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Creation of the Information System of Enterprise Fixed Asset Accounting

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In the structure of agricultural enterprise accounting information the accounting of fixed asset turnover operations provides for 5.1 % of all economic indices. Besides this exceptional feature the said accounting is important in the management system of any enterprise that provides the organizers of production with valuable information regarding fixed asset, its physical state, the rate of provision with this asset and its depreciation. Enterprise fixed asset accounting information is suggested to arrange in an automated way using personal computers (PC) and perfect software that would be helpful in creating a computer-aided database (CDB).

When creating the CDB of enterprise fixed asset accounting the author recommends that information classificators and other permanent reference books were prepared, primary documents of variable information adequately introduced, primary data operatively input into magnetic discs, the secondary information regarding the fixed asset turnover over a certain (requested by a customer) period of time formed in an automated way. The article offers using the forms of listings (videoframes) designed by the author which are characterized as simple, informative and operative to use in asset turnover control and economic analysis. Creation of enterprise accounting CDB is related to the usage of this base for computing the indices of economic analysis by taking a real enterprise data as examples.

Keywords: accounting information system, information classificators, carriers of information, listings (videoframes), economic analysis.

Introduction

The effectiveness of enterprise activity is determined by the level of provision with the fixed asset and, especially, its rational use in economic processes. The major part in the structure of fixed asset is occupied by tangible asset which include objects (machinery, premises, etc.) continuously involved in the process of work and which, therefore, wear out over more than one year (Stonciuviene et al, 2002). The accounting of tangible fixed asset and the order of presenting in financial accountability are foreseen by Business Accounting Standard 12 "Tangible fixed asset". According to it (Derkac, 2003), tangible asset can be attributed to fixed asset if it corresponds to the following features: an enterprise intends to use the said asset longer than one year; an enterprise expects to gain economic benefit from the asset in the future; an enterprise can reliably establish the prime cost of the asset acquisition (making); the prime cost of the asset acquisition (making) is not lower than the minimal prime cost of this asset that has been established by the enterprise for every group of asset; an enterprise is liable for this asset and it favours the benefits of tangible asset. All in all, asset is regarded to be fixed asset if it brings economic benefit for an enterprise when it is used to gain income for longer than one year and whose purchase (making) prime cost is not lower than the value of tangible fixed asset established by the enterprise (Bruzauskas et al, 2005).

As it can be observed from the research carried out by the author (Domeika, 1998), in the structure of agricultural enterprise accounting information the accounting for fixed asset turnover operations provides for 5.1 % of all economic indices. Besides this exceptional feature the said accounting is important in the management system of any enterprise which provides the organizers of production (business) with valuable information. Managers of companies and specialists should have operative knowledge regarding the fixed asset, its physical state, the rate of provision with this asset and its depreciation. Such knowledge is useful in controlling asset acquisition and its turnover, analysing the effectiveness of its usage.

Enterprise fixed asset accounting information can be arranged in an automated way when an enterprise possesses not only personal computers (PC) but also perfect software that allows forming and using the accounting data (information) base in a computer-assisted way. Therefore, an enterprise needs to establish the so-called computer-assisted workplaces (CAW) for accounting staff as well as to master the technology of accounting information arrangement and usage.

Object of the research: the problems of forming and using a computer-aided database (CDB) for an enterprise fixed asset accounting.

Aim of the research: to establish the means of forming the information system of an enterprise fixed asset accounting and ways of its more effective usage.

To reach this aim the following objectives have been formulated and dealt with:

1) to investigate the contents and features of accounting information system (AIS);
2) to analyse the preparation and usage of permanent reference books;
3) to establish the means of primary data (information) storage in a CDB;
4) to investigate the formation and usage of the secondary information in order to control fixed asset turnover;

5) to establish the approaches of analysis of enterprise fixed asset accounting information accumulated in a CDB and indices of asset usage.

Methods of research: analysis and synthesis of literary sources on the issues of computerized accounting and analysis of practical experience, selective observation, monographic method, methods of listing (videoframe) designing and methods of data financial analysis.

Accounting information system and its features

Information system is perceived as an entirety of information processing system and resources of an enterprise (information itself, people, technical devices, finances, etc.) meant to form and disseminate information (Simanauskas, 2000). T. Lucey, researcher of information systems (Lucey, 1991), has established that the system of information is a set of unanimously operating people, data and procedures for the purpose of providing useful information. Contemporary IS cannot function without computers and other technical means to measure primary information, gather and register it in carriers, process and transmit it to consumers. For this reason computerized information systems (CIS) are designed and implemented.

Alongside the mentioned technical equipment and adequately qualified staff, Lithuanian researchers (Sekliuckis et al, 2003, Domeika et al, 2004) consider software an important element of computerized IS with which technical equipment is able to arrange information in an automated way, create accounting CDB and is available to users according to their needs. CIS of an enterprise accounting help to automate the processes of enterprise performance accounting and arrangement of analytical information. Accounting, being a special information system, should reveal the real picture of enterprise capital increase, sources of income and added value formation, approaches for revenue and profit distribution, scope of consumption and storage (Pankov, 2005).

Under the development of market economics the requirements for accounting information are changing and there should be a significant step towards the improvement of methodology of its preparation, processing and issue to users. When Lithuanian accounting is integrating into the system of European accounting it is not sufficient to have good law regulating accounting, forms of financial reports, plan of accounts, standards of business accounting. Other elements are also important for the system of accounting including profession of accounting and code of its ethics, training and retraining of specialists of accounting, scientific research of accounting, etc. (Mackevicius, 2005, Bruzauskas et al, 2007). The quality of accounting information is also determined by other factors such as the level of primary information automation, functionality of computer software, integration of accounting and other types of economic information, etc. Accounting information is closely related to other types of economic information such as normative and target information and, especially, analytical information (or results of analysis).

Accounting in its broad sense includes not only accounting itself but also the analysis of economic performance, management control and internal audit. V. Palij (2005, p.8), a seminal figure in the theory of accounting, and A. Seremet (2005, 2007), professor of economic analysis, proved that "analysis is a higher stage of accounting, it is the philosophy of accounting" and they noted that isolation of analysis from accounting had a negative impact on the development of accounting theory itself. Professor J. Mackevicius (2005, p.5) also indicated that "Analysis of an enterprise performance emerged alongside accounting and its first approaches and elements. L. Pacioli, the inventor of double-entry accounting method emphasized the unity of accounting and analysis". Other foreign researchers also expressed analogous viewpoint (Stoun et al, 1993). According to the international standards, accounting is also characterized as a unity of accounting and analysis of economic performance.

For a long time the analysis of an enterprise economic performance in western countries used to be restricted to the analysis of the financial state, that is, the research of an enterprise cost-effectiveness, solvency. In the 2nd part of the 20th century a contemporary system of accounting evolved whose core elements were as follows: financial accounting and accountability, management accounting and control, financial analysis on the basis of financial accountability. Economic analysis should definitely not limit itself to the analysis of financial performance merely; rather, it should encompass all conjunctions of economic performance. The object of economic analysis is economic performance of enterprises. Economic analysis occupies the intermediate position between the selection of information and processing functions and the functions of decision making. Creating and implementing the accounting IS the objectives of economic analysis and their solutions should become an inseparable part of AIS. Therefore, alongside the issues of AIS creation and usage, the article considers the analysis of an enterprise fixed asset usage employing the created CDB of accounting information.

Preparation and usage of permanent reference books

Creating a CDB of enterprise fixed asset accounting various permanent reference books are formed including classificators of information, established rates of fixed asset depreciation (amortization) calculation and other so-called general reference books.

Classificators of fixed asset accounting information are organized with reference to the specificity of objects accounted and the urge for obtaining the information necessary for management. When an enterprise starts doing computerized fixed asset accounting it needs to prepare the following classificators of accounting nomenclature: classificators of synthetic accounts; accession numbers of fixed asset objects (or analytic accounts); places (branches of an enterprise) of asset maintenance; materially responsible persons; amortization rates; economic transactions of asset turnover; methods of depreciation (amortization) calculating and classificators of other features.

Before running a computerized accounting every enterprise inputs the plan of accounting accounts into the memory of a PC. This plan also contains accounts for accounting fixed asset. *Synthetic accounts* which account

tangible fixed asset are encoded by three-figure decimal codes whose two first numbers indicate the code of account in the plan of accounts (for instance, 12 – *Tangible fixed asset*) and the third number notes a sub-account: 0 – land, 1 – premises and other buildings, 2 – machinery and equipment, 3 – vehicles, 4 – other equipment, appliances, instruments, 5 – other tangible assets (Bruzauskas et al, 2005). Other accounts of this group also have analogous code structure: 11 – *Intangible asset,* 13 – *Depreciation (amortization) of fixed asset,* 15 – *Building and other capital works,* 16 – *Financial fixed asset,* 19 – *Perennial seedlings.*

Corresponding accounts are used for reckoning in the depreciation sums into the constant expenses; for instance, the account 62 is *Constant expenditure* (sub-account 0 – *Depreciation (amortization) of fixed asset,* sub-account 9 – *Total expenses of an enterprise)* and also the accounts of settlements accounting: 240 – *Customers,* 450 – *Debts for suppliers and contractors, etc.*

Codes of accession numbers are tetra-figure, serial or decimal (positional). Series of numbers can be formed according to the groups of fixed asset (premises and other buildings, machinery and equipment, means of transport, etc.) and in the application of the decimal (positional) encoding system the fixed asset groups and certain objects of asset are encoded. Creating IS of fixed asset accounting accession numbers are attributed to the accounting objects of tangible and intangible asset. Codes of accession numbers have the purpose of the core (main) feature since all other information regarding any fixed asset object is found in a database according to these features. Accession numbers here are observed as *the codes of analytic accounting.* With their help the user of information is able to find very detailed (analytic) information regarding every fixed asset object. Accession numbers of enterprise asset should be unique, non-repetitive to avoid mess and misunderstanding.

Places of fixed asset maintenance (or subdivisions of an enterprise) are encoded by double-figure ordinary codes, for instance, 01 is the department of plant growing, 02 – a livestock farm, 03 – maintenance workshop, 04 – autotransport, etc. Classificator of places of maintenance provides information regarding the composition of fixed asset and turnover in branches and other places of asset storage. There are cases in practice of accounting that codes of places of asset maintenance are coincided with codes of materially responsible persons. Such cases emerge when one materially reposible person works in each branch of an enterprise.

The classificator of materially responsible persons includes the first and second names of all people who are materially liable (according to the contract of material liability) for those or other fixed asset objects in the enterprise. Each of these persons is provided with 2–4-symbol codes. The latter may coincide with the codes of their personal accounts (table numbers) in an enterprise.

Classificator of fixed asset amortization rates. Its codes are five-figure, composite. They conform to the codes foreseen in the requirements of the assets depreciation (amortization), therefore, it is not necessary to prepare them anew but only to save them in a CDB.

The classificator of calculation methods of fixed asset depreciation (amortization) contains one-number codes and the possible methods of amortization calculation: 1 – directly proportional (linear); 2 – method of production, 3 – methods of the year number; 4 – double method, method of decreasing value. These codes are helpful in selecting the algorithm of calculating the fixed asset amortization and automatically computing the sum of asset depreciation.

The classificator of economic operations of fixed asset turnover includes turnover operations characteristic of certain enterprise and contain double-figure, serial codes: 01 – initial residual; 11 – built; 12 – purchased; 19 – other income; 21 – written-off; 22 – worn out; 23 – sold; 29 – other losses. Codes of this classificator help to obtain information regarding asset turnover (acquisition, losses) according to the operations.

Other classificators of information are also helpful in forming and using IS of fixed asset accounting including classificators of banks and their codes, types of payment and others depending on functionality of the selected software used in an enterprise.

At the beginning of computerization all the prepared classificators of fixed asset accounting nomenclatures are input into and kept in the memory of a PC as reference books of permanent information. They are used and administered with the help of software. When variable information is entered a PC only accepts the accounting features and their codes saved in the permanent reference books. Working (if necessary) information classificators are complemented with new titles of objects or features and their codes. Software allows using these reference books for automation of information encoding.

Permanent reference books contain not only the above mentioned information classificators but also the ratios of tangible fixed asset depreciation (amortization). These ratios (in years) are necessary for calculating the sums of fixed asset depreciation in a computer-assisted way.

During the first month of accounting computerization the initial residuals of fixed asset are written into the memory of a PC: names of objects, initial value of each object, sum of depreciation, residual value and other properties defining a certain object. These are onetime data which can usually be found in accession cards of fixed asset accounting. Later on the residuals of assets are calculated in an automated way, that is, not only from the end of an accounting period but also from another date selected by the user.

For the implementation of computerized technologies the reference books of economic operations are important since they contain the operations of an enterprise fixed asset inclusion into the accounting system, internal transference and write-off indicating correspondences of accounts. Such reference books add to the automated formation of records in accounts.

Preparation of variable information

Two types of information carriers are used when creating the IS of fixed asset accounting, that is, primary documents and magnetic discs.

Primary variable information regarding the fixed asset turnover (acquisition and losses) is recorded in primary documents with an established form (Patasiene et al, 2001). In enterprises such documents are filled in at the places of occurrence or received together with the purchased fixed

asset objects (machinery, equipment, etc.): *Act of fixed asset inclusion into the accounting system (f. 01 agr.), Act of fixed asset write-off (f. 02 agr.), VAT invoices, and delivery notes.* For the adjustment of accounting records *Accounting certificates* and acts of various types are written. In practice of enterprise accounting it is possible to come across several documents of open (informal) form which are used to execute operations of asset turnover: *Act of maintenance beginning of tangible fixed asset, Acceptance-transfer act of fixed asset, Act of self-production fixed asset inclusion into the accounting system, Acceptance-transfer act of repaired, reconstructed and updated objects*, delivery notes of various forms for internal movement of assets, etc. Such variety of primary documents not only increases work input into primary accounting but also causes certain inconveniences when computerizing the accounting of these assets. According to the research, operations of fixed asset turnover are not abundant and are not performed every day. The forms of primary documents should be unified leaving one act form for asset *inclusion into the accounting system* and elimination (Bruzauskas, 2003, p. 3).

Computerization of accounting allows reducing the number of document forms. Other documents, such as invoices, delivery notes, should also have unified forms.

Data from primary documents are included into the computer-aided data base (CDB), that is, into PC magnetic discs every day. Accountant of an enterprise or other employee inserts data with the help of a PC keyboard by answering the questions of writing model that appear in dialogue boxes in a monitor. Primary information is encoded in an automated way using the information classificators saved in the PC memory. At the time of data saving these classificators can be complemented with the missing nomenclatures and their codes. Other fixed asset usage properties are analogously included into CDB. The inserted data are administered with the help of software and visually (in monitor), automatically grouped according to various features – places of maintenance, materially responsible persons, etc. They are chronologically stored in a magnetic disc.

In practice of enterprise accounting another method is also extensively applied according to which primary data of fixed asset accounting are written by computer itself. Then a worker only types variable primary data. To include the data the worker chooses a model of a desirable document form in a monitor and fills in the required gaps. If necessary, the filled-in document is printed and its content is automatically saved in the database. This method is more advantageous as documentation and data encoding in the magnetic disc proceed simultaneously, moreover, this requires the least time input with a higher level of automated data processing.

Presentation of the secondary information to users and its usage

Secondary information is the result (product) of automated processing of the primary accounting data. It is accumulated in a computer-aided data base (CDB) and presented to users in the form of videoframes and/or listings (Domeika, 2005). When a user refers to the CDB, that is, he/she formulates certain query, then, computer operatively issues all the information regarding the fixed asset turnover over a month (or any other period) from the beginning of a year. *Listings (videoframes)*[1] as the registers of accounting should considerably differ from manual accounting sheet in, primarily, their content, simpler form and greater informativity. To satisfy the users' needs for data, the results of automated counting can be presented from any date (requested by the user). Then the usage of information and making of management economic decisions become more effective.

On information query a PC is able to prepare reports about the acquisition and losses of fixed asset every day – by materially resposible person or at the level of an enterprise: *Listing of the acquired fixed asset objects accounting, Listing of the written-off fixed asset objects accounting* or one listing – *Fixed asset turnover* (Domeika, 2008).

The listing of the acquired fixed asset objects accounting (Table 1) demonstrates all the objects obtained or produced in the enterprise at a certain date by indicating the number of acquisition document and date, number of accession of the object, name of asset, corresponding account, initial value and sum of depreciation if the obtained object was used. This listing is specific because intermediate results in it are shown by the operations of the accomplished asset acquisition. This increases the secondary information being analytical and provides users with more detailed data.

Enterprise: *name of N enterprise*

Materially responsible person: *01 (name, surname)*

Users of analogous content can form a listing of any date regarding the written-off fixed asset objects (Table 2). Intermediate sums in it are calculated according to operations of expenditure (asset write-off) which are selected by users themselves and are intended in information classificator.

With reference to the type of a problem that managers deal with, it is possible for them to form listings by materially responsible persons or at the level of an enterprise.

Data of the said listings allow managers and specialists of an enterprise operatively control the operations of asset acquisition and losses and make reasoned decisions of asset management. In listings the secondary information is grouped by economic operations of turnover, places of asset maintenance and/or materially responsible persons. By these features users accomplish the automated search of information in a CDB forming one or other conditions of a query, depending on the need for certain information. This helps users of information operatively control the acquisition of fixed asset objects and their dispatch out of an enterprise.

[1] Hereafter (for simplicity) the text uses one term, i.e., listing. The listings analysed are designed by the author and intended for application in administering enterprise accounting.

Table 1

Listing of the acquired fixed asset objects accounting
Account 122 – Machinery and equipment – debit

15 September, 200X

Operations		Acquisition		Assets		Maintenance started	Corresponding account	Value of acquisition Lt	Sum of depreciation Lt
Code	Name	Date	No of document	Acc. No	Name				
12	Bought	13 09 XX	103565	127	Chaff-cutter	14 09 XX	450108	24998.27	0.00
12	Bought	14 09 XX	602364	128	Trailing press	15 09 XX	450108	74800.00	0.00
12th operation – in total								99798.27	0.00
13	Obtained free of charge	10 09 XX	142	180	Manure spreader	15 09 XX	254007	5700.00	4274.73
13th operation – in total								5700.00	4274.73
Obtained – in total								105498.27	4274.73

X – year during which accounting was conducted; XX – year of asset acquisition (losses) or beginning of maintenance.

Table 2

Enterprise: *name of N enterprise*
Materially responsible person: *01 (name, surname)*

Listing of the written-off fixed asset objects accounting
Account 122 – Machinery and equipment – credit

15 September, 200X

Operations		Acquisition		Assets		Maintenance started	Corresponding account	Value of acquisition Lt	Sum of depreciation Lt
Code	Name	Date	No of document	Acc. No	Name				
21	Written-off	13 09 XX	19	1177	Transporter	01 01 98	132000	8220.19	8219.19
21	Written-off	13 09 XX	19	1178	Clover grater	01 12 96	132000	362.00	361.00
21st operation – in total								8582.19	8580.19
24	Passed	14 09 XX	103747	811	Sowing-machine	01 08 99	254012	9067.80	7353.21
24th operation – in total								9067.80	7353.21
Written-off – in total								17649.99	15933.40

If managers and specialists of an enterprise request, a computer helps to formulate listings containing the information about the residual of fixed asset in an automated way: by materially resposible persons – *Residuals of fixed asset*, and at the level of an enterprise – *Turnover of fixed asset.* By the accession number of each object in a listing of residuals it is possible to find the name of fixed asset, date of acquisition (making), initial value, sum of depreciation and residual value. In the listing of – *Fixed asset turnover* – it is possible to see not only residuals but also the totality of operations of an enterprise fixed asset acquisition and losses.

The sums of fixed asset depreciation (amortization) are calculated and distributed in an automated way and users of this information can form the following listings: *Amortization deductions, Turnover of amortization.* Following information of the said reports specialists of an enterprise are able to control the sums of amortization according to branches of produce, and production and other subdivisions.

For the accomplishment of an enterprise fixed asset inventory the specialists can form a listing of every materially responsible person from a CDB – *Specification of fixed asset inventory* or listing of the whole enterprise – *Specification of general inventory.* Work of specialists is

then facilitated and performed quicker since they have only to include the objects from reality, establish the deviations from the accounting data, if any occur.

Software usually allows users of information to obtain not only the listings of strictly defined (regulated) forms but also for the users themselves to form listings of the desired content, look through them in a monitor, save them in a PC memory, print, etc. This widens the possibilities of computerized technology, its flexibility and improves the process of providing information to users.

Analysis of fixed asset accounting information

Enterprise accounting information accumulated in a CDB can be analysed by managers from various perspectives. The analysis of tangible fixed asset is related to the analysis of its structure and dynamics, technical state of asset and its usage (Mackevicius, 2005, p. 317). Approaches towards this analysis are significant not only from the theoretical but also practical viewpoint.

All elements of tangible fixed asset are important for the results of an enterprise performance; however, the part of the so-called active tangible fixed asset has the greatest impact. This is the part of asset which is directly involved in the process of production. As it can be observed from the research carried out in 2004 – 2007, the active part in the asset structure of an average Lithuanian agricultural enterprise was comprised of: machinery and equipment – 49.0 – 50.8 %, vehicles – 6.3 – 7.1 %, equipment, gadgets and instruments – 2.9 – 4.2 %. Over the period of 2004 – 2007 their total number in the structure of enterprise fixed asset increased from 51.0 up to 58.9 %, and the total value of enterprise tangible fixed asset increased by 3.6 times.

If, under the constant factors, the active part of asset is increasing, it is possible to conclude that the volume of an enterprise production is rising, though the increase of asset evaluation (prime cost of acquisition) also had some influence. The active elements of tangible fixed asset should be renewed more frequently, however, in practice there are cases when the passive part of asset is rapidly increasing. To establish whether the structure of tangible fixed asset was adequately changed the analysis of a longer period of time should be involved. The present accounting information systems, however, do not accumulate information to make such analysis possible. Following experience of scientists from Minnesota University, the USA (University of Minnesota, 1993), the author of this article proposes that information of no less than 10 years should be stored (and analysed) in the accounting CDB of an agricultural enterprise.

The majority of researchers (Stoun et al, 1993, Seremet, 2007, et al) proved that the financial state of an enterprise and results of performance depend on the state of tangible fixed asset. Regarding the kind of an enterprise performance, tangible fixed asset can vary greatly in technical and maintenance features, time of maintenance, etc. Therefore, when evaluating the state of tangible fixed asset the most common indices that could be compared in an enterprise over a longer period of its performance are sought. Professor J. Mackevicius (Mackevicius, 2005, p. 318–336) proposes that the following indices be calculated: coefficient of renewal, coefficients of elimination and depreciation (Table 3). For this reason the information shown in fixed asset accounting or other listings and stored in a CDB is used.

Table 3

Indices of the analysis of the usage of N enterprise tangible fixed asset

Names of indices	Algorithms of calculation	Coefficients by years			
		2004	2005	2006	2007
1. Analysis of the technical state					
Coefficient of renewal	$\frac{\text{Value of asset acquired over a year}}{\text{Value of the asset at the end of year}}$	*0.19*	*0.27*	*0.10*	*0.14*
Coefficient of elimination	$\frac{\text{Value of eliminated asset}}{\text{Value of asset at the beginning of year}}$	*0.04*	*0.10*	*0.03*	*0.01*
Coefficient of depreciation	$\frac{\text{Sum of depreciation}}{\text{Value of the asset at the end of year}}$	*0.05*	*0.05*	*0.06*	*0.07*
2. Analysis of asset usage					
Return on tangible fixed asset	$\frac{\text{Value of finished production}}{\text{Value of tangible fixed asset}}$	*0.59*	*0.59*	*0.62*	*0.61*
Susceptibility of tangible fixed asset	$\frac{\text{Value of tangible fixed asset}}{\text{Value of finished production}}$	*1.70*	*1.71*	*1.62*	*1.64*

Having calculated the *coefficient of tangible fixed asset renewal* it is possible to establish the tendencies of the new asset acquisition (objects consigned for usage, employment of equipment and machinery). Over the period of time analysed the coefficient of asset renewal varied and it was not possible to establish the common tendency. It could be more conspicuous if information from a longer period would be analysed.

Depreciated asset of an enterprise are eliminated, passed to other institutions free of charge or sold. Then the *coefficient of tangible fixed asset elimination* is calculated. This coefficient provides information regarding the upkeep, maintenance of tangible fixed asset and even the volume of production. If this coefficient increased it could mean that the production volume decreased. Comparing the coefficients of asset renewal and elimination it is possible to establish the tendencies of renewal of enterprise tangible fixed asset.

The coefficient of tangible fixed asset depreciation is calculated at the beginning and end of the year depending on which asset value (of the beginning or end of the year) is regarded in the ratio of depreciation sum.

The coefficient of asset efficiency can also be calculated in an enterprise. It is calculated by subtracting the depreciation coefficient from the figure of one. The example of the N enterprise provided by us demonstrates that the coefficient of tangible fixed asset efficiency is rather high and makes 0.94 – 0.95.

For managers of enterprise all the said coefficients indicate the common tendencies of changes in the technical state of tangible fixed asset.

To establish the efficiency of enterprise tangible fixed asset maintenance the indices of return on asset and susceptibility of asset are calculated. The *index of return on fixed asset* indicates the value of production made which falls to one litas of tangible fixed asset. The size of this index depends greatly on the change of asset structure and, especially, on the change of the active part of asset (machinery and equipment). Indices of return on machinery and equipment or other active elements can be calculated separately.

The inverse to the index of return is *the index of susceptibility* which indicates the quantity of fixed asset to one litas of finished production. Data for this analysis should be obtained from listings or videoframes and enterprise fixed asset and production reserve accounting. The susceptibility index of tangible fixed asset demonstrates how an enterprise has provided itself with tangible fixed asset and if the asset is sufficient for the accomplishment of the due production volume. The susceptibility index of the enterprise N analysed by us (see Table 3) shows that for each litas of finished production there fell 1.6 – 1.7 times more of tangible fixed asset. Thus, this enterprise has well provided itself with fixed asset and can successfully pursue the programme of producing goods. This is also evidenced by the active part of this enterprise asset and its increase.

Conclusions

1. Accounting of enterprise fixed asset encompassing 5.1 % in the structure of accounting information is of importance when making economic management decisions.
2. Creating CDB of an enterprise fixed asset accounting, it is necessary to prepare classificators and permanent reference books, ready carriers of variable information in an automated way and master the computerized technology of accounting arrangement and usage of information.
3. Making use of the accounting information accumulated in CDB, the managers and specialists of an enterprise are able to:
   - ❖ operatively control the operations of fixed asset turnover (acquisition and losses) and depreciation over any (requested by the user) period of time;
   - ❖ evaluate the technical state of asset and deal with issues of its renewal;
   - ❖ analyse the indices of fixed asset usage and make reasoned decisions of management.
4. It is purposeful to create a uniform computerized system of fixed asset accounting and economic analysis of this asset which would accumulate and store the secondary information for 10 years regarding fixed asset and tendencies of its usage.

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Povilas Domeika

Įmonės ilgalaikio turto apskaitos informacinės sistemos kūrimas

Santrauka

Įmonės veiklos efektyvumą sąlygoja apsirūpinimo ilgalaikiu turtu lygis ir ypač jo racionalus naudojimas ūkiniuose procesuose. Žemės ūkio įmonės apskaitinės informacijos struktūroje ilgalaikio turto apyvartos operacijų apskaita, kaip rodo autoriaus atlikti tyrimai, teikia 5,1 proc. visų ekonominių rodiklių. Minėtoji apskaita yra svarbi bet kurios įmonės valdymo sistemoje, aprūpinanti gamybos organizatorius vertinga informacija. Įmonės vadovai ir specialistai turi turėti operatyvių žinių apie ilgalaikį turtą, jo fizinę būklę, nusidėvėjimo ir apsirūpinimo šiuo turtu lygį. Tokios žinios praverčia kontroliuojant turto gavimą ir jo apyvartą, analizuojant jo naudojimo efektyvumą.

Įmonės ilgalaikio turto apskaitos informacija gali būti tvarkoma automatizuotai, kai įmonė turi ne tik personalinių kompiuterių (PK), bet ir tobulą programinę įrangą, padedančią automatizuotai formuoti ir operatyviai naudoti apskaitos informacijos bazę. Tada įmonėje reikia įrengti apskaitos darbuotojų vadinamąsias kompiuterizuotas darbo vietas (KDV) ir įsisavinti apskaitos informacijos kompiuterizuoto tvarkymo ir naudojimo technologiją.

Tyrimo objektas – įmonės ilgalaikio turto apskaitos kompiuterizuotos duomanų bazės (KDB) formavimo ir naudojimo problemos.

Tyrimų tikslas – nustatyti įmonės ilgalaikio turto apskaitos informacinės sistemos kūrimo ir jos efektyvesnio naudojimo būdus. Siekiant šio tikslo buvo spręsti tokie uždaviniai:

1) ištirti apskaitos informacinės sistemos (AIS) turinį, jos savybes;

2) išanalizuoti pastoviųjų žinynų rengimą ir naudojimą;

3) nustatyti pradinių duomenų (informacijos) kaupimo KDB būdus;

4) ištirti rezultatinės informacijos formavimą ir naudojimą ilgalaikio turto apyvartai kontroliuoti;

5) nustatyti įmonės ilgalaikio turto apskaitos informacijos, sukauptos KDB, analizės kryptis ir turto naudojimo rodiklius.

Tyrimo metodai – literatūros šaltinių apskaitos kompiuterizavimo klausimais ir praktinės patirties analizė ir sintezė, atrankinis stebėjimas, monografinis, mašinogramų (videokadrų) projektavimo, finansinės analizės metodai.

Informacinė sistema (IS) suvokiama kaip informacijos apdorojimo sistemos ir įmonės išteklių (pačios informacijos, žmonių, techninių priemonių, finansų ir pan.) visuma. Šiuolaikinės IS negali funkcionuoti be kompiuterių ir kitų techninių priemonių pradinei informacijai tvarkyti. Todėl projektuojamos ir diegiamos kompiuterizuotos informacinės sistemos. Svarbus IS elementas yra programinė įranga, kuri sudaro sąlygas techninei įrangai automatizuotai tvarkyti informaciją, sukurti apskaitos KDB ir leidžia vartotojams ja naudotis pagal poreikius. Buhalterinė apskaita (ji yra ypatinga informacinė sistema) turi parodyti, kokia įmonės turto apyvarta. Apskaitos informacija glaudžiai siejasi su kitomis ekonominės informacijos rūšimis, ypač su analitine (arba analizės) informacija. Kuriant ir diegiant apskaitos IS, ekonominės analizės uždaviniai, jų sprendimas turi tapti neatskiriama AIS dalimi. Todėl šiame straipsnyje, be AIS kūrimo ir naudojimo klausimų, buvo tiriama ir įmonės ilgalaikio turto naudojimo analizė panaudojant jau sukurtą apskaitos KDB.

Kuriant įmonės ilgalaikio turto apskaitos KDB, parengiami įvairūs pastovūs žinynai – informacijos klasifikatoriai, ilgalaikio turto nusidėvėjimo (amortizacijos) skaičiavimo normatyvai ir kiti vadinamieji bendrieji žinynai. Dalis jų suformuoti kitose AIS posistemėse ir padeda kurti šio turto apskaitos KDB.

Ilgalaikio turto apskaitos informacijos klasifikatoriai rengiami atsižvelgiant į apskaitomų objektų specifiką ir būtinumą gauti valdymui reikalingą informaciją. Pradedant kompiuterizuoti ilgalaikio turto apskaitą, įmonėje reikia parengti tokių apskaitos nomenklatūrų klasifikatorius:

– *sintetinių sąskaitų ir subsąskaitų* – pagrindinių (11 – *Nematerialusis turtas*, 12 – *Ilgalaikis materialusis turtas*, 13 – *Ilgalaikio turto nusidėvėjimas (amortizacija)*, 15 – *Statyba ir kiti kapitaliniai darbai* ir kt.) ir koresponduojančiųjų (240 – *Pirkėjai*, 450 – *Skolos tiekėjams ir rangovams*, 629 – *Bendrosios įmonės sąnaudos* ir kt.); šio klasifikatoriaus kodai – triženkliai, dešimtainiai;

– *inventorinių numerių (arba analitinių sąskaitų) kodai* – keturženkliai, serijiniai arba dešimtainiai (poziciniai), suteikiami materialiojo ir nematerialiojo turto apskaitos objektams; numerių serijos gali būti išskirtos pagal ilgalaikio turto grupes, o taikant dešimtainę (pozicinę) kodavimo sistemą – koduojamos turto grupės ir jo konkretūs objektai; jie padeda informacijos vartotojui surasti detalią (analitinę) informaciją apie kiekvieną ilgalaikio turto objektą;

– *turto eksploatavimo vietos* (arba įmonės padaliniai) kodai dviženkliai, eiliniai; šis klasifikatorius padeda gauti žinių apie ilgalaikio turto sudėtį ir apyvartą įmonės padaliniuose bei kitose saugojimo vietose;

– *materialiai atsakingų asmenų klasifikatoriuje* įrašomos visų įmonės asmenų pavardės ir vardai, kurie materialiai atsako (pagal sutartį) už tam tikrus ilgalaikio turto objektus; kiekvienam tokiam asmeniui suteikiami 2–4 ženklų kodai;

– turto *nusidėvėjimo (amortizacijos) skaičiavimo būdų klasifikatoriuje* nurodomi vienaženkliai kodai ir galimi amortizacijos skaičiavimo metodai; šio klasifikatoriaus kodai padeda parinkti ilgalaikio turto amortizacijos skaičiavimo algoritmą ir automatizuotai apskaičiuoti nusidėvėjimo sumą;

– turto *apyvartos ūkinių operacijų klasifikatoriuje* įrašomi įmonei būdingos apyvartos operacijos ir dviženkliai, serijiniai kodai; jie padeda gauti žinių apie turto apyvartą (gavimą, netekimą) pagal operacijas.

Ilgalaikio turto apskaitos IS formuoti ir ja naudotis padeda ir kiti informacijos klasifikatoriai, pvz., bankų ir jų kodų, apmokėjimo rūšių ir kt., atsižvelgiant į pasirinktą ir įmonėje naudojamą programinės įrangos funkcionalumą. Visi parengti ilgalaikio turto apskaitos nomenklatūrų klasifikatoriai kompiuterizavimo pradžioje įrašomi į KDB kaip pastoviosios informacijos žinynai. Jie naudojami programiškai, darbo metu prireikus papildomi naujais objektų pavadinimais ir jų kodais. Pastoviuose žinynuose įrašomi ir ilgalaikio materialiojo turto nusidėvėjimo (amortizacijos) normatyvai (metais), būtini šio turto nusidėvėjimo sumoms apskaičiuoti automatizuotai.

Kuriant ilgalaikio turto apskaitos IS, naudojamos dviejų rūšių informacijos laikmenos: pirminiai dokumentai ir magnetiniai diskai. Pradinė kintamoji informacija apie ilgalaikio turto apyvartą fiksuojama nustatytos formos pirminiuose dokumentuose. Įmonių apskaitos praktikoje galima sutikti keletą laisvos formos dokumentų, kurie sudaro tam tikrų nepatogumų kompiuterizuojant šio turto apskaitą. Siūloma pirminių dokumentų formas unifikuoti paliekant po vieną akto formą turtui pajamuoti ir likviduoti. Pirminių dokumentų duomenys kasdien (jei buvo vykdomos turto apyvartos operacijos) įrašomi į KDB, dorojami programiškai ir kaupiami dorojimo rezultatai.

Rezultatinė informacija vartotojams teikiama videokadrais ir/arba mašinogramomis. Informacijos vartotojui kreipiantis į KDB, t. y. suformuojant tam tikrą užklausą, kompiuteris operatyviai išduoda visą informaciją apie ilgalaikio turto apyvartą per mėnesį (ar kitokį laikotarpį) ir nuo metų pradžios. Informacijos vartotojai gali kasdien suformuoti ataskaitas apie ilgalaikio turto apyvartą. Tai: *Įsigytų ilgalaikio turto objektų apskaitos mašinograma, Nurašytų ilgalaikio turto objektų apskaitos mašinograma, Ilgalaikio turto likučiai, Ilgalaikio turto apyvarta, Amortizaciniai atskaitymai* ir kt. Atsižvelgiant į tai, kokį uždavinį vadybininkai sprendžia, mašinogramas jie gali suformuoti pagal materialiai atsakingus asmenis arba įmonės mastu ir operatyviai kontroliuoti turto objektų įsigijimą ir išsiuntimą (nurašymą), nusidėvėjimą ir likutinę vertę.

Apskaitos rezultatinės informacijos naudojimas turėtų būti neatsiejamas nuo ekonominės analizės. Įmonės apskaitos KDB sukauptą informaciją vadybininkai gali analizuoti įvairiais aspektais.

Ilgalaikio materialiojo turto naudojimas analizuojamas kartu su jo struktūros ir dinamikos bei turto techninės būklės rodikliais.

Išvados:

1. Kuriant įmonės ilgalaikio turto apskaitos KDB, reikia parengti informacijos klaisfikatorius ir kitus pastoviuosius žinynus, automatizuotai rengti kintamosios informacijos laikmenas ir įsisavinti kompiuterizuotą apskaitos tvarkymo ir informacijos naudojimo technologiją.

2. Įmonės vadovai ir specialistai, naudodamiesi apskaitos KDB sukaupta informacija, gali: operatyviai kontroliuoti ilgalaikio turto apyvartos ir nusidėvėjimo operacijas per bet kurį (vartotojo pageidaujamą) laikotarpį; įvertinti turto techninę būklę ir spręsti jo atnaujinimo uždavinius; analizuoti ilgalaikio turto naudojimo rodiklius ir priimti pagrįstus valdymo sprendimus.

3. Įmonėse tikslinga sukurti vientisą ilgalaikio turto apskaitos ir šio turto naudojimo ekonominės analizės kompiuterizuotą sistemą, padedančią sukaupti ir saugoti 10 metų rezultatinę informaciją apie ilgalaikį turtą ir jo panaudojimo tendencijas.

Raktažodžiai: *formacinė sistema, informacijos klasifikatoriai, informacijos laikmenos, mašinograma (videokadras), ekonominė analizė.*

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