Economic software – information support of product cost management

Ekonomický softvér – informačná podpora riadenia výrobkových nákladov

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Abstract: Adequate product cost economic management is not possible at present without economic software application. Based on the analysis of the current state of enterprise information systems in agriculture, we define basic methods of automatic processing of economic trials and this on the enterprise management level and in-plant level. For product cost management enhancement, we recommend managerial information system application, which introduces extension of enterprise information system and allow real time cost analyse with multidimensional disintegration. We also introduce requirements that economic software suitable for information management needs should ensure.

Key words: information, economic software, calculation, product cost management

Abstrakt: Adekvátne ekonomické riadenie výrobkových nákladov v súčasnom období nie je možné bez aplikácie ekonomického softvéru. Na základe analýzy súčasného stavu podnikových informačných systémov v poľnohospodárskych podnikoch sme určili základné spôsoby riešenia automatizovaného spracovania ekonomických procesov a to na úrovni podnikového riadenia a na úrovni vnútroorganizačného, t.j. vnútropodnikového riadenia. Pre skvalitnenie riadenia výrobkových nákladov odporúčame aplikáciu manažérskych informačných systémov, ktoré predstavujú nadstavbu podnikového informačného systému a umožňujú analýzu nákladov v reálnom čase z pohľadu multidimenzionálnych rozkladov. Zároveň uvádzame požiadavky, ktoré by mal spĺňať ekonomický softvér vhodný k zabezpečeniu informačných potrieb manažérov.

Kľúčové slová: informácie, ekonomický softvér, kalkulácie, riadenie výrobkových nákladov

INTRODUCTION

Current world trends require from enterprises achieving of the highest quality and fast adaptation to the customer claims. According to the autors Báča at al. (1997), Škorecová, Látečková (2001), this rises pre-production and production management aspirations and aspiration for parallel technical and economic tasks decisions.

The pressure of competitive environment on the highest production flexibility requires an elastically changing production content, coming in with new products and new production procedures, regulation of production volumes, production not for store, looking for new production resources. These problems are also those of agri-food enterprises. They do not relate indeed in the full scale on agricultural business, because their production flexibility is determined by natural conditions.

The goal of the contribution is to analyse economic software as information support for product cost management. Product cost compared to product earnings belongs to the most important information for solving problems connected with production flexibility, changing the structure and product assortment optimisation.

Tasks connected with production flexibility bring up the needs to extend and strengthen the enterprise information system in the following:
– product structure information
– difference methods of cost management
– analysis methods for solving different decisions tasks.

To the area of product structure information enlargement and reinforcement, there belong first of all:
– establishing a well functioning calculation system with conventional and unconventional calculation methods, which gives the opportunity to use suitable calculation type for each decision task
– optimal norm and normative level specification of unit cost, so that in combination with production instruments, they can secure the required economics and efficiency of production
– finding such a way of overhead expenses allocation, which makes it possible to improve calculations – the basic background for the analysis and production cost management
– providing such information already in the pre-production phases; formation of qualitative estimate calculations, not only for operative, but also for tactical and

strategic cost management, what requires also using an adequate mathematical apparatus and automation of entry processing.

Automation of entry processing is a requirement of utilization of different methods of cost management and different analytical methods for decision tasks solving. The quality of entry processing and received results needed for informational ensuring of listed activities in substantial extent depends on the quality of economic software. Kučera (2000) says that there is a need to integrate information systems into a complex managerial information system, with a goal to create data files to decision support (data-warehousing).

MATERIAL AND METHODS

In the contribution, we apply information from the research of selected economic software products (Aurus, Pro-fit, Softeam, Codex, Laura) and analysis of a set of agricultural enterprises (30 enterprises). Results are reached with the analytic-synthetic method, comparative method, method of selection, controlled conversation, direct observation and questionnaire method.

RESULTS AND DISCUSSION

The structure of economic software consists of subsystems, which solve a concrete area of registration and entry processing. The basic subsystems are: long-time assets, supplies, production, personal and wages agenda, marketing and invoicing, claims and obligations registration, banking operation, in-plant accounting and financial accounting.

For a qualitative economic software, it is characteristic, that the mentioned subsystems work interactively, in a dialog regime and are connected together. The benefit of such processing is, that an entry recorded once in a concrete subsystem is available for any other subsystem and it is not necessary to register it anymore. The above mentioned software processing advantage is applied markedly in connection with cost monitoring. Software processing makes it possible to register not only the cost amount, but also relating cost to output and concrete in-plant unite.

The integrated information system enables to register cost directly in the place of its origin and then to distribute it to a place of further processing. In this manner, registered entries became a reliable basis for:

– economic and efficiency appraisal of individual outputs (final products)
– detailed cost analysis of selected outputs
– comparison and analysis of real and planned costs.

Valuation of economics and efficiency is closely connected with calculations. Cost partition for calculation needs is expressed by the relation between expended cost and achieved outputs. Therefore, there is also cost monitoring in the economic software solved, so that it is possible to record and assign cost to output, which initiated the cost and that in similar structures in the calculation formula. Subsystem binding and redemption requirement of cost monitoring in the wished structure is guaranteed by code-books which make it possible to default the processing and to guarantee the subsystems integrity. In spite of the benefits resulting of the enterprise information system automation, we also meet with some limitations in connection with calculations, mainly in the area of overhead costs. Current automated cost to outputs processing has, according to us, the following limitations:

1. Scheduling of overhead is built in the program. The main part of agricultural enterprises does not intervene with the defined cost-allocation base in the program and overhead expanses scheduling. This leads in the final effect to wrong output cost quantification.
2. Cost-allocation base does not respect the needs of overhead cost scheduling. These are cases, when in the enterprise the operator has not the access to change the defined cost-allocation base in the program or it is not possible to select the optimal base.

Software enterprises try to eliminate these limitations and one of the possibility is software variability assurance for concrete users requests, i.e. higher parameter abilities of the software, so that the user can individually set up his own procedure of cost monitoring and overhead cost scheduling according to the chosen cost-allocation base.

By purchasing suitable software for automatic calculation scheduling, the user should determine the criteria that he will follow. To ensure that the software satisfies special calculation requirements in the conditions of market economy, we recommend to follow the basic criteria:

– what kind of decision tasks should the software support (to choose software for conventional or unconventional calculations)
– possibility to choose cost-allocation base and their combination
– possibility to set up concrete output, to which the relevant overhead cost will be scheduled
– calculation related to the main and side products
– calculation related to the output, in-plant unit and relevant activity
– direct connection with the subsystem accounting, possibility to make analytical accounts to expense accounts, so that tax and non-tax expenses, fixed and variable costs, eventually other items are consequently separated
– direct connection also with other subsystems of the automated information system, because they offer additional information for conventional and many other information for unconventional calculations
– possibility of the alternative of own intermediate consumption valuation, especially unfinished production in the scope that accounting legislation allows for
– possibility to include into calculation also calculation costs, which are not object of financial accounting, but are important for correct decision-making

– possibility to adjust code-books according to the manager needs
– software exploitation for planned purposes (also in advance-production phases) and for monitoring of the alternative level of certain cost and revenue types with an effect on the output results. Results per unit and activity, for monitoring of the cost reasonability by a fixed price or price reasonability by the fixed cost.

Besides the subject side, there is important the utility and structure of the economic software. As important we consider: modularity, integrity of the whole information system, high level of parameters set up by user, adaptability to the organisation changes, changes of market position of the enterprise and also legislative changes, high user comfort, interactive accessing of primary documents, individual criteria information searching, making real time analysis, connection to the internet, reliability and security.

Benefits of enterprise information system automation for product cost managing can be improved in case, that the enterprise disposes of the complete economic software, i.e. enterprise information system is an integrate connection of subsystems and the processing is done in the real time. But such a solution calls for high financial expenses.

The situation in current agricultural enterprises is, according to our research, as follows:

1. Evidence and processing is realised on two or more personal computers, external documents are typed directly into the subsystem accounting, entries from internal documents are processed in the adequate subsystems: documents from animal production in the subsystem animal, or animal production, supply state documents in the subsystem supplies, documents about personnel in the subsystem labour and so on. Processing is made on PCs, which are arranged either on the enterprise level (in the economic division, supply accounting office, animal accounting office, wage office), or on the department level, where entries are registered and submitted to the enterprise level. Entries are transmitted by floppy disks or computer network. From the chosen enterprise set, the mentioned way of entries transmission is used by 76.7% of enterprises.
2. Evidence and processing is realised by typing the entries from external and internal accounting documents on single personal computer directly to the subsystem accounting. This method is characteristic for small enterprises with low automation level. This method is used by 20% of agricultural enterprises from the chosen enterprise set.
3. Primary entries are recorded already by the primary documents origination and the whole following process is provided by automatic transfers up to the financial accounting office. Such a processing requires computer network, high quality software and hardware. This method is applied by 3.3% of enterprises.

The eminent role of product cost observation is played in the intra-organisation accounting subsystem. From the point of automation, this subsystem is in enterprises organised in one of the following ways:

1. Fully by computing technology. This method is used by middle-sized and big enterprises, which have a complete automated information system and primary entries are registered directly. The method is very effective, gives the management the opportunity to operatively react to the changes, but also brings high financial expenses. Therefore, only 3.3% of the enterprises from the chosen enterprise set use this method.
2. Combination of software and manual processing – this method is used by the main part of the enterprises – 96.7% from the chosen enterprise set. A part of the entries is processed by software, but the automated evidence has to be completed by manual processing. For example by monitoring according to a criterion, which the software does not allow, some reports and analyses have to be done manually.

Economic software is constantly developed and completed with new possibilities. In the last period, we observe a higher quality mainly in connection with economic analyses, which are getting a part of the software and are connected with basic subsystems. The software fully provides financial planning, economic analysis, cost controlling, strategic controlling, liability controlling, sales controlling, marketing analysis and planning, profit management, cash flow and other financial indicators.

Economic information software in the mentioned size ensures to the management information in the volume and structure in the real time for concrete problem. In the scene of product cost, it allows interactive work with entries, processing entries for analyses, monitoring basic indicators and complex analyses in the real time, dynamic analysis of detailed levels and determination of divergence reasons. Based on analysis, is it possible to define global enterprise goals and range them according the priorities, so that they reflect the interests of the enterprise owners, managers and staff.

CONCLUSION

At this time, there is a lot of software in the market, which is marked as economic, but there are differences from the point of convenience for the managing product cost. Basically, automated information systems can be divided into two groups:

1. Systems that make it possible to register entries, but these entries are offered to the user in their origin state, that means without further other processing. The software is on the lower price level it is intended for small and middle enterprises and does not afford hardware with the latest parameters.
2. Systems that make it possible to register entries for product cost management and also have mathematic-statistical apparatus and algorithm for financial analysis, functional and data analysis (CASE method). This software is:

– in most of the cases applied as an upgrade for enterprise information system
– build as modular and with the possibility to adopt to the users needs by setting a parameter.

Into this group, there belongs software of higher price level (more than 100 000 SKK) made for middle-sized and big enterprises. This software needs a high quality hardware, but the information system fully satisfies the users needs connected with product cost management in conditions of market economy (NAVISION, SAP and other).

Because of the high price, information systems are applied in the form of outsourcing that has the benefit of lower price and also higher quality of information outputs.

Trends show the need to connect the whole enterprise activity – from the production to the top management - through the application of information systems and information technology. One of the possibilities is the CIM technology (Computer Integrated Manufacturing), which involves computer support of production process an economic enterprise management (operational, tactical, strategic).

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