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Information and communication technologies (ICTs)

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შავი ზღვის საერთაშორისო უნივერსიტეტი; კავკასიის საერთაშორისო უნივერსიტეტი

CONCEPT AND PROBLEMS OF DEVELOPMENT OF DIGITAL MODELS OF ACCOUNTING

In the country, targeted use of modern innovative and digital technologies is of great importance in the ongoing sustainable economic development processes. This process has acquired the importance of the digital economy, and moreover, digital models even became the basis for the optimization of economic processes. In digital models, the operating object is simulated in a virtual form, therefore, it is usually identified as some kind of operating object. When we talk about the digital economy, we must first talk about the digital accounting models constantly associated with it, which today occupy a special place in the country's economy and are the object of scientific research and analysis.

For those countries that are trying to make economic progress and establish themselves in the world market, one of the ways of economic vision of the future is to use the theory of digital modeling. The purpose of modeling is to create an image of an object that will allow us to more clearly study the object's behaviors, properties and relationships with other objects [1].

It should be noted that the existing modeling technology, which has been introduced in the economy for a long time, has radically affected data processing and significantly accelerated this very process. Further continuation of the modeling technology, which is now gaining ground and getting stronger day by day, is the new digital modeling or the augmented reality of modeling, examples of which can already be seen in our daily life, in the management of any object, in particular in the field of accounting.

Digital accounting models rely on a digital platform consisting of accounting engineering technologies, blockchains, and computer software. The use of innovative accounting digital technologies allows us to change the accounting process and its industry as a whole, to effectively optimize the processes of making complex managerial decisions.

Accounting can be presented as a model of the economic status of an economic subject. That's why accounting modeling is considered an integral part of economic sciences and it has an important role in this direction. If we approach it from a scientific point of view, modeling can be considered as a cognitive method, and from a practical point of view, it can be seen as an objective function of accounting. This circumstance indicates two types of modeling use in accounting - theoretical and practical.

The development of accounting in the context of digital technologies is associated with the constant complications and problems of accounting theory and practice. These difficulties and problems were created by the new challenges of accounting and development, which are reflected in the emergence of new types of accounting objects (such as: digital currency (token), blocks of various financial operations, digital records, digital currencies, smart assets, etc.) and new types. In the origin of accounting (communication network accounting, imaginary accounting, part-by-part accounting, etc.). The problems are further aggravated by the modern new computer technologies and tools that are widely and effectively used in digital accounting. It is necessary to carry out a number of important measures to assist the transition to full digital technologies, such as the training of qualified personnel, the introduction of modern information and communication technologies, the purchase of equipment and resources necessary for the implementation of digital technologies, the

preparation of an information base, etc. However, it is also worth noting that the introduction of digital accounting in accounting activities brings much more benefits than problems.

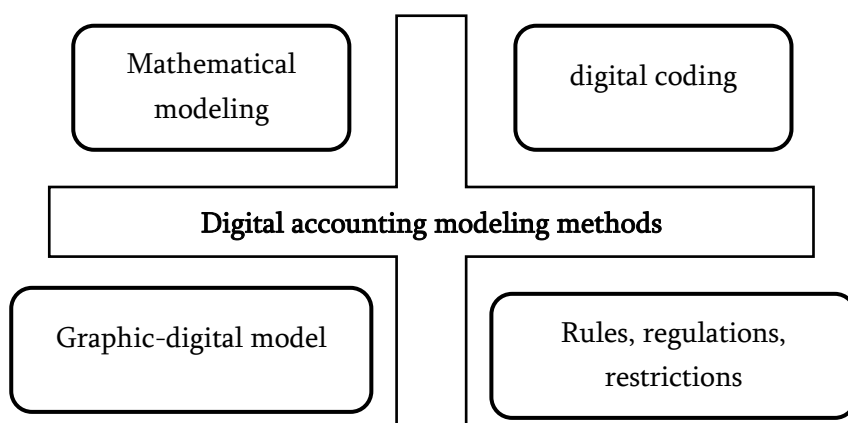
The discussion of the problems listed here has convinced us that it is necessary to identify and define the digital field of accounting and its accompanying problems through scientific research and analysis. To present digital accounting as the main scientific directions and means of practical realization of the expansion of the modern type of economic activity, to develop scientific methods and practical means of solving problems, the final result of which will be the formation of an adequate model of the object. Modeling is a method of scientific knowledge that studies the behavior of an object by building some kind of (physical, logical, graphical, ontological, etc.) model that adequately describes the main characteristics of the object. The adequacy of the model (closeness to the object) and the reliability of its simulation results depend on the quality of description of the initial information about the modeling object.

Creating a model allows us to understand how a specific object works, what is its structure, what are its main properties, what is its regularity of development and how does it interact with the outside world. It is actually a process of studying the object in order to determine the forms of management, criteria and best methods based on it, to solve forecasting tasks, to carry out optimal and targeted management of the processes taking place at the object. By studying the object, we mean the formalized description of the properties of objects/components of the object and the logical connections between them using any language (logical, graphical, algorithmic, mathematical, etc.).

Since object modeling is of such great importance, it goes without saying that the main requirement for accounting models should be adequacy, which is the most important concept of the model in general.

Adequacy is a conditional concept, since it is impossible to bring the model of the object into absolute correspondence with the object. Therefore, during modeling, each model is subject to examination. Checking the model involves assessing the degree of its adequacy to the object (process) for which it is intended to be analyzed or managed, and comparing the results calculated according to the model with the relevant indicators of actual behavior. Complete or as close as possible satisfaction of this requirement gives us a solid basis for effective use of the model from a practical point of view [2].

Based on the results of the analysis of the scientific studies we found, we consider it appropriate to highlight the following methods of digital accounting modeling - p. 1.



p. 1. Digital modeling methods

In our opinion, these models will help to achieve the goals that define the essence and purpose of modeling.

Let's define a short summary of each model.

In the method of mathematical modeling, i.e. in the model of the formalized representation of the management object, the processes taking place on the object are described by means of graphs, formulas, equations, matrices, etc. Such a method is more

acceptable in cases where numerical calculations are required due to the factors of the organization's functioning.

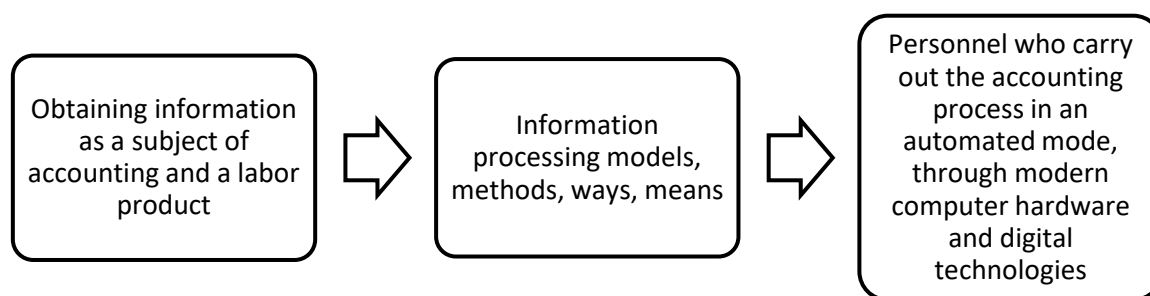
The main basis for modeling the digital coding of accounting operations is the plan of accounts for accounting financial and economic activities of the organization and the instructions for its use. These documents represent the main scheme of registration of economic activity and recording of facts in accounting. They contain the numbers and names of accounts and sub-accounts necessary to carry out the relevant transactions. Standardization and unification of accounting operations in the form of a digital code allows us to use accounting computer programs more effectively.

The graphic-digital method of facts of accounting operations is a more complex method that combines oriented and non-oriented graphs, logic charts, pictures and numerical symbols. This method is distinguished by the fact that it describes the accounting processes as clearly and adequately as possible. Therefore, this method is often used during accounting modeling training.

Accounting processes are subject to modeling rules, regulations and constraint methods. Rules, regulations and restrictions are concentrated in regulatory legal documents, as well as in the organization's internal accounting and reporting documents [3].

The concept of digital modeling of accounting should be based on the automated mode of processing accounting data using a complex of modern computer, computing, communication and other technical means to provide optimal management of accounting, financial management and accounting functions.

An automated mode of realizing digital accounting should include a sequence of three main components, p. 2.:



p. 2. Automated structure of digital accounting

As for the functional model of the automated process, it should include:

- Set of accounting tasks to be solved; logical and mathematical models for solving these tasks, with their software complexes;
- Operational, analytical, accounting and statistical information databases;
- A set of permanent information that does not change and is reused for a long time;
- Variable information base that reflects the quantitative and qualitative characteristics of accounting and is constantly subject to actualization (updating);
- Informational links of external and internal connections, etc.

Personal computer is the main technical tool in digital accounting models. Computers fit organically into automated process technology. This is particularly evident when the process moves from the formal-logical aspects of accounting information processing to the decision-making stage. This technology creates the comfort of the workplace, reduces the difficulty of making effective decisions, increases the professional level of the service staff, as the staff becomes a direct participant in the process of automated processing of information.

Obviously, digital accounting technology with a personal computer should consist of:

- Accounting information processing software;
 - From the hypertext documenting system required by the user;
 - From the error detection and monitoring system;
 - From the calculation algorithms service;
 - From the technical equipment of the workplace: modem, scanner, printing equipment, etc.
- Of course, we should not forget the methodological and legal support of the digital accounting system.

Bibliography

1. Nuno Geada (College of Business Administration, Polytechnic Institute of Setúbal, Portugal) Change Management in the Digital Economy: Model Proposal. Source Title: International Journal of Innovation in the Digital Economy (IJIDE) 11(3). Copyright: © 2020 |Pages: 15. DOI: 10.4018/IJIDE.2020070103.
2. Jiahe Qian, Shuhong Li. Model Adequacy Checking for Applying Harmonic Regression to Assessment Quality Control. First published: 08 August 2021 <https://doi.org/10.1002/ets2.12327> SECTIONSPDFPDF.
3. О. В. Наговицына. Использование Метода Моделирования В Формировании Учетного Процесса. Проблемы учета 4 (250) – 2013.

Summary

The article presents the concept of a digital accounting and management system and its related problems. Digital accounting platforms using modern technologies and tools are discussed as well. Studies of digital accounting mechanisms are systematized. A digital accounting model and accounting mechanisms based on a digital platform are presented.

ქეთევან ნანობაშვილი, გიორგი ლილუაშვილი
ბუღალტრული აღრიცხვის ციფრული მოდელების განვითარების კონცეფცია და პრობლემები

რეზიუმე

სტატიაში მოცემულია ბუღალტრული აღრიცხვისა და მართვის ციფრული სისტემის კონცეფცია და მისი თანამდევ პრობლემები. განიხილება საბუღალტრო ციფრული პლატფორმები თანამედროვე ტექნოლოგიებისა და ინსტრუმენტების გამოყენებით. სისტემატიზებულია საბუღალტრო ციფრული აღრიცხვის მექანიზმების კვლევები. წარმოდგენილია საბუღალტრო ციფრული აღრიცხვის მოდელი და ციფრულ პლატფორმაზე დაფუძნებული აღრიცხვის მექანიზმები.