THE ROLE OF THE INFORMATION SYSTEM IN THE IMPLEMENTATION OF AUDIT

Ivan Milojević[1]; Miloš Radosavljević[2];

Abstract

Control is the last but not the least important function in the organization's management chain. Without its presence, it would not be possible to create a realistic picture of the results and to see the correctness of the work. Due to the dynamics imposed by the market, it is necessary to monitor the trends in all areas, especially those most topical today - Information Technologies (IT). As the IT sector progresses from day to day, it is also included in each business segment.

The audit represents the top of the pyramid of the overall business activity, and this priority demands the highest attention and quality. In order to carry out the audit in the best possible way regarding the exploitation of human and material resources, and in a short period of time, an appropriate information system is set up as an imperative. In this way, support is provided to timely and promptly finding, processing and displaying relevant data. Hence the need to focus this work on the crucial role of information systems in the audit and their cohesion.

Key Words: *information system, audit, IT, control*
JEL classification: *M15, M42*

Introduction

It is necessary to keep pace not only with time but also with subsystems that are crucial for modern business operations to take place smoothly and at the needed speed. The information system is an unavoidable factor in this process. Its role and importance have become the highest focus of the opportunities provided to its customers. Merging multiple vital functions puts the information system in the center of investment and development,

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[1] Ivan Milojević, Ph.D., full professor, Military academy in Belgrade, Street Pavla Jurišića Šturma 33, tel. 0692702697, e-mail: drimilojevic@gmail.com
[2] Miloš Radosavljević, student MA, Military academy in Belgrade, Street Pavla Jurišića Šturma 33, tel. 0628681049, e-mail: radosavljevicm93@gmail.com

with the aim of achieving the objectives of a business subject. Due to the complexity and scope of business implementation, the improvement of information system has become a necessity. This ensures achieving greater efficiency and effectiveness in business organization activities. The keys to successful business, especially in large companies, are comprehension by management and satisfaction of legal norms of control by State authorities. The duty of each business entity is to provide insight and ensure the objective view of its business with the aim of determining the legality of the same or possible irregularities.

Then an audit occurs. The revision was created as a necessity to render the company's business uninterrupted during a time period in the financial statements. In order for auditors to meet the standards that are placed before them in the time and financial aspects, the focus should be placed on the speed of obtaining information, their processing and rendering with as small engagement of human and material resources as possible. The ability to perform an audit in the best way defines the information system, but also the competence of the auditor. It means certification and continuous education of auditors are followed by hardware, especially the software-improved solutions that lead to desired results.

For all activities of the organization, it is necessary to provide documentation basis through business books. By leading the updated documentation, it is possible to reconstruct the business event. Computers ensure that the entire process is performed automatically, which implies an increase in security and a reduction in the chances of abuse. In this way, it provides easier access to the data contained in the database. Given that they have a large information value, the data must be trusted, and this is where the electronic way of saving and protection has precedence over physical.

Information system elements

The company's information system consists of hardware, software and networks, and it covers all areas of action and activities that occur in it. For accountants and auditors, only the part that relates to the recording of business events and business books or financial statements is of interest. In that sense, the information system will fulfill the conditions for successful performance of the aforementioned scope of work. It is necessary to include: standalone computers, computer network, online

system, data management system, expert system, operating system and application program. (Coderre, 2009).

Personal computers are now economical, and on the other hand, they are sufficiently "strong" to respond to the accounting needs that are placed before them. Although it is preferred for more than one computer to be connected, there is also an ability for single computer to present one information system which means whole evidentation is managed with it. This way of recording takes place in small businesses where there is no need for a network that would cause an additional cost. However, with isolated computers, there is a greater possibility of abuse, because all data is stored on the computer that the person who has unlimited access can change.

Computer networks are a set of interconnected computers that together perform the function they are intended for. The networks are divided into local and wide. Local Networks or LAN (Local Area Networks) are intended to share information within the organization, as is software and hardware. In this way, it enables the decentralisation of information system, which is suitable for data safety. Wide or WAN (large Area Networks) are able to transfer data at larger distances and online access. The fact that the practice of this network is often integrated into other, larger networks such as intranet, extranet, or even internet increases the chances of unauthorized access to data. Although different firewalls, antivirus and other types of software protection occur, viruses, destruction of information, or changes are used.

Online computer systems allow the user to access them directly through the terminal. The terminal is a periphery unit that serves as a means of communication between the user and the database where the information is stored. They range from the simplest ones, such as a keyboard and monitor, to ATM and intelligent systems which, for the verification, require a fingerprint, eye scan, face or voice command.

The data management system includes organized databases that store information about business events. Databases are a complex set of interconnected groups of information for which the management software is required. In practice, Excel and Access will be the most likely ones.

Expert systems are specialized for use on concrete detected problems. This means that your computer can solve the problem that is clearly,

mathematically determined, and the solution is known beforehand. That way, the computer reduces detection and debugging times in your system, and automatically corrects them on a predetermined pattern. This process requires an intelligent machine which, supported by specified parameters and algorithms, can find an irregularity and conclude how to remove it.

Operating systems are programs that govern the operation of the computer system. These are run by application programs to order hardware commands. Application programs or popular applications are intended for direct satisfaction of the users' needs (Milojevic et al., 2017). Organizations have the option of choosing to invest in the development of this kind of software or to purchase already-improved software packages.

Figure 1: *Information system*
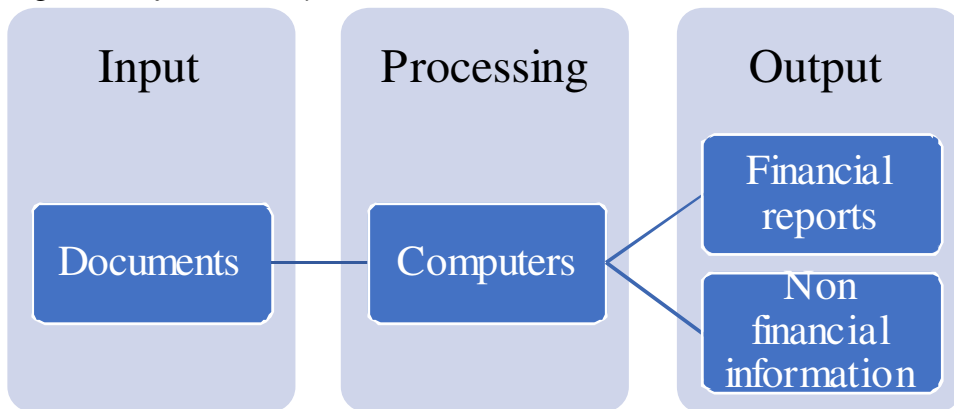
Source: *Author Development*

The process of auditing the commercial and state audits

An audit should contribute to the improvement of conditions for foreign capital investing. Instead of waiting for the contract partners to require revision, it will be performed regularly, in a way that is done in their home countries. This is important in terms of attracting foreign capital, opening foreign companies and duty-free zones. It is not the goal in itself, but rather an indispensable part of the regulatory system, which aims to detect deviations from accepted standards and violations of the principles of legality, efficiency, effectiveness and economics of the financial management of funds.

The environment in which the public sector entities (Radosavljević, 2018) function and express their business in financial statements, is subject to constant change, and there are laws governing these areas. These changes must be continuously monitored by the auditor. The role of the external auditor in the public sector is conducted by national audit institutions, as are external commercial auditors. Both audits work in the same environment, the only difference is in the legal basis, professional and procedural processes of the audit. Commercial auditors perform a revision on the basis of the International audit standards, as well as methodological instructions that each audit firm "creates for itself". In contrast, the functioning of State auditors is much more standardized and subordinated to the requirements of legislative and executive authorities. The Law on the State audit institution is very much determined by the scope and auditing procedures, as well as the legal competencies of the state auditor and the revised institutions and its representatives.

Furthermore, state auditors rely on the international audit standards in their work. The relationship of the state auditor, according to the subject of revision, is strictly formal, while commercial auditor is more inclined. While commercial auditors inspect the public entities only on their request, state auditors undertake an audit according to the audit plan (Pajić et al., 2018). Having the aforementioned in mind, we can conclude why it is necessary to separate state audit as an independent whole and to process it in theory.

The audit process carried out by the State Audit Institution (DRI) in certain stages differs from the revision performed by other external auditors. Such is financial audit in the real sector (Law on Audit), aimed at forming auditors opinions on whether the balances of the account contain or do not contain material errors based on the reasonable assurance of the presentation of the financial statements. (Andrić et al., 2011) It comprises four phases:
  - Acceptance of the client, which includes the undertaking of the risk assessment procedure;
  - Audit Planning, which includes a risk assessment of material errors;
  - Conducting and documenting audit, which can be defined in response to the estimated risk, and
  - Completion of the audit, which includes the evaluation of audit records and disclosure of audit findings ─ completion.

The activities included in the individual stages of the audit process are presented in Fig. 2.

Figure 2: *Elements of the state audit process*
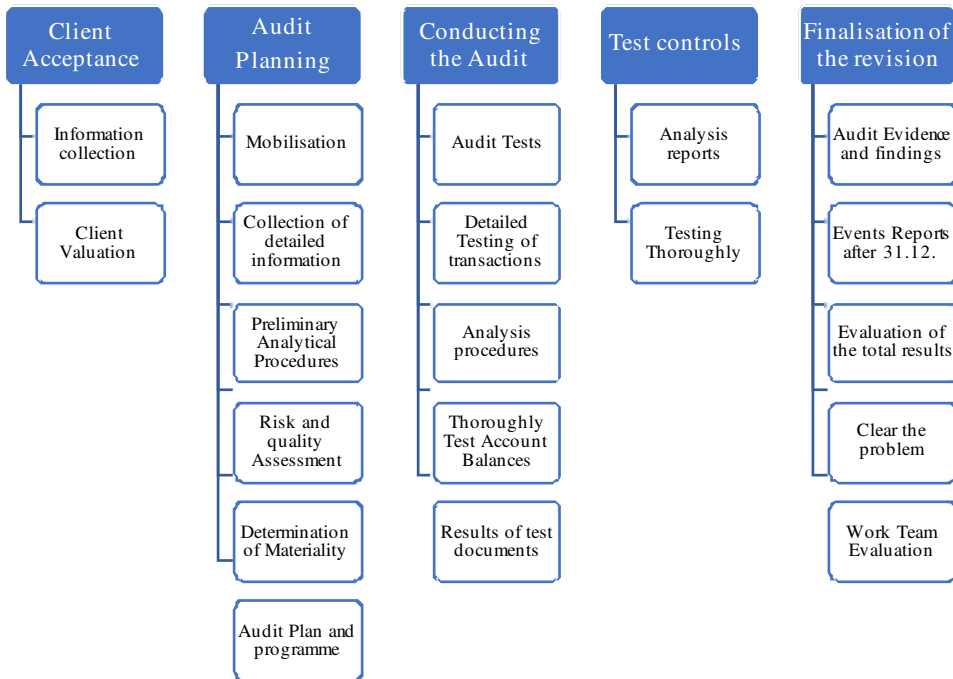
Source: *Milojević, I., Andžić, R. & Vladisavljevic, V., (2018). Accounting aspects of auditing the budget system, Ekonomika poljoprivrede, vol. 65, iss. 1, pp. 337-348*

The process of first procedures reviewing up to the revision of the audit report is carried out by external auditors because of the application of the MSR, but the manner of the public auditor's work is different and depends on the legal form of DRI (Milojević et al., 2018). In the European Union there are four main groups of DRI:

- Court with judicial functions (Italy, France, Belgium, Spain, Portugal, Romania);
- Collegial body, no court functions (Netherlands, Luxembourg, Germany, Slovenia, Czech Republic, Latvia, Poland, Bulgaria). The group is also joined by the European Computer Court which has no court functions, even though it bears the name of a court;

- Independent Audit Office, managed by the General auditor with structure that resembles the government (United Kingdom, Ireland, Denmark, Cyprus, Estonia, Litva, Finland, Malta, Slovakia);
- Special DRA model, led by the President (Austria) or organized within the Parliament as its independent organization (Sweden).

In states that have DRI in the legal form of the court, it is usually divided into two organizational units, the audit department and the department that has a judicial function.

DRI in the form of an independent institution that has exclusively the function of the revision is applied in most countries of the world. The reformer and DRI in the Republic of Serbia belong to this group (Constitution of the Republic of Serbia).

The Term of State audit involves the procedure of testing and evaluating the financial statements of the public sector, local self-government, and legal entities which are partially or fully financed from the budget in accordance with INTOSAI standards and ethical code of State auditors.

State Audit Stages

Financial reports of public sector institutions differ from financial statements in the private sector according to their essence, content and structure, and these differences are primarily the result of the special point of view. Since financial statements are fundamental and audited in the private and public sector, their differences define differences in revision.

The revision of the public sector due to this uniqueness is different from public sector audit, and above all, for access and organization of audit. In addition to the expressed differences, it should be borne in mind that the financial revision in the public sector has the roots in the revision of financial statements characteristic for the private sector and that certain principles specific to the private sector revision may apply to the state audit, as well.

The audit process of public sector institutions is audit activity in continuity, but we can tentatively divide it and observe it through several phases:
- Operations analysis phase;
- Strategic phase;
- Planning phase;

- Implementation phase;
- Control and evaluation phase;
- Reporting phase and
- Follow-up phase (tracking).

Figure 3: *State Audit Stages*
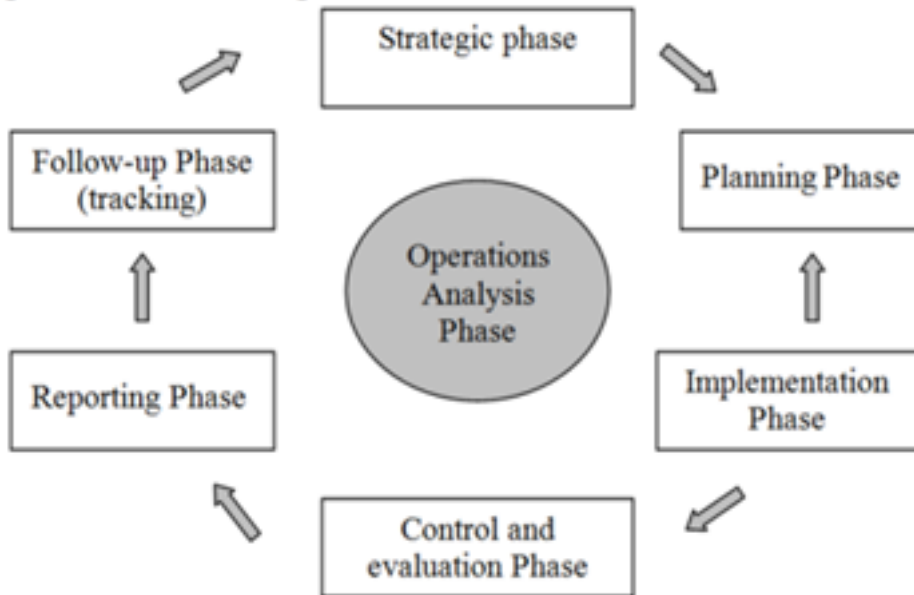
Source: *Stanojević S, Milojević I, Vukasović D, Vladisavljević V. (2018). Teorija državne revizije, CEFI, UPS, VSEM, Beograd.*

Each of the above audited stages has a specific goal, simultaneously achieving basic and additional audit goals. Each of these stages of audit results in the appropriate document as the rigid work of auditors. It does not only mean the creation of these documents, it involves a much wider, diverse and subtle activity of auditors for the purpose of document finalization.

The M.O. of the SAI and the procedure allow the SAI in Serbia to conduct its competence to the law and the regulation. The planning and performance of the audit is determined by law where under the jurisdiction of the SAI.

The revision is a series of activities initiated by identification and selecting revision suggestions, which are included in the annual audit plan, followed by the elaboration of detailed audit plan and obtaining,

analyzing and evaluating audit evidence. The findings and conclusions and the audit evidence that underwent the conclusions, are presented in the audit report.

The final task is to check whether the subject of the audit has taken into account the findings specified in the report and undertaken the recommended measures to correct the observed defects specified in the audit report and a letter to the leadership, and whether the recommendations have been implemented. The audit process is presented in Figure 3.

Figure 3: *State Audit Stages*
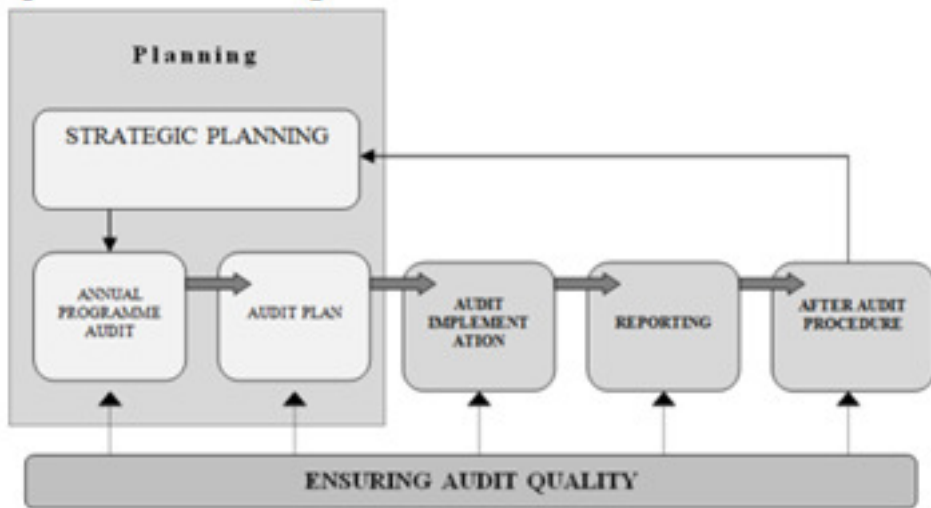
Source: *Stanojević S, Milojević I, Vukasović D, Vladisavljević V. (2018). Teorija državne revizije, CEFI, UPS, VSEM, Beograd.*

The subject of revision is included in the revision during several stages of audit procedure. Their inclusion may occur during the drafting of the detailed audit plan, during the audit process, prior to the issuance of the final report and after the final report was submitted to the proposed subject of the review and the Parliament of the RS.

Revisions are carried out based on the annual audit program that DRI makes. The Annual revision plan should be based on the policy and the priorities of the revision established in the Strategic plan of DRI (Law on State Auditing Institution).

The revision of financial statements in the public sector is not solely focused on determining the regularity of the data that the organisation cited in its financial statements or annual report. Auditors, and primarily the auditors of the DRI, inspect the fulfillment of the effectiveness and effectiveness of the use of public funds and management of funds by the orders. During the supervision of public funds, the tendency is put on the compliance of the business with regulations.

Public legal entities operate in a more detailed legally regulated environment than private sector entities. The auditor is obliged to know this arrangement and to see if the audited subjects are respected by the audit procedures. Effective implementation of the audit implies at least two conditions:

5. The revision of the public sector must be carried out by quality auditors and
6. There must be a proper methodology for conducting a state audit.

Legal and professional basis for the conduct of the state revision were established in the Republic of Serbia with legal and professional regulations (law, regulations, rules, standards, codes, guidelines, manuals, opinions, instructions and other acts).

Auditing in IT environment

Revision is a systematic process of objectively obtaining and evaluating evidences of business events in order to determine the stated facts and to show the results to interested parties. Revision is included in financial reporting, but also in the supervision of the company's business (Institute of Internal Auditors, 2008). It also occurs due to the partial development of management goals and owners who are based on improving business and increasing capital. According to the traditional classification, revision is divided into: internal, external, and state. As the trend requires, all branches of human activity, including audits, cross into the sphere of computing.

For this reason, the information system can easily become a tool of manipulating and conceiting the truthfulness of the user or control organ (Basle Committee on Banking Borehole, 2001). The quality of the information system is provided by internal audit, while external audit confirms it. Audit tasks of an information system are: estimation of the

current state, risk detection and decision-making of information system improvement.

Internal and external audit are often treated similar because it is assumed that auditors are in charge of audit in any case. Considering the source of revision, the difference is clear because an internal revision is the instrument of business leadership and external revision of the owner's instrument (Kaputo, & Stanojević, 2017).

Internal audit is performed by employees of organization whose revision should be performed. During a year, internal auditors examine different log systems and administrative processes in the organization, to ensure that business is carried out efficiently and in accordance with the documented procedures. If a procedure or report that represents a step in procedure becomes redundant, internal auditing should signal this excess and provide the recommended procedural change. Internal and external auditors perform tests to verify that adequate audit marks are maintained (Zakić et al., 2018).

Internal auditors are often viewed as policemen in business organization. Their role is to assist with the company's management as independent governing reviewers. Above all, internal auditors expect expertise and guidance towards achieving the objectives of the company. What puts them in a negative context is that the organization has the image of opponents because of the nature of their job. Their main task is to detect omission in work, point it out to management and request or propose a solution. However, internal audit does not deal with the discovery of fraud and embezzlement. This task is entrusted to experts for detection and prevention of fraud and fraud, i.e. CFE (Certified Fraud Examiners) (Coderre D. G. 2009).

The aim of internal audit activity is to indicate the possible improvement of economics (doing business cheaply), efficiency (doing things in the right way and with adequate tools), effectiveness (doing the right thing-achieving objectives) and fairness (do them properly). Internal audit is one of the elements of management controller with the function of direct professional support to management and establishment of organizational structure, which is included in its work in addition to experts for accounting and financial affairs and experts for legal, engineering and information technologies (Canadian Institute of Chartered Accountants, 1999).

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There is less paper available in the environment of information technology to check and align transactions. It raises the question of whether internal auditors should be economists or informatics. In addition to the knowledge that auditors acquire within an internal audit department there are other ways of educating internal auditors for the use of information technologies and understanding the functioning of information systems. Ways to acquire necessary knowledge and skills can be general education related to information technologies, auditors training as the user of information technologies, auditors training as a manager of information systems, auditors training as a designer and of information systems designers and auditors' training for incentives to assess information system in the development of new technologies.

A key factor for the successful introduction and implementation of new technologies and information systems in an internal audit department are personnel that must have a specific knowledge regarding the implementation of information systems.

COBIT 2019 IT frame

The aspirations of each modern company are based on the use of modern information and telecommunications technologies. To achieve this, it is necessary to have a framework for implementation and management of these technologies. One of the best practical solutions is COBIT (Control Objectives for Information and Copyright Technologies). The latest and most advanced version of this applicative software is 2019.

COBIT is intended for all types of organizations, from non-profit to state ones. It is designed to include three interest groups: management (to help balance the risk and invest in a control in a frequently unpredictable IT environment), IT users (for obtaining opinions and providing advice on IT security and IT controls which are carried out internally or by third parties) and auditors (for materialization of their opinions and consulting management in regard to internal controls) (ISACA, 2018).

In shaping the information system of an organization, the interest of the stockholder of information systems needs to be taken into account first (ISACA, 2018). In this way, the optimum relationship is achieved between the objectives of an organization and the implementation of information technologies. The introduction and evaluation of the information system quality is not based on the overall potential of

information technology but on the real needs of a specific organization, which avoids paying too much attention to information technologies. The implementation of such a software has multiple benefits: company's management helps to understand the concept of the management of information systems, defines the responsibilities required for normal functioning of the system, harmonizes the system with regulatory obligations and organizes activities within the information system in an acceptable manner.

The application of this framework is achieved through the development of strategic objectives of the organization through the information process to the level of control. Since the business orientation is primary, it provides the harmonization of information system with business requirements for the purpose of achieving the objectives.

In this way, COBIT provides a generic model of information processes that may appear in the information system and describes the model of functioning of the information system for the purpose of managing and understanding IT function in your organization. In order to establish successful management of the information system, it is necessary to use IT function to implement the necessary controls that have been defined via COBIT for all information processes. Given that the control objectives within COBIT are organized by IT processes, the framework actually gives the actual connection between the applied controls, processes and management of information systems.

XBRL business reporting standard

Compared to a manual process, the risk of making an error in the environment of information technology is smaller, which directly increases the reliability of financial statements. Financial statements are created in different formats: PDF format is used for external reporting purposes; XLS (x) or doc (x) are used for internal reporting purposes, while the publication of the report on Internet sites is supported by HTML. The difference is in the possibility of editing specific files, and therefore potential misuse of the data contained in it. XBRL applies the XML language in the financial reporting process.

The report should make all relevant information from the general information system ledger, but the form of the report adapts to the needs of users. In this way, the external users create reports that contain

aggregate information unlike the internal ones that contain the analytical information. A special form is created for the needs of state authorities.

In the last few years, significant progress has been reported in the format compatibility area. Namely, once the user applications for the processing of the specified formats were unrecognizable, these data had to be manually inserted, which imposed additional time and costs (Vidovič, & Milunović, 2017). A significant step was made by improving the existing software to read multiple formats, and to increase the format conversion capability to make it more accessible to the desired application.

The main flaw in certain formats is that there is no possibility of tagging positions that refer to its content so that the application can process the report automatically. The introduction of XBRL is achieved to improve information exchange among information systems, i.e. increase productivity and transparency of financial reporting that help users find, understand and analyze financial data.

The greatest advantage of XBRL standards is automatic recognition and reading of the format by information systems. It works according to the principle of bar code for each position in the financial report. Thus, each tag represents one type of data or position, and therefore determines the connection between them, the affiliation of a particular group, and how it is calculated. Users then receive the opportunity to automatically obtain aggregate data for the entire category, or in another way, format the information in the form that you want (XBRL International, 2019).

The core components of XBRL are: specifications, taxis, and documents. A specification is a set of normative rules for document development and taxis. This defines the elements and attributes that are used when you create the document. Developers consider the specification a key element in creating electronic documents. Thanks to the specification, financial report users can compare financial statements of different companies.

The taxonomy is a standard description of the information presented in the financial statements. The contents of the data contained in the document and the links between them are defined on the basis of the taxonomy. Based on the XBRL taxonomy, the data in the financial report defines tags or links to the general ledger of the accounting information system. There are three types of taxis: in the development phase, compliant and approved. Taxis are developed at the state level and at the

level of economic branches. Documents are a set of data that is tagged based on a specific taxonomy. These are reports of a specific organization created based on XBRL standards.

The benefits of financial reporting by applying the XBRL standard are: an automated process of compiling financial statements, efficient integration of information in the company, creating financial statements with lower costs and in a shorter period of time, more efficient way of entering data from reports into information system, faster and easier analysis of financial statements, international access to financial statements and easier comparison of financial statements.

The publishing of XBRL financial reports on the Internet increases transparency of organization's operations. Also, the advantage is that such reports can be compared between countries that have adopted different accounting standards. It then ensures that a large number of external users have access to the data that can help them make business decisions. Availability allows investors insight into the business of a company, and hence the increase in investment.

Conclusion

The modern society imposes trends that constantly find ways to improve business. Modernization process tests the flexibility of organizations and individuals to accept introduced novelties. There is almost no human activity in which the information system is not implemented in any form. Since the entire business has been moved into an electronic form, especially the administrative part, in addition to technical equipment, a continuous education of the staff will be required to manage the system.

The company's size and scope of industry determine its information system. These two parameters are proport, directly. The information system requires new hardware, current software and trained people who will use its full capacity. This requires financial assets that are worth investing because they lead to increased efficiency and effectiveness by saving time and money for the job that the organization is certainly obliged to do. On the other hand, excessive favoring and placing information system in the first plan in front of the company's priority commitments can be negatively reflected on business, even jeopardizing its survival.

The revision has a role to make a realistic picture about the organization's business and to indicate possible omissions. Given that the revision is the need, but also the obligation, it is integrated as the one of the important functions of the information system. In addition to the state's request to impartial organization's operations, management and owner have the need to view business activities during the period of time for which a revision is performed.

Modern application software and internationally recognized standards contribute to special progress in this area and facilitate connection and cooperation. Automated processing processes become indispensable, but because of their complexity and relatively recent date of introduction, they make up the unknown for most people who are outside of that sphere of interest. Therefore, it becomes a target of abuse and manipulation both in and out of the organization. The only thing that is certain is its unstoppable implementation and expansion.

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