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# COMPUTER MODEL FOR AGRICULTURAL HOLDINGS- USEFUL TOOL IN THE EVALUATION AND IMPLEMENTATION OF A HIGH PERFORMANCE MANAGEMENT

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**Summary:** *Development continuous information models in the agricultural sector, as the data collection methods and modern and efficient processing of the system of economic and financial indicators and assessing risks in agricultural holdings may have a positive impact on increasing the competitiveness of production processes, is a viable solution for streamlining activities in agriculture. From this point of view, at the level of an agricultural holding, the data model can become a real component in the process of management. The main aim is to improve the decision-making process from the farm and the provision of information management systems necessary to adapt to a society directed toward knowledge and access to information.*

**Keywords:** *computer model, agricultural management, economic and financial indicators, economic risk*

## INTRODUCTION

Management processes carried out in an agricultural holding can be improved by information in a real time of managers of economic and financial data with reliable, relevant, and useful. This is achieved through implementation of competitive computer models that lead to their profitability.

In a market economy, an agricultural holding have to resist in the face of intense competition, thus arriving at:

- strategic analysis for evaluation of the results of production, financial and economic results and,
- the definition of priority objectives that lead to optimal decision-making in the field of economic and technological systems management and thus to increase its competitiveness both on the domestic and foreign market.

The work is based on the results obtained in the framework of ADER 5.1.3-"Establish profitability and economic risk assessment in the vegetal and animal farm under the pedo-climatic conditions in the South of the country." The present study underlines the importance of using the computer model at the level of an agricultural holding for the identification of escape routes, the solutions and measures of organizational, technical and economical growth in profitability and economic risk assessment. Thus, the computer model comes in support businesses providing information necessary for the evaluation of the application of a high performance management for efficient organization of an agricultural holding.

## MATERIAL AND METHOD

The study was conducted in the South of the country, by suitably qualified research team for such actions. Thus, analyses were carried out at the level of studies and the farms of various sizes and shapes for the collection of data necessary for the application of the calculation methods scientific advice, economic, statistical, and processing information, etc.

The information has been obtained from both internal sources (annual financial statements, management accounting and budgeting analysis), as well as from external sources (other than the holding's accounts).

The project has involved, in fact, the use of methodologies, techniques and analytical study-specific equipment, processing and exploitation of data: analysis method and the conceptual and organizational structure-functional technical and economic elements; setting up your database

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using the technique of calculation and audit methodologies; technical and economic processing of the data, etc.

Theoretical and methodological support of the measurement of the characteristic phenomenal and economic processes determining breakeven and economic risk assessment for agricultural holdings consisted of a system of indicators classified in specific indicators, indicators of results and indicators of profitability (profit, intermediate management balances, rates of return, the threshold of profitability etc.).

From the technical point of view the computer model has been structured so as to use various types of information, each with a well-defined role for its functionality, aiming to database administration, business process management functionality queries, the access level of the applications developed within the framework of the model, the connection to the WEB service, the user interface (services: the generation of data to support decisions, rescuing and protection of data, etc.).

## **RESULTS AND DISCUSSION**

Information used for the application of the computer model on agricultural holdings of different sizes and shapes were intended primarily to maintain the competitiveness of their own activities and its products within it. This information allows the evaluation, selection and choosing the most effective decisions, imposing the need for use of methods and ways of working based on the systemic approach economic-mathematical modeling. Thus, there is the possibility of a thorough technical-economic analysis based on consideration of all technical possibilities, linking close to production targets with existing resources, concurrent analysis of all possible variants of action, establishing territorial priorities of satisfying the different needs, etc.

Through systematic on-line accessibility of data-processing model is a necessary information to beneficiaries, thereby contributing to the achievement of improved management through the identification of processes which can be made more efficient, profitable items highlighting the business, improving the Organization and reduce costs.

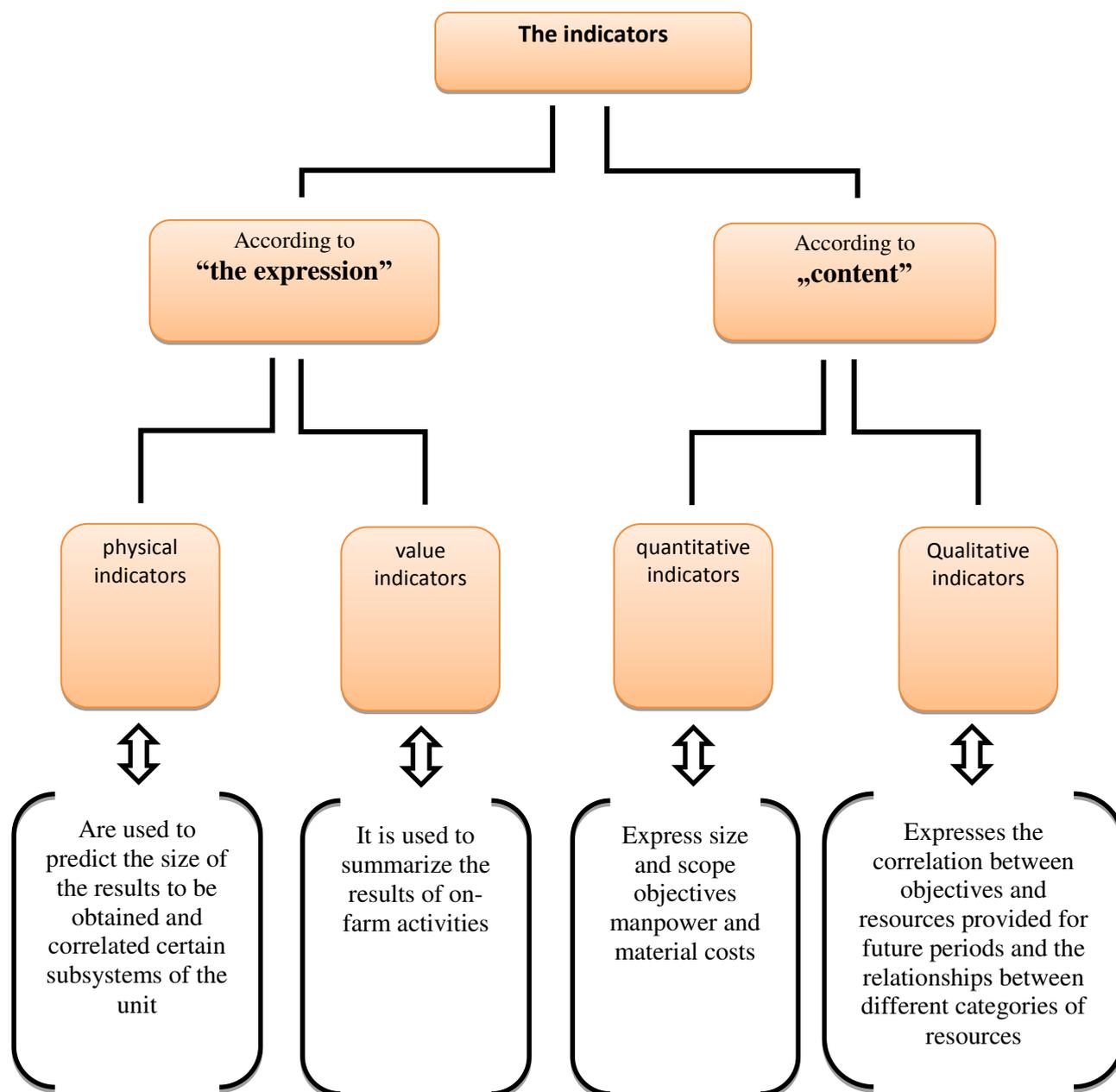
The demonstration of the usefulness of the computer model was based on the evaluation of scientific information and functionality ensuring compliance with the needs of potential users of the system (making the requirements model, communication with users, etc.).

In carrying out the evaluation of the function of the computer model were done the following analyses:

- control flow analysis, through monitoring the entrances and exits of the sheet (s) model;
- analysis of data by detecting the uninitialized variables, to repeated variables and variables declared but not used, etc.;
- analysis of the flow of information, through the identification of dependencies of the output variables;
- analysis of connection, to identify anomalies or repetitions.

Also, the test focused on functionality, and specimen conducted against a number of specifications, namely he measured how well run the operations you need to perform, such as: user commands, data manipulation, etc. In general, performance testing is performed for the model behavior in different conditions of performance: measurement of response time, data loading, data errors in the context of weaker hardware resources etc.

System of indicators can be considered as a basic tool of economic mechanism, because, through the information you provide helps the main justification of the decisions shall be taken by the farm manager. The number of indicators used for the justification of decisions at the management level involves a group of them and an interdependent mainly determined by interconnection issues involved, for their similar or complementary nature and calculation method.



In the process of assessment, development and implementation of management strategies have an important role and economic-financial indicators which measure the activity of volume means allocated and economic results have been or are to be obtained in relation to the existing funds. Economic evaluation of holding liquidity indicators are calculated, profitability, solvency and economic risk, through a related analysis, can determine a diagnosis and a forecast at the farm level.

Within the computer model, the economic-financial analysis of the holding for a period of three consecutive years is relevant because you can highlight and structure issues that include one or more strategic responses. This involves the use of means and methods of forecasting of the development of economic factors, social, ecological techniques, which can alter the economic size of the holding for the purposes of gain or a reduction in its financial evolution.

## **CONCLUSIONS**

Regardless of the economic size and profile of their form of ownership, any modern farm needs a management based on flexibility, dynamism, and foresight. This can not be conceived without operative information, complex and quality to increase the number of practice management, thus ensuring high quality products and competitive abilities at the level of agricultural holdings.

In order to enhance the competitiveness of agricultural holdings on the internal and external markets, it is necessary to improve the flow of information available to them through the use of information technology for innovation, in accordance with the strategies defined at European level.

Thus, the computer model developed for determining breakeven and economic risk assessment is a practical working tool for supporting the decision making process at the farm level, instrument characterized by flexibility and adaptability in the use of information and rapid response to user requirements. On the basis of physical and economic indicators, specific computer model provides useful information for the assessment and application of a high performance management in order to plan and effective allocation of resources at the level of holdings.

Also, the computer model can contribute directly to enhancing competitiveness because the information obtained can be used to increase profitability and penetration into new market segments (the model can process a large volume of data with the primary purpose of the application of new models and internal rules to the user that can be used in the decision-making process of management and marketing).

In terms of economic impact, the computer model may contribute to increasing the competitiveness of agricultural holdings, through:

- evaluation and application of decisions technical and economic-which have included increased productivity, lowering the price of products and investment cost, etc.
- financial effects with positive influence in the process of analysis and economic-financial forecasting and decision-making process necessary for an efficient management.

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