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Informative Function of Accounting and Information Technology Systems

The purpose of this study is to present basic rules of IT systems performance in supporting accounting in business entities.

Представлены основные правила работы IT систем для поддержки бухгалтерского учета при организации бизнеса.

К е у w o r d s: accounting science, accounting experience, record-keeping technique.

The role of information in modern economy. Accounting as one of the oldest economic science has developed in the space of many centuries. Along with civilization development and technical progress, also principles, methods and record-keeping techniques used in accounting have experienced changes. The beginning of the 21-st century is characterized by acceleration in changes throughout the economy and new challenges that come across enterprise managers. This new stage of economy development is often called the New Economy. This term is inseparably associated with Internet, telecommunication, and media industries, but also with readiness and ability to work and operate in rapid and volatile environment over various geographical areas. Application of modern techniques of collecting, processing, and transferring information within the structures of an enterprise enables to implement changes in traditional methods of enterprise management, to improve virtual customer relationship, and to enter global markets more easily. Internet and modern Information Technology, thanks to enormous capabilities of collecting and transferring huge amounts of information in a short while, has become nowadays basic instruments of doing business [1].

Because of new technical and technological capabilities, new concepts of information management in enterprises have occurred. In the age of the New Economy, the importance of information in economy development can be hardly overestimated. The approach to information is currently a measure of level and quality of civilization progress, and the information itself has become the third fundamental value, apart from energy and matter. Life and business in contem-

porary world require abilities to exploit information, which becomes the most wanted and desired good – often with strategic importance.

Accounting as a strategic factor in enterprise information systems has been already appreciated in Western Europe and the USA. It is practical knowledge and cognitive qualities of information in the system of economic sciences which have been noticed. Words of Noble Price winner P. Samuelson give evidence to this: «We live in the world of machines. Not less important is that we live in the age of accounting. General knowledge of basics of enterprise accounting is a requirement of our modern life». He pays attention also to relations which occur between economics and accounting and underlines that enterprise management is senseless without elementary knowledge of accounting.

Accounting as an information system in enterprise. Beginnings of the accounting go down to very distant times and it may be assumed that accounting is a forefather of information systems in organizations. However presently, accounting system can be found in an enterprise as a component of general information system, which is equipped with computer measures or procedures, and which process different types of data associated both with the strategy and operating business.

A starting point for further deliberations concerning accounting as an information system in the organization can be characterized by an effort to explain terminology associated with systematic approach.

The Webster's Dictionary of English defines system as: «an assemblage of objects arranged in regular subordination, or after some distinct method, usually logical or scientific; a complete exhibition of essential principles or facts, arranged in a rational dependence or connection» [2].

In this definition crucial are:

coordination, i.e. intentional choice of elements;

system composition, i.e. existence of a set which represents the whole assemblage;

system structure, i.e. existence of invariable relations between elements.

As results from above-mentioned definition, an individual system operates among other systems which account for its environment, and targets realized by particular systems permanently influence themselves.

Considering reality from a systematic point of view, it may be claimed that the whole world surrounding us consists of many systems. Accounting as an element of information system in a business entity is considered to be one of such systems. Present business conditions influence the fact that managing operations of developed, large systems such as enterprises and other institutions, requires expanded research and information search. Obtaining particular information influences or at least may influence decision-making process and becomes

a *conditio sine qua non* of enterprise management. We obtain necessary information as a result of data processing, which is an «organized performance of data operations» according to Polish Standard PN-88/T-OIO1601. By data it is meant: numbers, facts, concepts and orders presented in a convenient form to transfer, interpret or process, and information are meanings (or contents) that are attributed to data by means of appropriate procedures.

Dynamics of events which occur in business entities led to undertake advisable and expedient efforts in order to process data obtained by observations and measurement, and to transform them into useful information. It affected the establishment of group of information systems. These systems are designed for collection and storage of information.

Information system — like every system — has a composition, coordination (a set of intentionally selected elements), and structure (relations between those elements) [3].

Accounting is one of the elements of information system in an enterprise and has many duties to perform. The most important function, which is attributed to accounting in an enterprise, is called information function. It briefly consists of creation of information related with economic phenomena and processes. It is fundamental to adjust that information to requirements of users who make use of them in formulating various opinions and make different decisions.

Modern accounting system is oriented both on internal (from an enterprise) information users, and on external users from enterprise environment. Taking into account this classification of recipients who obtain information from accounting system, internal and external accounting information function can be distinguished (Fig. 1).

The fact that accounting encompasses only events, which can be presented by the value approach, is a distinctive feature of accounting that distinguishes it from other subsystems in the framework of general information system.

Adaptation of homogenous money measures which entails aggregation opportunities, places accounting in a remarkable position within the structures of enterprise management information system. In this way, accounting becomes the only information subsystem which is able to standardize diversity of transactions and to provide unified picture of observed phenomena [3].

Accounting systems applied in practice represent a fundamental and formal information structure in organization that facilitates management process. Financial measurement and evaluation of achievements integrate into one entirety all activities, starting with basic and single, through particular responsibility centers, and concluding with a company as a whole structure. Synthetic view of economic condition of the company can be described by the information contained in financial statements. Credibility and reliability of this information de-

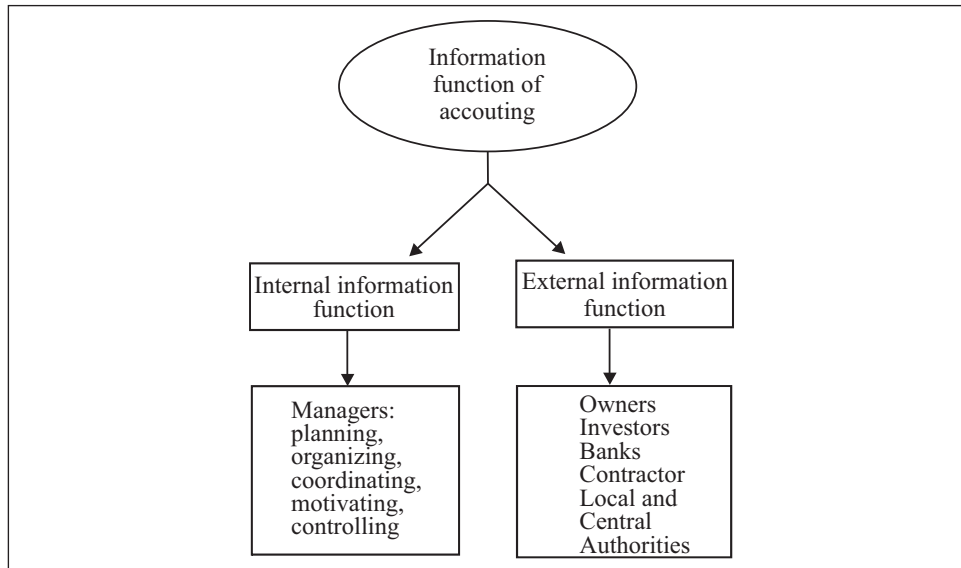


Fig. 1. Internal and external information function of accounting and information recipients

depends on conformity to rules enclosed in accounting legal regulations or professional standards adopted by a given country, and also on compatibility with International Accounting Standards [4].

Contemporary economy conditions impose on accounting new requirements and necessary changes associated with accounting transformation from a passive tool (restricted to bookkeeping) into active instrument. For instance planning profit and loss account is a useful tool that can be adopted and exploited by the management board in order to control business processes for the purpose of obtaining required profit level. With the help of active accounting, bookkeeping provides the information about the level of progress in realization of the plan (such as the level of income) and deviations from this plan. Accounting therefore becomes an instrument of planning, managing and controlling [5]. It is accounting system in the enterprise that is expected to process and transform data into information. It is conducted by the course of certain logic and arithmetic activities. The process of collecting information considered during enterprise management through the accounting system is shown in the Fig. 2.

Accounting techniques. Accounting techniques are represented by a group of technical devices used for bookkeeping data processing — currently one can distinguish manual, machine and computer techniques.

Manual and machine techniques are nowadays rarely used, and if this is the case, they contain adders, calculators and accounting machines. However, the most significant and powerful tools are designed with computer techniques,

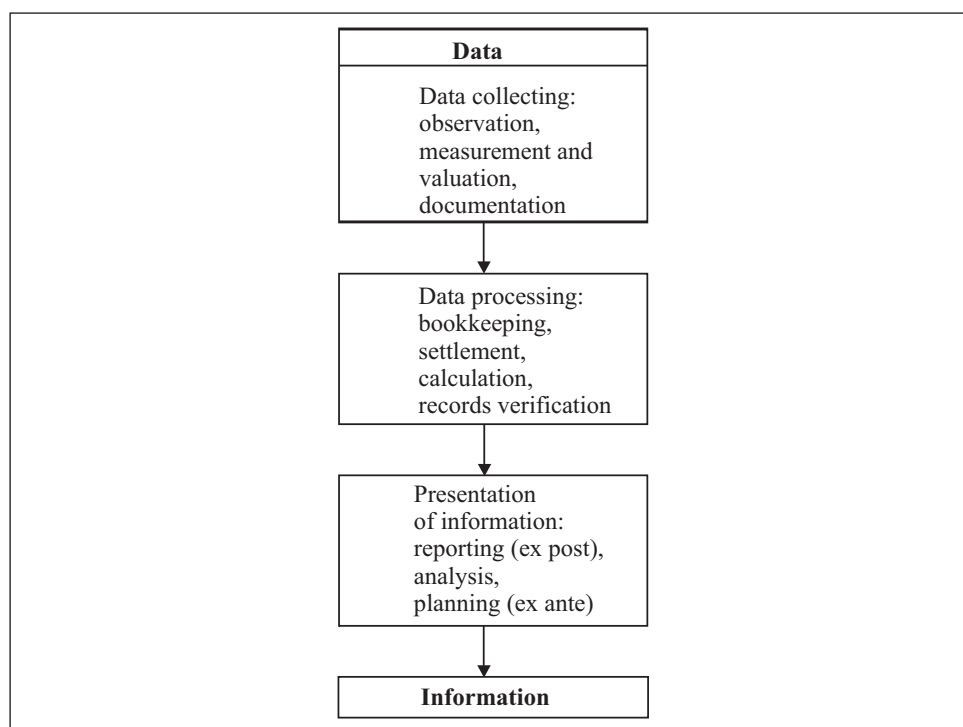


Fig. 2. The process of collecting information through accounting system

which enable to automate activities associated with performance of accounting. This technique can be applied in a very broad range of issues and most often used in bookkeeping. Computers are elaborating the information automatically based on appropriate software. A man is engaged in a limited area and his activity comes down to data keeping and exploiting the output data, which are presented in the form of printouts (tabulators) or on the screen. Opportunities associated with utilization of this technique depend on generation, grade and capabilities of the computer, or even more on the quality of software installed. In comparison with previously used techniques, computer technique is characterized by:

- great speed of outcomes processing and confidence,
- multifunctionality,
- large capacity of memory and easy access to the information stored,
- ability to adjust the information to requirements of a particular recipient — any level of detailed information in multi-sectional view is available.

The advantage of synthetic over analytic picture is a common feature of all accounting techniques based on manual recording, i.e. tabular and duplicating bookkeeping. First, the information is recorded on synthetic than on analytic ac-

counts. However as far as automated accounting is concerned, things are organized reversely — first, the record in analytic accounts occurs, then as a result of aggregation of records, synthetic amounts are compiled. Analytic accounts work here in the same way as synthetic accounts in manual bookkeeping systems.

Financial computer systems. Accounting can be considered as a technique, science or even art, depending on the interests and competence of the speaker. One thing is beyond any doubts — accounting was constructed and formed first of all with the great influence of practice. Therefore, in order to make activities more objective, an IT system in accounting can be successfully implemented. The process of IT system implementation consists of all activities from the moment of identification of needs to exploit such a system, through a decision-making process, project realization up to utilization of the system. The aim of these activities is to fulfill all accounting functions in business in order to improve efficiency of particular divisions in organization, which significantly influences financial standing, and market competitiveness of the enterprise. It should be underlined that accounting becomes a necessary compromise because of satisfying contradictory objects and requirements of the users.

A process of computerization in accounting has evolved into a multifunctional and multi range system of IT support. This system, as every IT system, consists of the following elements:

people, data (information), computer hardware, software packages, user and operation procedures. Effectiveness of this system first and foremost depends on software packages because they determine range, methods and techniques of automatic realization of accounting processes. Cooperation between all elements is important as well. It may come true together with implementation of the system in the enterprise.

There is a variety of financial computer systems, intended for future users with diversified needs, available on the Polish market. These systems can be divided into standard software packages (designed for multiple sales and implementation) and dedicated packages (created for particular entities with specific requirements). In executing accounting obligations micro enterprises can exploit straight-forward software solutions like appropriately developed Excel spreadsheets. Small and mid-sized enterprises use more complex software that is produced by one of many companies which offer such programs (Comarch-com — application programs CDN OPTIMA, CDN XL, Insert – Rachmistrz 4, MSM (RAKS) — RAKS DOS, RAKSSQL, InSERT — SYSTEM Rewizor, Matrix.pl — Symfonia). Large enterprises with a developed organizational structure use very complex systems which qualify to ERP class (enterprise resources planning), i.e. systems such as SAP, BAAN, IFS Application etc.

Such expanded selection of software creates dilemma – which of the programs offered should be chosen. Therefore, in order to facilitate the choice of a

proper system from among such diversified application packages, the following classification has been made:

application accounting system,
informative and analytical supplements,
communication supplements.

A separate problem is associated with an assessment and proper choice of financial computer system. In order to facilitate the process of system investigation, the two basic groups of characteristics have been distinguished. The first group encompasses performance of accounting as an informative system, which results in substantial and content-related features such as: usefulness for both internal and external recipients of information, credibility, correctness, transparency and verifiability. These features are considered to be essential because the system without them is disqualified. The second group of features takes into account efficiency and handling performance achieved through implementation of constructional and technological solutions. The following characteristics can be mentioned here: framework structure and susceptibility to changes and supplements, modernity, flexibility, friendly interface, compatibility with other software application and instrumental packages, ability to transfer the system to other hardware and software platform.

Assessment and comparison of quality of particular systems on the basis of above-mentioned features is not simple and obvious. Some of the requirements are formulated too generally and it is difficult to determine whether they are fulfilled or not. What is more, these particular requirements may be fulfilled to a lesser or higher degree.

Advantages and disadvantages of implementation of modern bookkeeping systems. Application of computer systems in accounting, apart from undoubted advantages, brings also some concerns and compels to special control. It comes out of a fact that books kept with the help of computer or in other words – a virtual bookkeeping consists of data resources stored on machine carriers which are not directly readable for a man. They are susceptible to destruction or rubbery, similarly to hardware or software applications, which process this collection. However, some additional and proper safety devices and copies can be used in order to protect against unexpected events.

Application of the modern Information Technology in an enterprise significantly accelerates and improves the process of obtaining necessary information that enables to create savings through cost reductions (faster record filling, simpler search according to different criteria, performing of statements, summaries, reports and analyses). Unfortunately automatic processing of accounting operations with the help of suitable applications causes the decrease of human influence on the outcome of this processing. Mistakes, which would be easily noticed in case of manual recording, often remain undiscovered in case of computer uti-

lization. It means that errors, which occur during system designing or during changes in those systems, may for a long time, remain undetected.

Computerization of bookkeeping is associated with standardization of processing all data and therefore it is to a lesser extent susceptible to direct human mistakes in contradiction to manual processing. Equal treating of business operations according to the same program instructions eliminates mistakes, which occur in case of manual processing. Simultaneously, program errors affect all accounting operations, which are processed in the same conditions.

Another specific feature of computerized bookkeeping that is important from the accounting principles point of view is a possibility of creating (or generating) bookkeeping operations without issuing documents and storage of documents in electronic form. It entails savings in costs of paper, exploitative materials or office area, which is intended for documentation storage [6,7].

In electronic bookkeeping, a series of control procedures are performed by programs in a way which is invisible for people whereas in traditional bookkeeping a visible track of conducted control remains (for instance a signature on controlled document). In the case of computer recording, bank supervision authorities and Revenue Office inspection that control the company do not need to engage as large human and time resources as in the case of traditional accounting.

Computerized bookkeeping corresponds also with significantly lower amount of people employed (lower salaries costs), however the personnel engaged in data processing (associated directly (users) or indirectly (designers, software suppliers) with financial computer system) are in possession of detailed knowledge concerning interrelations between data source, processing, distribution and exploitation of outcome information. The employee may be also aware of shortcomings of internal control systems, which favours to unauthorized changes in data or programs during their storage or processing.

A remarkable danger results from a purposeful use of programs that are designed for criminal aims or from an abuse of instrumental programs. Additionally, due to easy access, there is a possibility of exploiting data and programs by the people who are not entitled but know how to use them.

It is difficult to unambiguously determine the right and responsibility, because many users may simultaneously use some of computer resources (for instance programs and data). It is not always possible to divide conflicting functions, because one program may perform the functions which would be assigned to different people in the event of traditional solutions.

All these circumstances justify the opinion that together with computer system development which supports the accounting, an improvement in internal control system strictly linked with electronic bookkeeping is essential.

Наведено основні правила роботи ІТ систем для підтримки бухгалтерського обліку при організації бізнесу.

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