

# **AUDIT INFORMATION TECHNOLOGY OF CORPORATE INCOME TAX BASE**

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## **1. Introduction**

The current state of economic development constantly requires new approaches to business caused by increasing domestic and international competition, consolidation of business requirement to respond quickly to changes in external and internal factors influence and extensive use of information technology in management. The use of information technologies takes place at all stages of management. The basic step is the use of accounting information processing. Given the fact that the accounting information differs significantly in volume and variety, complexity of logical and arithmetic processing relative simplicity, the inherent massive computations that are performed according to standard algorithms at regular intervals.

## **2. The history of information technology in audit**

In order the account information to be useful, it should adequately reflect the business processes in the enterprise and easily checked, and be relatively constant. Thus, even at the stage of accounting the enterprise used elementary data processing using information provided, including data collection, transmission and storage, processing, in providing the users. This process is called an informational approach to accounting. It was introduced by the American scientist George H. Sorter [1]. According to this approach, based on primary documents, not only traditional accounts (financial) accounting but also a model that allows you to take multivariate management decisions are formed. He also pointed out that the cost of information should not exceed the cost of its receipt. Due to the widespread use of information technology in business and accounting the auditors are faced with the task to adapt them to their work or even automate basic processes of information processing.

The use of information technologies in the world of auditors has a relatively short history. Initial implementation of information technologies has changed the accounting method of storage, playback and data management. After the first use of computers for accounting purposes in the United States in 1954–1960 auditors did not use computers. With the advent of new, smaller and cheaper computers the situation started changing, forcing auditors to inspect the concepts of electronic data processing, the first attempts to develop auditing software for general purpose (generalized audit software – GAS) began. Further audit developed mainly due to improvements in technology and accounting requirements in control.

In 1968, eight major audit firms – members of the American Institute of Certified Accountants (AICPA) participated in the audit of electronic data processing, the result was the book of G. Davis “Audit and electronic data processing” [2, p.344]. It contained instructions on how to document verification of electronic quitrents data and the examples of how to describe automated internal control procedures.

At this time, information systems auditors formed Electronic Data Processing Auditors Association (EDPAA), whose aim was to produce guidelines, procedures and standards for inspection of electronic data processing. The first edition of collection of standards and recommendations took place in 1977, and the current edition published under the title “The control objectives for information and related technology” (Control Objectives for Information and Related Technology – COBIT).

Professional organization auditors pay much attention to the use of information technology. This is evidenced by regular updates (at intervals of 1–2 years) of almost all International Standards on Auditing issued by the International Federation of Accountants.

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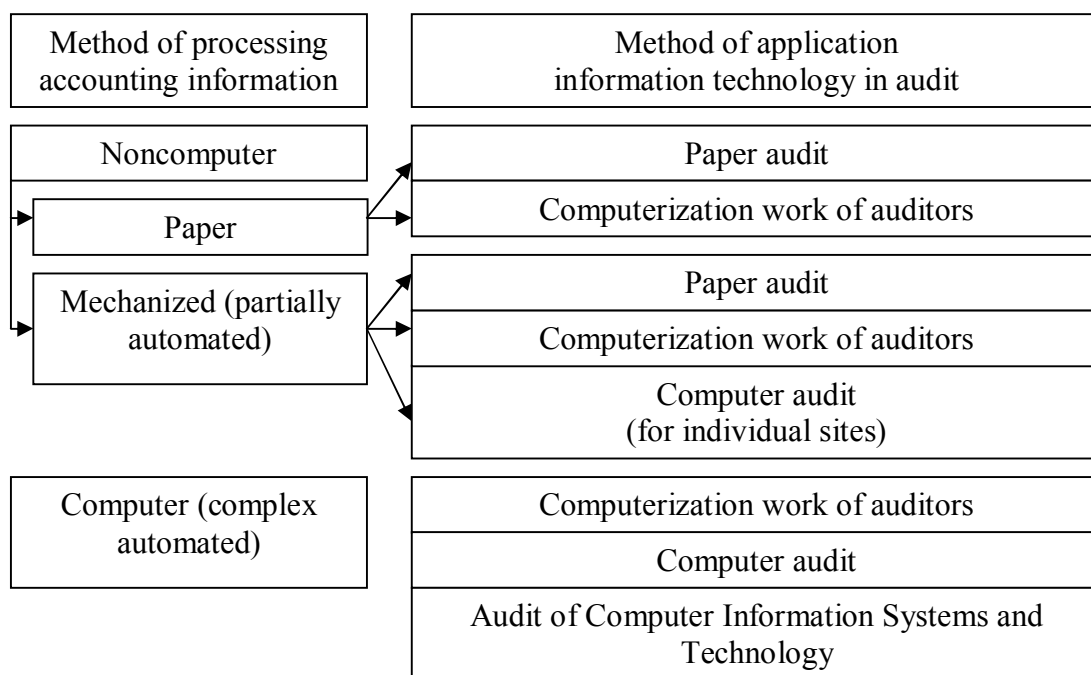
During the period 2004–2007 the Institute of Internal Auditors (The IIA) has developed a set of standards related to audit and control in the use of information technology under the name GTAG – Global Technology Audit Guide – Audit Guide in embracing application technology.

The issue of audit changes through the use of computer technology were researched by scientists. Prof. V. P. Zavgorodniy, in particular, noted that “in terms of information systems audit of the basic principles undergo some changes” [3, p.297]. Prof. F. F. Butynets noted that the auditor should determine its impact on the organization and how audit uses computer system data in the entity [4, p.168].

### 3. Methods of application of information technology in auditing

In general, the use of information systems may affect: procedures, which are based on the process of auditor’s obtaining sufficient understanding of the system of accounting and tax accounting and internal control; analysis of inherent risk and internal control systems of risk; development and implementation of auditor inspection control and specific data verification procedures needed to achieve the audit objectives.

The organization of audit largely depends on the method of processing accounting information at the enterprise, which can be divided into three types: paper, mechanized, computer (automated) depending on the type of computer technology used. Thus, the first two methods can be combined under the title “without a computer method”, which combines paper and operated ones, meaning no list of means, such as the way they use. According to the methods of processing accounting information in business the methods application of information technology in the audit will be different (Fig. 1).



**Fig. 1. Methods of application of information technology in auditing, corresponding to different ways of processing accounting information [5]**

Noncomputer method of processing of accounting information (paper and mechanized) associated with the reflection of data in the primary documents and accounting records, are obtained by manual processing or information processing using certain techniques. The data recorded on paper, sometimes on electronic media and the information reflected in the documents are seen visually.

In terms of paper account in checking transactions the auditor conducts continuous or random checks. For this purpose the data with source documents are compared with the records in reports balances at the end of the previous period – with the remains to the next. The auditors in the past carried out so-called “paper” audit where computers were not used at all. To detect possible deviations in different spreadsheet table the auditor spends a lot of time on it. This requires the use of computer hardware and software to facilitate the work of the auditor. In this case, computing is

only an aid for processing. Currently, auditors are advised to use a variety of computer programs to facilitate the work-text, spreadsheet, programs formation of working papers and so on.

Where the accounting activities of the company are partially automated, it makes sense to use some computer technology audit (the study of software algorithms research database of accounting information in some areas). However, this case does not make much sense in system modeling of accounting system for its study or research system control technology built into the program as accounting information processing is carried out on the principles specific to paper records.

With integrated automation of accounting and business computer tools for automating work of the auditor and audit of computer technology have been widely used, and an audit of information systems and technologies was conducted. In this situation, the paper audit is impractical because a large amount of information exists only in electronic form.

Computer information processing environment significantly affects the learning process of accounting systems and internal controls of the company by the auditor. These are important characteristics of their data because they affect the characteristics of the internal control choice of checks on which you can determine the nature, duration and scope of audit procedures.

Unlike manual accounting systems where records are carried out on paper and the auditor shall consider destruction, falsification, replacing paper documents in the use of financial information system the auditor has to deal with the safety and reliability of computer accounting systems. Thus, the auditor examines a number of highly technical issues not directly related to accounting, but which directly affect the auditor's assessment of risk controls. Therefore, the auditor should determine the effect of the use of computer data processing systems in the client enterprise on the organization and audit, including the study of accounting and internal controls.

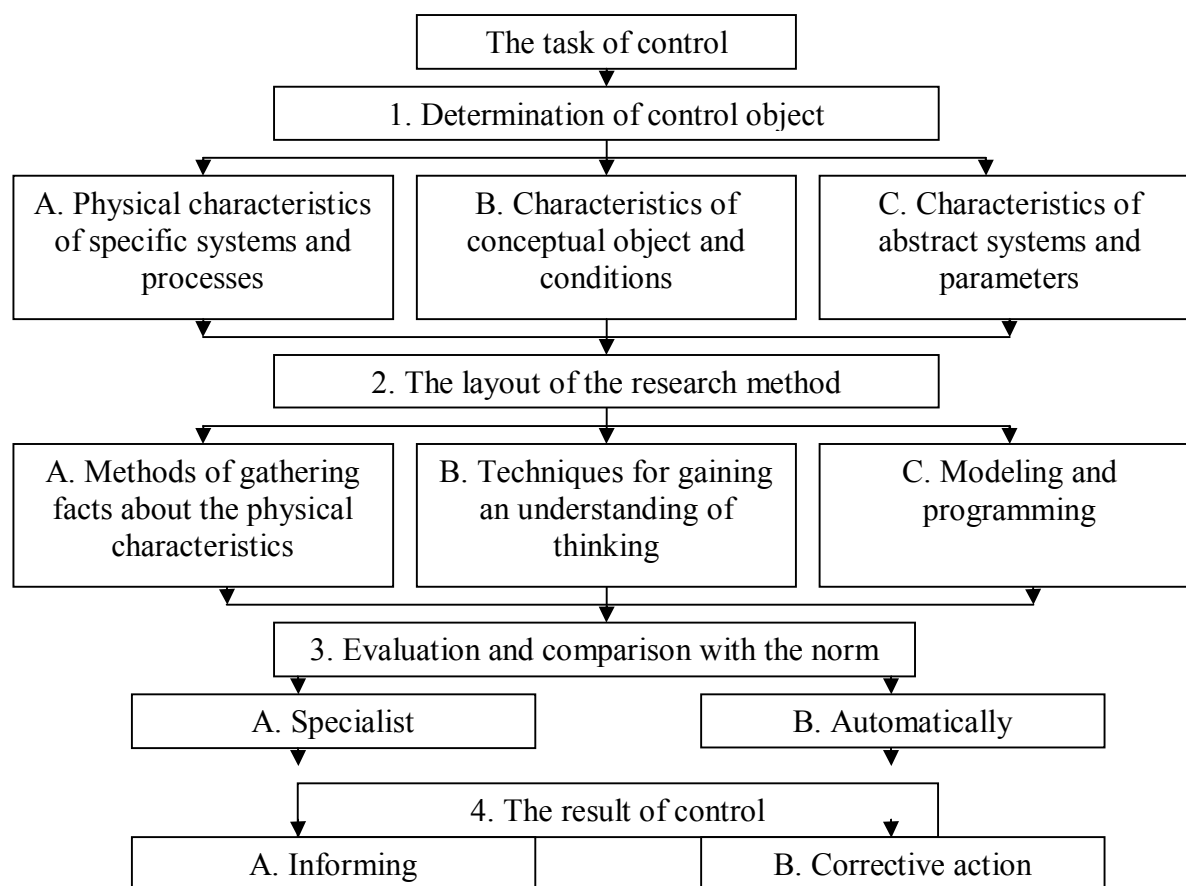
It should be noted that in some systems of accounting, which use computer processing of large transactions it may be difficult to obtain accurate results without the aid of special software. But on the other hand, for small amounts of data methods of data processing without using a computer can be more efficient. In addition, you can not get adequate technical assistance from employees of the economic entity, which will make use of specialized computer audit techniques ineffective. But in general, the use of KISP encourages auditors to perform the audit with the use of computer technology audit.

Computer auditing techniques may allow to process the larger volume of electronic check transactions and files with the accounting information. These technologies can be used for sampling operations of key electronic files, to sort transactions according to individual parameters or to check all the general population rather than a sample. In foreign literature the audit in terms of automated processing of accounting information is often divided into 3 types: audit "around the computer", audit "through computer", as well as audit "with the computer" [6; 7].

The traditional approach to verifying procedures is manifested during the audit without a computer. This approach focuses on the introduction of information in a computer system, obtaining data and testing procedures for manual control procedures. Computer control procedures and data processing technology are applied with check indirectly through repeated operations manually. Computational processes that occur in the environment of a computer system are manually checked by conversion, and data used in these calculations (e.g. information on price lists) are supported by relevant documents or internal regulations approved. This approach to validation of automated accounting systems can be quite effective only for old computer accounting systems.

#### **4. Audit research procedure**

It accents audit shifted to risk management and the team of auditors increasingly includes experts in information systems. At the same time, the profession of auditor is transformed into a combination of information technology for the use of computers and programs as specific tools for auditing. Control technologies are interrelated, so this is a necessary interaction of internal and external auditors (Fig. 2).



**Fig. 2. The overall audit process research [5]**

General methodological procedure of research facilities in audit provides that under the control of various tasks, the following steps are to be taken [5]:

1. Determine the list of objects to be checked.
2. According to the selected objects research method is compiled (instructional techniques and test methods are defined for which specific control procedures and control technology are planned). In addition, these techniques and methods can be grouped into three categories: a) methods of gathering facts about the physical characteristics (inventory); b) thinking techniques for gaining understanding (hermeneutics); c) modeling and programming. In an ideal situation to carry out research (monitoring) of each type of objects methods (A-A, B-B, C-C) are inherent to them.
3. There assessment revealed facts and comparison with the norm (as creative experts, and automatic).
4. Test results are formed, which may include provision of information, as well as the implementation of corrective action.

The development of consulting market and the market of information technologies improve overall economic conditions and increased competition will help consolidate global regulations in the field of national audit in the following ways:

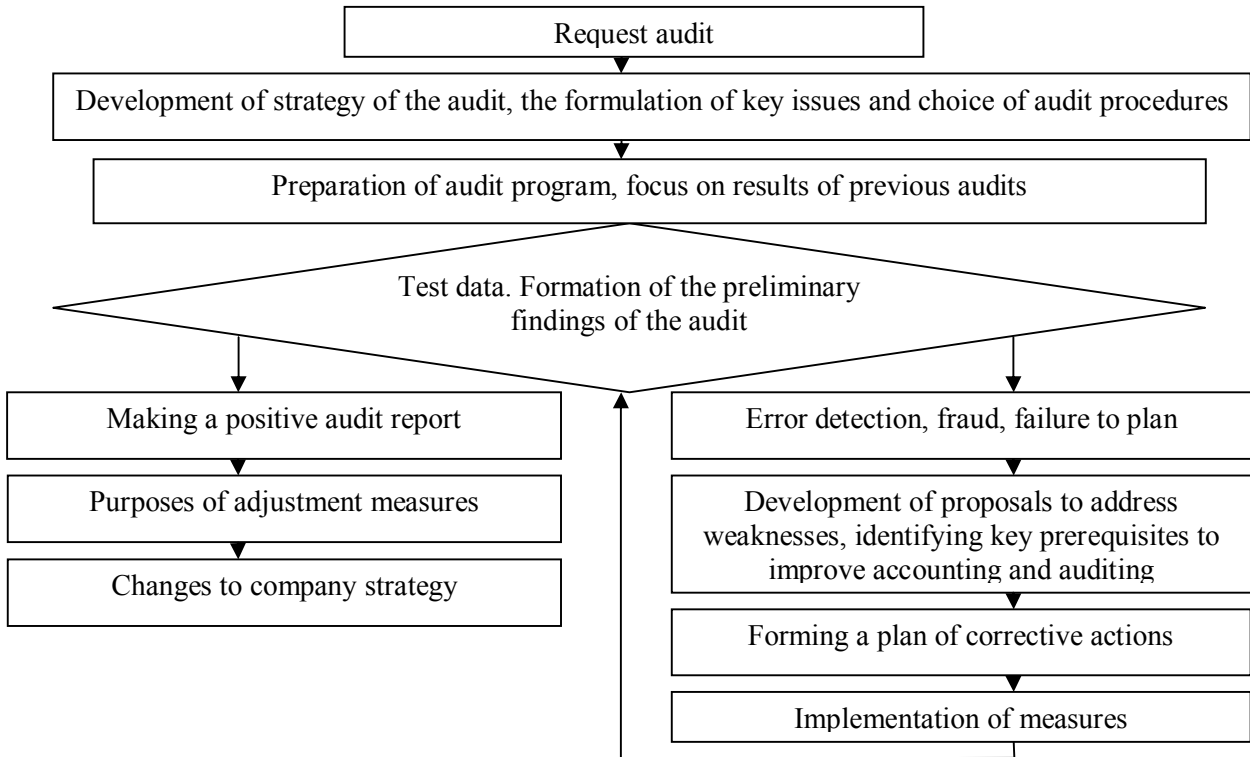
- 1) establishment of national standards of control based on international standards;
- 2) adaptation of existing standards to current world standards.

However, in technological processing of accounting and financial information the company should be universal, no matter what part of the world the business is in. As a system document, COBIT provides the definition of control procedures and control objectives for specific information technology processes.

At the macro level in Ukraine the State Fiscal Service is working to develop and make conception of an electronic audit, the first fruits of which is the creation of an electronic cabinet for taxpayer

that simplifies collaboration of supervisory authority and the taxpayer. It also eliminated element time costs for direct submission of tax returns as well as corruption.

The company should develop and implement internal regulations (orders, regulations, standards, guidelines) to ensure the system audit. Such standards should be based on common standards known in internal control (International Standards of Auditing, COSO, etc.). Based on the research of using information systems in audit, we want to offer a typical algorithm of internal audit procedures regarding enterprise income tax base (Fig. 3).



**Fig. 3. Algorithm of internal tax profit audit**

The development of a typical algorithm will facilitate automation of processes of analyzing information accounting and tax reporting at all levels and provide systematic evaluation of the implementation of audit procedures and submission reports symmetric data for similar inspections.

During the audit, the auditor should examine and evaluate workflow of economic object, formation, registration, storage, processing and transformation of primary documents in the system of records of accounts. It is necessary to clarify the place of the primary information and the degree of automation of data collection and registration. If you use special tools automating the collection and registration of information (sensors, meters, scales, barcode scanners, etc.), the auditor should ensure that the testing of these devices is regularly conducted by experts in identifying deviations and its result is to be made out and appropriate action is to be taken.

The auditor may obtain the first idea about the level of automation of primary documents compilation and get acquainted with the layout of workstations at the enterprise. The lack of workstations in production units in the company indicates either manual mode of drafting and transmission in their accounting, or that the documents are formed in the same accounting, which is typical for companies with a small volume of documents.

The auditor must assess whether workflow model, and implemented software are efficient and effective for the object, which is checked.

For large enterprises, it is important to analyze the distribution of functions between services operational management and accounting, information links for different units of accounting, to track the movement of individual documents and their relationship, to understand how the system which

contains electronic copies of documents is supported by documentary ties, and how the access to them is provided for accounting staff.

At enterprises where there is only automated accounting, the auditor should pay attention to the following points: compliance with the time interval between writing out the document transaction and its display in the account; the ability to save documents in the system after printing; communications and documents generating accounting entries.

The auditor needs to characterize methods of data entry and records, the formation of business operations. Automated and automatic generation of accounting entries and entries from typical operations and electronic forms of documents often avoids many mistakes that are inevitable with manual driving and shaping postings. It should be studied how the organization keeps track of business operations, the ability to quickly obtain information on business operations, documents and output and to make it available to the printer. On the other hand, the number of computer accounting transactions such as interest, closing accounts, determination of financial results may be initiated by the program. Therefore, such transactions can not be any paper organizational and administrative or supporting documents. In this case, the duty of the auditor is to carefully check the accuracy of the algorithms calculations.

Error in algorithm calculation and repeated many times in the recurring transaction that may distort the result of economic activity. While checking algorithms the calculation of the amounts in the conduct of business operations and accuracy of the postings are controlled.

## **5. Conclusion**

Computer audit is intended primarily to check the control technology applications, which include input control procedures, conducting formal and logical control of information when you enter it manually or from other programs (often called means of control interfaces); control data processing technology to ensure their integrity and integration (for example, to ensure correct calculation residues or to prevent data like names of various contractors attached); and control technology input data (accuracy of the reports and transfer information for other applications).

## **References**

1. Sorter G. H. An Events Approach to Basic Accounting Theory / G. H. Sorter // *The Accounting Review*. – 1969. – Pp. 12–19.
2. Gordon D. Bitter Auditing & EDP / D. Gordon. – American Institute of Certified Public Accountants. – 1968. – 344 p.
3. Zavgorodniy V. P. Automation of accounting, control, analysis and audit / V. P. Zavgorodniy. – Kyiv, A.S.K., 1998. – 768 p.
4. Butynets F. F. Audit, 3rd ed. / F. F. Butynets // *Processing and add.* – Ruta, 2005. – 512 p.
5. Ivahnenkov S. V. Information technology audit and internal control in the context of global integration / S. V. Ivahnenkov // *Scientific publications*. – Ruta, 2010. – 432 p.
6. Bodnar G. H. Accounting Information Systems / G. H. Bodnar // Upper Saddle River. – Prentice-Hall, Inc., 1998. – 686 p.
7. Wilkinson J. W. Accounting information systems: essential concepts and applications / J. W. Wilkinson. – New York: Wiley&Sons, 1997. – 984 p.

## **Summary**

The article analyzes the history of application of information technology in audit. Methods of application of information technology in auditing were identified. Audit research procedure was described and algorithm of internal tax profit audit was offered.

**Keywords:** processing accounting information, tax profit audit, technology in audit.

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