The costs system like a part of the company managerial information system

Nákladový systém ako súčasť manažérskeho informačného systému podniku

M. Kučera, E. Škorecová, A. Látečková

Slovak University of Agriculture, Nitra, Slovak Republic

Abstract: The article is oriented towards justification of the necessity of company cost system administration in the environment of the software managerial information system. The competitiveness of Slovak agricultural companies within the EU and global markets need to extend the the content of company cost system, detailing its structure, new quality of the company cost analysis, their multidimensional monitoring and analysis. Providing current and relevant information about costs is considered to be an advantage of the company in the competitive environment. The application of managerial systems in the area of costs enables to achieve this advantage.

Key words: cost management, agricultural company, cost system, managerial information system, European Union

Abstrakt: Príspevok je zameraný na zdôvodnenie nutnosti vedenia nákladového systému podniku v softvérovom prostredí manažérskeho informačného systému. Zabezpečenie konkurencieschopnosti poľnohospodárskych podnikov SR v rámci EÚ i globalizovaných trhov si vyžaduje rozšírenie obsahu nákladového systému podniku, spodrobnenie jeho štruktúry, novú kvalitu podnikových analýz nákladov, ich viacdimenzionálne sledovanie a rozbor. Zabezpečenie aktuálnych a relevantných informácií o nákladoch patrí v súčasnosti ku konkurenčným výhodám podniku. Aplikácia manažérskych informačných systémov v oblasti nákladov umožňuje túto konkurenčnú výhodu dosiahnuť.

Kľúčové slová: riadenie nákladov, poľnohospodársky podnik, nákladový systém, manažérsky informačný systém, Európska únia

INTRODUCTION

The costs system is a part of the managerial information system of the (MIS) company. The quality MIS is able to register details, to classify, process and display information about the costs. It can be useful for Slovak agricultural companies to *increase the low efficiency of the inputs in comparison with the EU companies*, mentioned in scientific literature.

Šikula (2003) outlines following the results of outputs of the study about the entry of Slovakia to the EU, developed by the Slovak and the World Economy Institute of the Slovak Academy of Sciences (SAV). The future situation of Slovak agriculture under the EU conditions is predetermined by its present efficiency and situation in the national economy in comparison with the member states of the EU as well as other candidate states. The productivity of Slovak agriculture is significantly lower than in the EU. There is much lower added value per hectare and per worker. It is caused by different price level and production subsidy. Significant are also the differences in production intensity shown in the lower efficiency of inputs.

Podolák (2003) states that agriculture reaches 40–70% of the EU average in intensity parameters.

Hacherová et al. (2003) document the opening of price scissors to the disadvantage of agriculture on the basis of cost analysis, revenues, economic results in agricultural companies in the SR in the years 1997–2002.

Božík, Izakovič (2004) suppose that the agricultural rise in costs will be higher than the expansion of production in the first years after the accession to the EU. After 2007, it can be expected that the costs will decrease (not on the unit basis but in the whole capacity) as a result of decreasing production in comparison with the years 2004–2006.

The prices of Slovak agricultural producers are generally lower than in other V4 countries. It results from the comparison of Slovakia with V4 countries, pursued by Blaas (2004) and Božík (2004). Agricultural input prices of most commodities in Slovakia are higher than in the other V4 countries. The space for creation higher gross added value of Slovak producers is significantly reduced since the prices of agricultural producers are lower and the level of input prices is higher.

According to Pataky (2004), the main task of agricultural companies to achieve a favorable economic result is the economical management of costs and coordination of production costs. Cost controlling helps under the conditions of market mechanism. The author understands it as a system of rules, methods and information tools, which would help to coordinate the efficiency of inputs as well as the coordination of activities.

The aim of this article is to focus on the possibilities of effective monitoring, controlling and managing of costs through the application of managerial information systems.

Competitiveness and sustainable development in a strong international environment will require permanent evaluation of the company MIS and within the MIS, the cost information system respectively, if it complies with the current requirements of management and information content which should be permanently updated.

MATERIAL AND METHODS

The input materials:

– outputs of the research oriented to the information support of cost management and transformation of information systems of agricultural enterprises in connection with the entry of Slovakia to the EU,
– outputs of the analysis pursued on a complex of enterprises and a group of software products like Softip, Datalock, Softeam, Stormware, AURUS, ISS Bratislava s.r.o., NOVEKON s. r. o., SAP.

For processing the input information, the answer sheet method, method of controlled dialog with management, analysis, synthesis, selection, comparison and observation were used.

RESULTS AND DISCUSSION

The content of the cost system

Most of agricultural enterprises in Slovakia control costs and revenues according to their types. The basic structure is indicated by the accounting system for entrepreneurs. Managerial analyses require different, so-called *managerial itemizing the costs,* which results in concrete needs of a management task. In this context, it is necessary to extend the qualification of the management of the agricultural enterprises considering the managerial itemizing the costs. Prepared changes in accounting and new enterprise management approaches in the process of internationalization and globalization of economy require this necessity.

The Council for International Accounting Standards has adopted this type of profit-and-loss classification offering the user the possibility to assess the results and to foresee the changes of the results in the future (Tumpach 2003). The user can be led to qualified considerations about the company effects in the future; for example by showing the costs, revenues and economic results according to geographical segments within the structure of profit and lost report**.** *It is expected, that the costs will be shown in the purpose classification* and that the classification of costs according to their types will be accepted only as supplementary information and in the annex. It is highly probable that in the future the costs and revenues will be reported together with not realized gains and losses in a complex report of global results for a particular period. The cost information system has to be adapted to these changes.

In the EU, the *variable costs* have higher importance. They are the central concept of "farm accounting". When defining the variable costs, each EU member country can apply the national principle. That means respecting the national differences within the uniform methodology of the EU. In Slovakia, the Research Institute of Agricultural and Food Economics (RIAFE) is concerned with this problem as the institute authorized by the Ministry of Agriculture and Food of Slovak Republic. The RIAFE has defined the structure of variable costs of plant and animal production of Slovak agriculture. It is published, for example, in the article (Varoščák 2002). The structure of variable costs is compatible with the methodology of the EU.

Following the above mentioned facts, the managers of agricultural enterprises in Slovakia are recommended:

– to give attention to the structure of variable costs of Slovak agriculture in plant and animal production and to adopt analytical accounts in the subsystem accounting to this structure,
– to get acquainted with the EU methodology dealing with the enterprise valuation based on its variable and fixed costs; this methodology has to be gradu-

ally implemented into the agricultural management practice,
– to implement variable costs structure also into calculation and budgeting.

In the EU methodology, the *product costs principle* is used, assuming standardizing of the variable costs of performance. Therefore, the agricultural enterprises will have to develop norms and directions based on the detailed observation of costs according to cost types and also according to the variable costs structure in the Slovak agriculture. To fulfil this task, the RIAFE can be helpful, because the institute is dealing with the norms and directives in agriculture.

Cost types that do not fall under the variable costs of plant and animal production according to the RIAFE do not have to fall under fixed costs. They can belong to mixed costs. *Variable part* of such *costs can be identified either by a qualified estimation* which is a result of long-term observation and analytical classification *or by another suitable method, possibly by their combination.* There are other methods which can be used for the identification of variable and fixed costs, e.g. graphic methods, empirical methods (classification analysis) or mathematical methods (least squares method, method of regression or correlation analysis, equation with two unknowns, variance method).

Along with classical calculations used in the past, *market economy of the EU will force the enterprises to use variable costs calculations.* The variable costs calculations are very suitable:
– as an instrument of crisis management in times of the company crisis,
– by the optimization of the range of products and the capacity with the aim to improve the financial situation of the company, by specifying the product preferences and attenuation of the production,
– by choosing the customer concerning his price requirements,
– for the estimation of short-term floor level of products with the aim of increasing sales or revival of demand and also the assurance of the needed liquidity.

In case of fixed costs scheduling to single output ,the most objective method seems to be the method of single activity scheduling – ABC method. Application of this method with the goal to get the most objective own costs calculation would be advisable for agricultural enterprises. This requires modification of the cost system so that it would be able to re-gister the process and present also those costs induced by single partial activities. The application of costs scheduling with the ABC method in the process of costs management implies to:
– identification of activities with high costs,
– examination of the possibilities and chances of costs reduction,
– identification of activities which can add or cannot add the value,
– identification of chances for improving profit of output.

The reform of the Common Agricultural Policy of the EU requires introducing the new audit system on farms as well as new measures for rural development oriented towards the improvement of production quality, food safety, animal welfare, accentuating legislation of the environment and work safety. So in the structure of costs system in agricultural companies, there should be *information about quality costs, environmental costs, social costs*, etc. We can find these demands also in the Accounting Law since 1. 1. 2005, which necessicates adding information about the company influence on environment and employment in the audit of companies since 2005. The monitoring and showing of company influence on environment and social aspects is global trend.

One of the instruments of raising the efficiency of inputs – costs – is their *budgeting.* The EU planning is realized in 7-year cycles and within these cycles, the principal priorities are set. The costs system of agricultural enterprises in Slovakia has to be innovated so that the strategic, tactical and operational costs budgeting is connected with other budgets focused on elaboration of the possible alternatives of entrepreneurial activities supporting priorities defined by the EU. Fulfillment of this task is not possible without MIS build on integrated software support and modern information and communication technologies.

It is necessary to have the relevant in-company information as well as the information about the Slovak agricultural sector and about the agricultural sector of the EU to be able to make real costs calculation, calculation of profits and calculation of the economic results. The relevant information offers competitive advantages in the international and global market economy, so for this reason the *information management and information strategy* should be very important in each company. Companies should specialize in choosing suitable modern IS/IT and focus on connecting the company MIS with the national and the European information system of the agricultural sector.

After the accession to the EU, the national governments lost their independence in the area of

agricultural policy. Shifting the vital decision-making mechanisms from the national government to Brussels requires *to increase information activity of the companies*, especially in the sphere of monitoring the current situation in the European institutions, identification of supporting programs, communication with competent departments in Slovakia and in the Brussels, information lobbing necessary for protection of own interest, getting information about the market and other information. We have to pay attention to these activities because agricultural companies are not used to them so far. The information obtained will reflect in the content of costs company system.

Long-term prosperity and sustainability of a company require that *thinking in terms of accounting has to be thinking in terms of economy.* Only then it will be possible to create an effective costs information system. Agricultural companies need an accounting expert with economic and managerial thinking and managerial skills or a controlling team. The managerial accountant should be a good partner of the company director and accompanies him/her in the whole process of managing and deciding. He/she should be professional enough to help to stabilize the company, to pursue company assessment, to identify weaknesses and strengths of the company, advantages and disadvantages faced, to develop a new company strategy, to implement and improve the motivation system, etc.

The costs system involves also costs connected with the managerial activity. In order to optimize them, managers are recommended to get inspired by several ideas of *reengineering and by the system of quality of managerial processes*, which aim at long-term prosperity and sustainable development of the company.

The necessity of the implementation of managerial information system

Since the beginning of the automation of company processes, there is a focus on exact cost registration. The seventies and eighties are characterized by the software application which consists of unconnected subsystems. The registered costs were incomplete and costs statements were delayed. Therefore, the information could not be used in operational management.

In the nineties, a significant progress brought the worksheets offering the managers the possibility to select important information, arrange, sort, analyze and create documents for decision-making. There are many aspects to be followed in the process of control and costs management and the currently existing worksheets are not satisfactory.

The new quality of company analyses and cost management is represented by integrated software of the company information system. The evidence and data processing are realized in relatively independent subsystems which are interconnected. Every subsystem is related to a concrete section of the economic activity (long-term property evidence, material, product, in-company supplies, liabilities, financial resources, staff ...). The interconnection of subsystems offers the possibility to create realistic cost reviews. It is also possible to have statements in crowns and also in quantity units for the separate organization units or outputs. Even this way of information processing is not sufficient for managerial costs management because:

– in terms of time it is not real time processing and the data cannot be used for operational management,
– in terms of strictness of analyses the reviews are offered in a standardized form or the form creates the manager according to the predefined parameters. This does not allow a complex assessment of costs (amount and justification).

For the quality costs management, it is necessary to use managerial information systems. The basis of automated processing of MIS is the database and the defined methods of analysis. The database is created by the company information system.

For the analysis of the data, the following methods are used:

a) standard delivery by the software company,
b) managers have access to the modification of the methods, they can define their own formulas and create individual analyses.

For the cost management, it is important that MIS enables detailed evidence of existing costs. *It is possible to define several identification data put into the system at the same time with the input of costs into the database*. The evidence of costs is detailed according to the classification set by the manager.

In MIS, it is possible to calculate indirect costs on several levels so that the costs influence only those activities which caused the indirect costs (e.g. machine repair costs, including material transport, repair cost calculated according to the activities the machines were used for). Calculating of costs is not necessarily standard, it might be adapted by the manager.

Dimensions of observation and cost analysis can be pursued in several ways. One of the possibilities is including the demand for the identification of the

organization unit, the order, the output or the observation of calculations while creating the accounting system. The user is obliged to complete the facts about the place of cost origin and the purpose of costs.

The MIS offers more possibilities – for example time dimension or combination of several levels (time space, organization unit, output, order etc.). In Figure 1, the chosen dimensions of observation and cost analysis are shown.

Reviews are not limited only to one level. Multidimensional analyses can be combined. For example:

1. Cost analysis of in-house units – enables to compare and analyze costs of the same type in individual in-house units with the possibility to choose the type of costs and time period.
2. Time development analysis according to the chosen in-house units and the types of costs.
3. Comparison of costs during the current year with previous years in detailed classification according to the chosen time interval (quarter, month, decade...) with the possibility of adding reviews according to the in-house units to the concrete cost type.
4. Detailed cost analysis of the in-house unit in time sequence with signaling variation and its analysis.
5. Percentage analysis enabling to control the percentage cost structure and development trends – describing the changes of the current and previous period and the future development prospects.

Reports and presentations are created individually by the user. The disadvantage of some MIS is the complexity of the adjustment of individual dimensions and parameters.

Within the MIS, it is vital to precisely observe the warehousing since it usually creates the higher portion of logistic costs. An optimal observation can significantly influence the operation costs. For example:

- calculation of the necessary purchasing order according to the real orders and production in the company enables a precise estimate of stored quantities,
- it is possible to indicate the consumption during individual months and to order accordingly, the result is storage of lower quantities,
- transfer of material to the warehouse and its valuation can be immediately reflected in calculations and compared with the planned costs.

Following the production costs can be oriented towards individual orders. According to demand we can estimate the costs, based on the real situation in the warehouse and their pricing and we can also calculate the indirect costs. The system is able to control costs of each order and enables to analyze the variations.

In case of a different (not order) type of production, there exists a possibility to control the real costs – material costs from the material issue slips, wage costs from wage lists, etc. There is a possibility to calculate the planned and the real costs according to the calculation formula prepared by the managers. Important is the real costs management in real time.

Planning is a vital part of the cost management. Within the MIS cost planning is based on the requirements of the managers and on the analysis of the previous period. Managers are controlled by the

DIMENSION OF OBSERVATION AND COST ANALYSIS

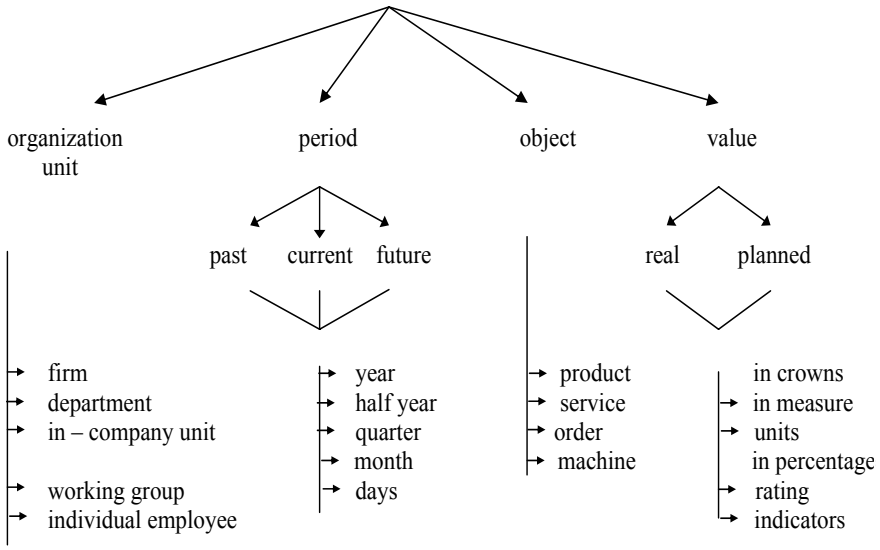

Figure 1. Multidimensional cost analysis – selected dimensions of the observation and cost analysis

program during planning within a set tolerance. Signal statements assuring the cost control during the year are made in the most suitable form for the managers – as an absolute value, percentage value or graph.

CONCLUSION

Competitiveness and sustainable development of companies under the conditions of internationalization and globalization of the economies is very complex. Many new questions arise, the solution of which would require new approaches, new tools, new thinking and new information. This also applies to the company costs system. It will be necessary to modify this system, which is able to assure its transformation to a responsible, flexible and objective information instrument for managing long-term prosperity and sustainable development of the company.

It will be necessary to keep the costs as low as possible and to reach the possibly highest production efficiency. The cost system of the company should provide information for the managers with a competitive advantage and therefore it will be necessary to extend its information content so that:

- it would include apart from the in-house information also information from the entrepreneurial environment of a specific sector in national and European context,
- it would enable to make cost analysis from different aspects and in different connections (business, national, international).

The accomplishment of these requirements on the company costs system can not be achieved without further automation, informatization and application of managerial information system.

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Contact address:

Doc. Ing. Milan Kučera, CSc., Ing. Emília Škorecová, CSc., Ing. Anna Látečková, CSc. Slovenská poľnohospodárska univerzita v Nitre, Tr. A. Hlinku 2, 949 76 Nitra, Slovenská republika
tel.: +421 376 508 191, +421 376 508 194, e-mail: milan.kucera@uniag.sk; emilia.skorecova@uniag.sk; anna.lateckova@uniag.sk