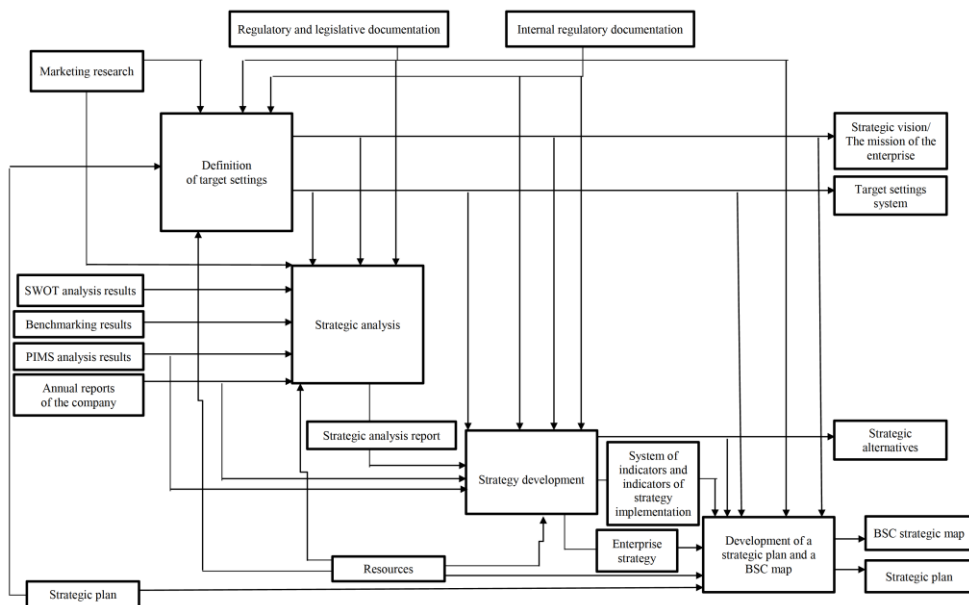
An example of a possible BSC strategy map for agricultural organizations is shown in Figure 5.

Let us consider in more detail the processes of forming the corporate network of an organization. In large organizations, there are departments responsible for information and digital support of multi-stage logistics, but they act precisely as those accompanying all stages, as, for example, the service department does in terms of servicing warehouses or

cars. Digitalization of logistics at the moment is a prerequisite for its correct existence [1, 3].



**Fig. 2.** Context diagram IDEF0 of the business process "Strategic planning" for agricultural organizations. Source: compiled by the authors taking into account [3]

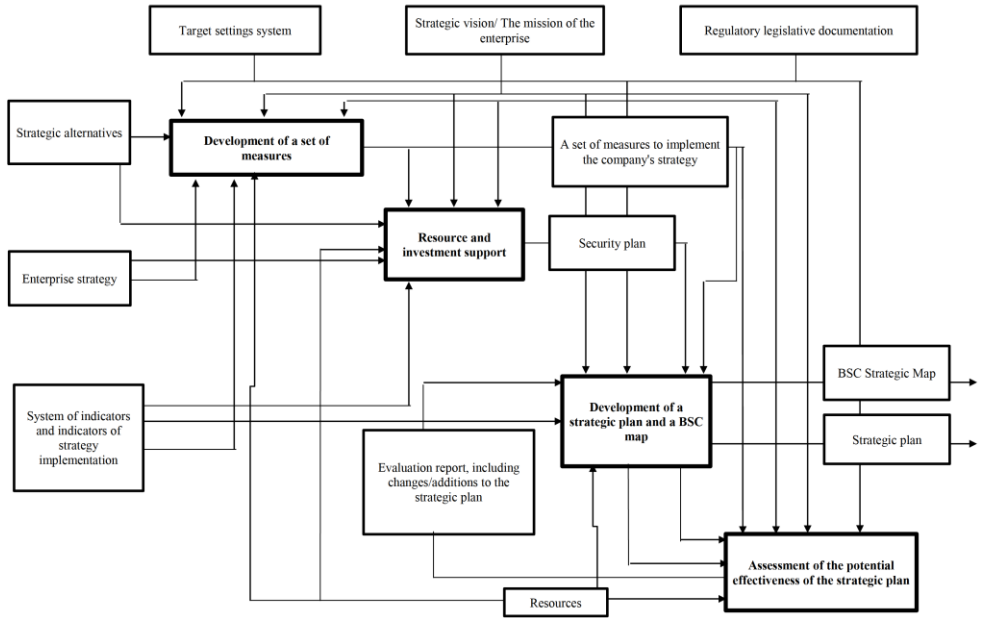


**Fig. 3.** IDEF0 diagram of the first level of business process decomposition "Strategic planning" for agricultural organizations. Source: compiled by the authors taking into account [3]

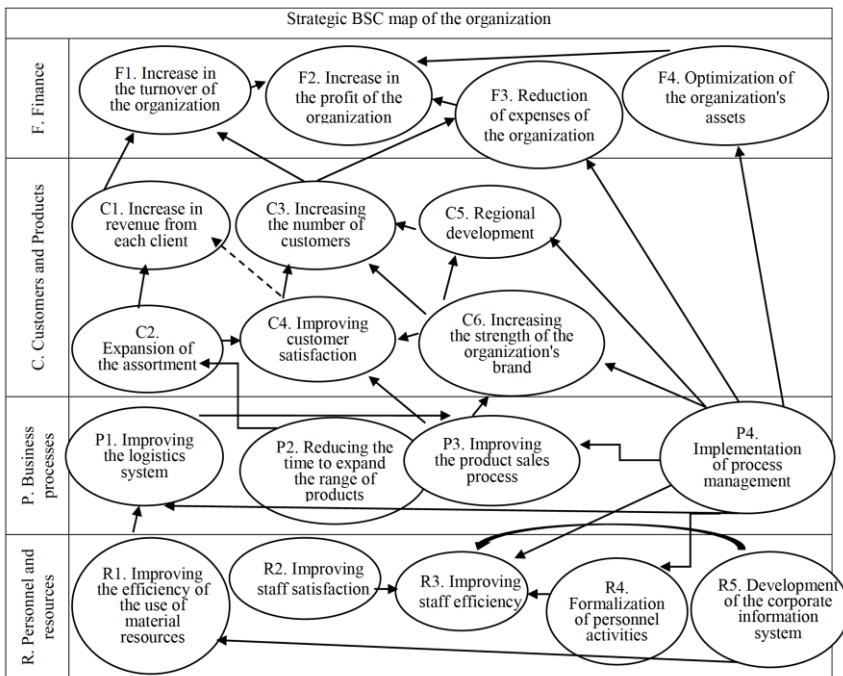
The information infrastructure of agricultural organizations can be supplemented by:

- accounting IS, including payroll and personnel management systems;
- electronic document management platforms;
- digital scales for freight transport;
- tablets with photo and video recording systems;

- loggers - temperature monitoring sensors;
- CCD systems (corporate data warehouses), etc.



**Fig. 4.** IDEF0 diagram of the second level of decomposition of the business process "Development of a strategic plan" [compiled by the authors taking into account [3]]



**Fig. 5.** Strategic map of agricultural organizations. Source: compiled by the authors taking into account [3]

Agricultural organizations have 3 ways to implement information support at their facilities, described below:

- 1) purchase of a ready-made information product, the so-called "boxed solution", with the subsequent configuration of such an IS,
- 2) purchase of a finished information product with subsequent refinement of such an IS.
- 3) the most difficult and most expensive way in terms of time and management resources is to create a self-written IP from scratch based on some development platform, for example, 1C or Oracle.

In any case, if there is more than one IS in an organization and the need to integrate them with each other, the work of an IT specialist (s) is required. That is why large organizations have their own staff, at least, system administrators and developers, as a maximum - a staff of diversified IT specialists.

The use of information and communication technologies (ICTs) in agricultural organizations can be greatly improved as ICTs can help:

- effectively organize and streamline significant amounts of information;
- make knowledge available (electronic content) and place it in the right context for the application (for example, using context-sensitive search);
- combine knowledge and data in models that make sense in the right context (for example, in decision support systems).

In other words: ICTs have the potential to enable the exchange of information and thus facilitate and improve the sale of products.

The formation of an effective process management system allows improving key performance indicators based on the application of the developed business process models in agricultural organizations.

## Conclusions

Based on the functional modeling method (IDEF0), a strategic planning model for the organization of the agro-industrial complex is proposed, which allows using functional diagrams to effectively allocate resources between the operations of the simulated processes, followed by the development of a strategic BSC map.

The main benefits of functional business process modeling (IDEF0) are:

- completeness of the description of business processes;
- visibility;
- complexity in decomposition;
- the possibility of aggregating and detailing data and information flows;
- the presence of strict requirements of the methodology, ensuring the receipt of process models of a standard form;
- ease of documenting business processes.

The Balanced Scorecard (BSC) is the concept of a strategic performance management system that allows organizations to set strategic goals and manage their achievement.

In our opinion, the main mistakes that accompany the formation of a strategic balanced scorecard can be:

- targets without connections,
- focus on operational goals, not strategic ones,
- lack of justification,
- multiple targets.

The presence of a card only for managers without tasks of the lower levels of the management hierarchy [6, 7, 8, 9, 10].

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