THE ROLE OF INFORMATION SYSTEMS IN ACCOUNTING WORK

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Abstract: *in the modern world, in the conditions of the development of information technologies, an increasing role for accounting work is played by various information systems. The market offers various methodical information systems for accountants, which allow you to quickly and remotely update the knowledge of the accountant. Typically, such systems are offered by publishers, issuing magazines and newspapers in the field of accounting, and developers of software for economic purposes. However, the proposed systems often do not contain all the necessary information in the complex, and the accountant is forced to address to different sources of information simultaneously.*

It is necessary to create a single methodological information system that covers all the needs of a "standard accountant". This system should not only be relevant, but also economically feasible for an average commercial enterprise.

Keywords: *accounting systems, model, information economy.*

РОЛЬ ИНФОРМАЦИОННЫХ СИСТЕМ В БУХГАЛТЕРСКОЙ РАБОТЕ

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Аннотация: *в современном мире в условиях развития информационных технологий все большую роль для бухгалтерской работы играют различные информационные системы. На рынке предлагаются различные методические информационные системы для бухгалтеров, которые позволяют быстро и удаленно актуализировать знания бухгалтера. Как правило, такие системы предлагаются издательствами, выпускающими журналы и газеты в области бухгалтерского учета, и разработчиками программного обеспечения экономического назначения. Однако, предложенные системы, зачастую, не содержат всей необходимой информации в комплексе и бухгалтер вынужден обращаться к разным источникам информации одновременно.*

Необходимо создание единой методической информационной системы, покрывающей все потребности «типового бухгалтера». Эта система должна быть не только актуальной, но и экономически целесообразной для среднестатистического коммерческого предприятия.

Ключевые слова: *бухгалтерские системы, модель, информационная экономика.*

The information economy confronts the accounting systems with new problems and goals. For example, one of the main problems today is the integration of existing types of accounting in national systems: tax, management, financial, social. In addition, due to the transformation processes of accounting and auditing systems, the requirements and functions of accounting workers are changing, which today must not only be able to work with accounting information systems, but also be able to model, modify and analyze them.

Applied information technologies have a significant impact on the development of accounting systems due to their relevance in the field of accumulation and systematization of accounting information. That in general form forms the basis of the information economy.

The study of issues related to the formation of information systems in the economy is becoming increasingly important, since the very principle of information generation has special characteristics. For example, in the comparative ease of information creation, its reliability is difficult to determine, and the absence of barriers to its dissemination is often put in opposition to its controllability. Obviously, this affects many decisions, especially when it comes to accounting information, the level of reliability and controllability is a matter that constantly occupies the minds of both researchers and accounting specialists.

In fact, strengthening the capabilities of mankind in the perception of information with the help of the means of accelerating the transfer of information (telephone communication, personal computers, the Internet, cloud technologies) created by him inevitably changed the very nature of its perception. Selecting the most frequently repeated in the information elements and regular links with them, it became possible to formulate certain norms and standards, in comparison with which actual events can be evaluated. Such special characteristics served as the basis for the creation of global principles, rules and standards for accounting and auditing, which was the impetus for the transformation of the global financial system.

Information economy is a fundamental background for the development of the global financial system, since in general the financial system operates exclusively with information. Starting with deposits that contain information about the amount of money held by an economic entity, up to complex processes of high-frequency trading algorithms. Table 1 shows the main steps that contributed to the transformation of the financial system.

Table 1. Transformation of the financial system

N	**Stages of transformation of the financial system**	**Phase**	**Subject**
1	Systematization and authorization of the entire retail securities market	1971-1973	National Association of Securities Dealers (NASDAQ)
2	the creation of a global option pricing concept	1973-1981	the Black-Scholes option pricing model
3	development of automated control systems for internal processes of enterprises		System analysis and program development (SPAG)
4	Standardization of principles for the transfer of accounting information	1981- Nowadays	International Financial Reporting Standards (IFRS)

[1]

The global financial system in the global space defines the framework for legal relations between various public institutions and formal and informal economic entities, which together contributes to the intensification of international flows of financial capital for the purposes of investing and financing trade and business. At the same time, it seems obvious that the influence of, first of all, the accounting information on the financial system was strengthened at the end of the 19th century. during the first wave of globalization of the economy. This stage is characterized by the development of central banks, multilateral treaties and intergovernmental organizations aimed at increasing the transparency, regulation and efficiency of international markets and information that is rotating on them.

In the middle of XX century. IBM engineers developed software templates for payroll and accounting purposes. At the same time, data was stored locally, unlike the mechanical punch cards that existed at the time. This allowed us to talk about the created programs as working in real time mode, since there was no longer a need for long processing punched cards. This direction has been widely developed in the field of management accounting. However, it should be noted that the basis for creating such templates was the large spreadsheets used in accounting at the dawn of the development of computer technologies [2].

The process of globalization in the last two decades has created the conditions for international convergence in financial reporting. As a result, more than 100 countries, with both developed and emerging economies, either completely switched to International Financial Reporting Standards (IFRS), or obliged public companies to apply IFRS for the preparation of financial statements.

It seems that, theoretically, the adoption of IFRS has a number of advantages for investors, for example, providing more relevant and internationally comparable financial information and increasing the efficiency of concluded contracts between counterparties.

International standards affect national accounting in two ways: by partial implementation in legislative requirements and local standards, or by directly adopting full IFRS for a significant number of enterprises, for example, credit institutions.

As for the reforms carried out in this country in this direction, they significantly complicated the achievement of the set goals. For example, as a result of the reform of Russian education, training was reduced by one year (the transition from a five-year training of specialists to a four-year one), an independent direction of bachelor's training in the specialty "Accounting, Analysis and Audit" was abolished, and so on.[3]

In our opinion, all of the above cannot have positive consequences for the implementation of educational programs and training of specialists in the field of accounting.

At the same time, accounting information systems (AIS) remain a vital component of the accounting profession. In the development of any modern national accounting system today, the following common features are obvious (Figure 1).

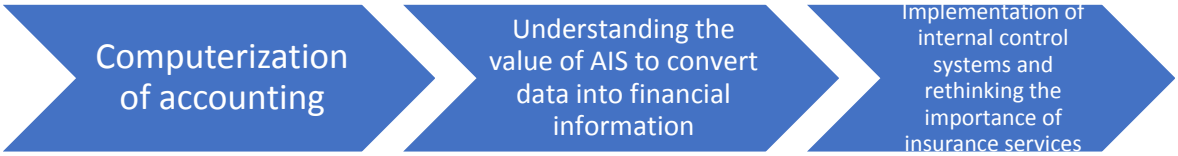


Fig. 1. Features of modern national accounting system

In turn, AIS not only support accounting and financial business processes, but often create information that is useful not only to accountants, for example, to entities engaged in marketing, manufacturing or human relations activities (Table 2).

Table 2. AIS information

Application of	**AIS information**
Supply chain	Demand trends, number of fixed assets and warehouse management, supplier relations management
Finance	Cash and asset management, multi-firm and multi-currency management, summary of credit card transactions
Marketing	Sales management and sales forecasts, customer relationship management
Human resources	labor force planning and employment management, payroll and management reports
Production	Inventory summaries, product cost analysis, material consumption planning

[1]

Against this background, the transformation process can be very useful for those financial systems that have the right strategy and are permanent.

In addition, an increase in the share of automation of accounting and auditing processes in the financial system provokes an increase in the demand for IT professionals in the financial industry.

In turn, the use of cloud computing will allow small businesses to outsource some business processes that cannot be implemented or are inappropriate for self-implementation.

Also, enterprises will be able to operate using higher computing power.

In general, the relationship between business processes based on information can be presented in the form of a situational map (Figure 2), which shows the main ways of interaction of all participants and users of the accounting system.

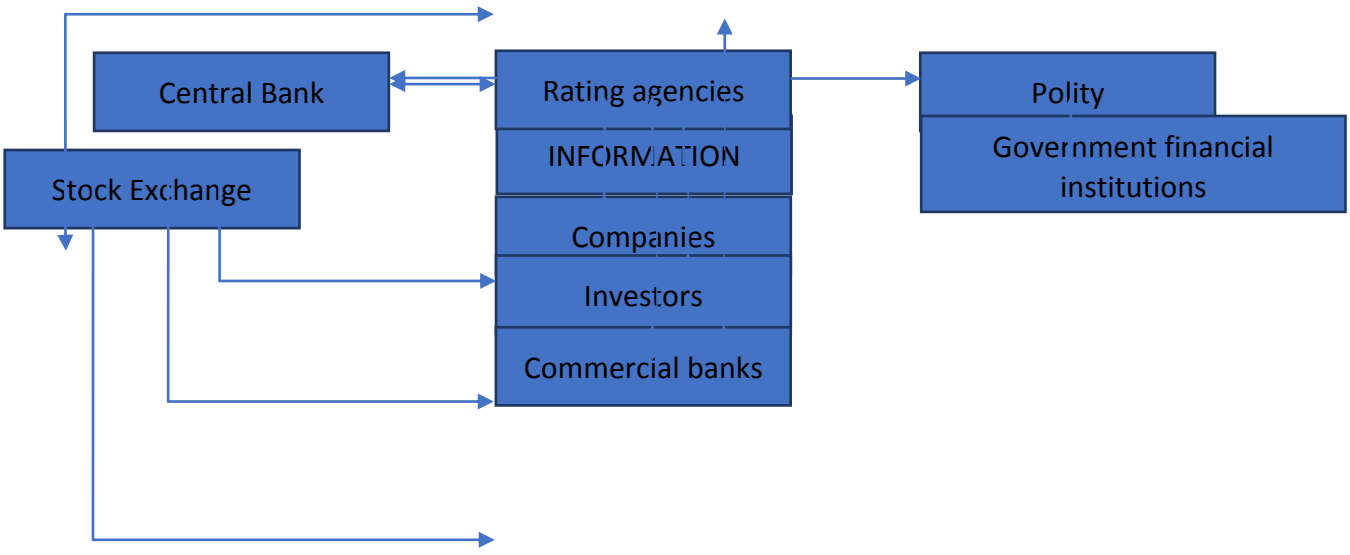
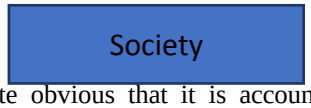


Fig. 2. Users of the accounting system [4]



In such circumstances it is quite obvious that it is accounting information and accounting information systems that should fulfill one of the most important tasks - to predict and reduce the risks of crisis phenomena.

In the modern world, in the conditions of the development of information technologies, an increasing role for accounting work is played by various information systems. The market offers various methodical information systems for accountants, which allow you to quickly and remotely update the knowledge of the accountant. Typically, such systems are offered by publishers, issuing magazines and newspapers in the field of accounting, and developers of software for economic purposes. In our opinion, the proposed systems, often do not contain all the necessary information in the complex, and the accountant is forced to apply to different sources of information simultaneously.

In our opinion, it is necessary to create a single methodological information system covering all the needs of a "standard accountant." This system should not only be fully comprehensively filled and relevant, but also economically feasible for the average commercial enterprise.

Given the current needs of the accountant (and the company's management), we believe that the methodical information system (MIS) must meet the following criteria:

1. Subject integrity and fullness.

MIS should contain a sufficiently large number of materials (articles) on accounting and taxation. Methodical materials of the system must have subject integrity and cover all typical areas of accounting at an average commercial enterprise.

2. Reliability.

Materials of the information system must be reliable. Reliability can be supported by references to legislation, arbitration practice,

letters from ministries and departments, etc. The author's opinion in articles should be clearly indicated, so as not to mislead the users of the system.

3. Universality.

IIAs should be targeted at a wide range of users. It should not be unnecessarily specialized for a particular industry, peculiarities of non-typical accounting, and so on.

4. High professional level.

Materials of the information system should be oriented towards a professional accountant, who uses them constantly in their practical activities, and not only for the purpose of training.

5. Availability of the presentation of the material.

Materials of the information system should be understandable to the user who has a specialized education and who knows the basics of accounting and taxation. Articles should be written in an accessible language, not overloaded with unnecessary information, be as brief and informative as possible, do not require much time for reading and studying.

6. Ease of use.

The IIA should have a clear structure. It should have a convenient advanced search, through which the user could easily find the necessary material. To work with it, no further training is required. The interface of the system should be convenient, pleasant, intuitive, with the ability to print necessary materials, create bookmarks, forward links to other users, and so on.

7. Practical value.

Practical examples on accounting and taxation should be applicable in practice, materials should contain information about: situations that exist in practice; situations, which most often cause questions from accountants; ambiguous situations, and so on.

The articles should be written by experts in the field of accounting and taxation, who have extensive practical experience in the field of accounting, accounting consulting, and so on.

Since the vast majority of accountants use the accounting program for daily work, it is desirable that the information system also contain information on how to reflect a particular situation with the help of this program.

Articles describing the specifics of registration of accounting situations in the accounting program, along with theoretical aspects, in our opinion, significantly enhance the practical value of MIS.

8. Relevance.

The materials of the IIAs should be current and contain the publication date so that the user can assess how relevant the information he receives.

It is desirable that the system has a news feed, from which the user could learn about: news of legislation, developments in accounting and taxation (major seminars, conferences, etc.), technical innovations in the field of

information technology (new sites and services on the network Internet, development of software solutions, etc.), related to accounting, and so on.

9. Accessibility for use.

As a rule, today MIS are offered to users in electronic form. In paper form, only magazines, newspapers and books are offered. And even then, it is now difficult to find a magazine, newspaper or book that would not be offered in an alternative electronic form. Another question is that many users prefer to read the paper version, because of the habit, or because of the limitations of technical capabilities. MIS, offered in electronic form, can also be offered on various media, such as: a compact disc, a portable storage medium (a so-called "flash drive"), access to the site.

It is assumed that access to the site on the Internet is the best option for

since it is possible from any computer (it is enough to know the login and password), and the system can be updated almost daily, whereas the exchange of such information carriers as a compact disk or "flash drive" occurs mostly twice a month.

However, technical restrictions on the use of the Internet in Russia are still quite common, so we will consider that the information system offered on two media at the same time is the most accessible for use: a website on the Internet and a CD-ROM (or a "flash drive").

10. Possibility of individual consultations.

Typically, the accountant is looking for a specific "his situation" in information systems, but it has individual nuances that are not described anywhere. In this case, the accountant requires an individual consultation on his problem with the relevant specialist (consultant, auditor, lawyer). If the MIS offers the user the opportunity to consult with such professionals, this is a significant advantage of the information system.

11. Feedback.

Many users of the information system may be interested in feedback from the developers of the system to: report errors; express a wish or gratitude; suggest to consider an interesting situation that is absent in the information system, etc. Therefore, any modern information system should provide an opportunity for feedback.

12. Economic feasibility.

One of the most important criteria is the cost of the information system. No matter how perfect the IIA, the head of the organization deciding to purchase it will correlate the possible benefits from its use with the costs of acquiring and maintaining the system.

As a rule, the cost of the information system consists of the cost of the system itself, as well as the cost of its maintenance.

The cost of the information system itself can depend on the amount of information (information blocks) to which the user will have access. In this regard, system developers can offer various tariff plans, for example: "Small Enterprise", "PROF Tariff", etc., in which a set of specific information blocks is offered.

In addition, the cost of the system can depend on the number of jobs on which it will be used.

The cost of escort is in most cases offered on a subscription basis in the form of monthly payments.

With regard to assessing the economic effectiveness of the application of the information system, it is not easy to assess it. But you can try to do this using the known methods used to determine the economic effect of the IT project implementation [5].

Most often, three main financial methods are used to determine investments in an IT project:

- NPV (Net present value) - net present value or net present value;
- IRR (Internal rate of return) - internal rate of return, or internal rate of return;
- Payback - the payback period of investments.

The classical approach to the investment project implies a certain sequence of actions to assess the future effect, thus, it is necessary:

- Identify specific areas where it is possible to obtain benefits from the introduction (reducing inventory stocks, accelerating the turnover of funds, increasing the rhythm of production, etc.);
- estimate the likely cost savings in these areas without introducing the system in question, using some other means;
- Estimate the likely cost savings in these areas in the case of the implementation of the system, determine the elements of the revenue stream and the time of their receipt during the project;
- Calculate the complex of classical indicators of investment projects (Net Present Value, NPV, Internal Rate of Return, IRR, Payback Period, PP), Value Added (Economic Value Added, EVA));
- with a positive NPV, carry out an analysis for sensitivity, indicating that the project

is able to withstand the risks of postponing the expiration dates and exceeding costs;

- To distribute the costs associated with the project, by departments and correlate them with the budgets of the units.

However, this "scenario" has significant drawbacks. The fact is that the weaknesses in calculating NPV and PP are the great importance of the discount rate, which is determined exclusively by experts, and, more importantly, the lack of accounting for project revenues outside the payback period under consideration.

Finally, the biggest problem with classical methods is that they take into account only the direct benefits of implementation, but it's hard to argue with the fact that in fact it is only the "tip of the iceberg" effects from the implementation of the ERP system [4].

It is clear that the larger the automation project, the greater the percentage of possible benefits relates to the category of indirect.

World experience in operating the company's management systems shows that the main benefits lie in the field of indirect, additional effects, second-level effects. These include:

- organizational changes (distribution of duties and responsibilities);
- increase in efficiency and regulation of processes (production and financial discipline);
- a single information space (reliability and accessibility of information);
- reducing the risk of making an erroneous management decision;
- standardization of processes, documents, reporting, support of IT systems.

Thus, the management of the company deciding on the acquisition of the information system should take into account both direct and indirect benefits from the acquisition and implementation of information systems for accounting.

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