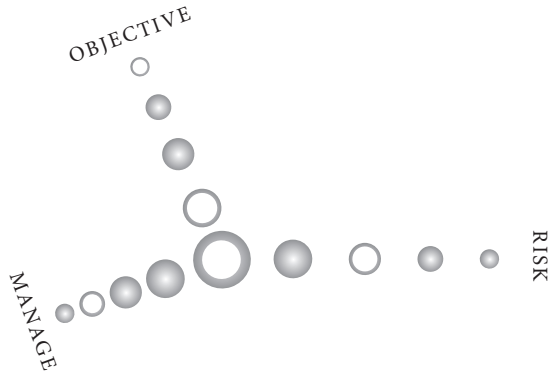

Audit problems of information system in public administration

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Abstract

Currently all audit institutions use computer systems for daily operations of the work to prepare and conduct the audit as well as analyzing and processing of audit data. Nowadays more and more there is a tendency of electronization of information systems, and normally that our country could be out of this necessary development. The only problem associated with this development is always security of these systems. We are very focused on this part of the problem. Audit of information systems is a subject still little widespread in our environment. And if we talk about the audit of information systems in public administration problems are even greater. The aim has been to describe and present this problem if such appears and if it is necessary to be or not upgrade. Many times we had theoccasion to deal with tax authorities and their information system and will be important to know what will be the role of the state supreme audit to audit these systems.

Answering the questions how protected are the tax authorities from

confidentionality, how protected are businesses from confidentiality, and other questions will find space and expansion with the development of this paper. We wanted to look at other information systems used by public administration as safe and protected is it, how qualified are the auditors, and how much is the cost of training. We think that some of these questions has been answered even this is a new area and the situation is still problematic. The method chosen was the first gathering of information from a number of reports presenting the use of existing information and communication technologies in Bangladesh. Secondly, selected specialists contributed their knowledge of various fields to meet the information for this report.

Electronic readiness means the current level of usage of information society technologies in the country, and the capacity or willingness of the country for the introduction of these technologies. To evaluate the electronic readiness as a rule there are made two types of evaluation: qualitative assessments (historical analysis, best practices), and quantitative assessments (questionnaires, statistical methods).

These two types of electronic readiness assessments, in the true sense of the word, there are never made in Albania. There are a number of reports addressing this issue, so there is nevertheless a reflection of the readiness of Albania, but without filling out quantitatively. Through this paper we aim to present the situation and give our recommendations for further improvement of this part of the broad spectrum of auditing. The information needed for this project was obtained from various statistical publications, articles, studies of experts in the field of finance ministry publications. Also in the conclusions are focused on recommendations for further improvement of these systems in order to walk into the desired shape and be in the order of their users.

Key words: auditing, information systems, electronic readinesses.

1 Introduction

Audit of information security is a vital part of any information technology audit and often is understood to be the primary purpose of an information technology audit. The full purpose of information security audit includes topics such as data center (physical security of data center and logical security of databases, servers and network components of infrastructure), network and application security. As many technical areas these issues are always in development, auditor of information's technology must continually develop their knowledge and understand the system and environment and tracking system. To support the increasing of technical requirements for auditors to operate in the field of information technology, a training and certification have been developed over the years. Currently the biggest certifiers recognized in the field are the Institute of External Auditors (IEA) SANS Institute (specified, specific branch of auditors and SANS GIAC) and ISACA. As in all countries of the East in Albania audit is represented to some extent by economic and financial control organized almost in all public subjects.

The concept of information technology audit was formed in mid 1960. Since that time, the audit of the Information technology has passed through many changes, dedicated to changes in technology and the inclusion of technology in business. The first projects of the Information and Communication Technologies have launched the 70-years and had to do mainly with the application of mathematical methods. Requirements and increased gradually to 80-years in the country began to enter the first micro-computers.

A more qualitative step was conducted in the mid 80's with the creation of metropolitan network (urban) in the city of Tirana, funded by UNDP. This network operated until before 90's, when as a result of major changes that occurred in the country and the financial difficulties to pursue technological development, the network was abandoned. But during 90's in the framework of European Commission programs as TEMPUS, etc funds were provided for training in information techkology, equipment and literature, however, not all universities were able to use the opportunities offered by TEMPUS program. Also the Soros Foundation and Phare program contributed to the development of information technology with funds for the projects. There are no comprehensive statistics on information technologies projects in Albania and it is difficult to collect data for such projects. Given that there is no strategy for information technologies, projects are not coordinated and address only short-term needs and do not have a wide impact. Often projects are not managed properly, and not by people who have the appropriate qualifications and have brought the latest technology.

2 Objectives

The main objectives of this paper are:

- To support the increasie of technical requirements for auditors.
- To evaluate the audit process
- Describe the system of information technology
- Examine the problems in auditing the information technology that public administration has

3 Procedure

3.1 Audit, the process of information technology

Internal controls are those mechanisms that ensure the proper functioning of the processes within an organization. Every system and process within an organization exists because of the specific goals of the organization. Each audit should look for the existence of problems or risks in these goals and ensure that internal controls exist in

order to reduce these risks.

Controls can be preventive, detection and correction and can be implemented at the administrative, technical and phisical levels.

Preventive controls control the non happening of the problems. For example request for password is an estimator tool in accessing the system.

Detection controls, register a problem after it occurred. For example the maintenance of activities brands is one of these controls.

Corrective controls are located between preventive and detection controls. They provide a systematic way of detecting when something has happened and changes the situation of the system by correct it.

What can we audit?

It is important to have an important planing for an information technology audit to focus on areas that are most at risk and those areas where we can provide the best expertise.

The first step to ensure a more effective audit process is the definition of community that can be audited. The main part of this community is the focused information technology functions. It is advisable to determine which are the information technology functions that are performed in order to focus and put them in a list as possible audit areas. The rest of the functions can be classified as distributed. This process relates to dissemintate information technolgy functions in various areas of the organization. Rating of all this universe of possible areas to be audited by an information technology methodology allows us to plan the audit process. In general we can present some criteria to rank the areas of audit process.

- Problems in one area. If we have problems in one area then it is advisable to audit that area.
- Risk assessment in the area. Assessment according the areas with tendency to have problems.
- Benefit form the audit process in an area
- Requests from management. Requirements of the information technology manager. Specific requirements of information technology managers affect the ranking of priorities in the audit process. After we determine the set of fields where you can audit and after we ordered elements of the community as a priority list, we need to determine the human resources required for each potential audit process. In the end we need to plan the audit process.

An audit process passes through six key stages

- Planning
- Fieldwork and Documentation

- Detection of problems and their evaluation
- Development of solutions
- Preparation of report
- Problem Tracking

Planning

The purpose of the planning process is to define objectives and areas of audit. We can mention some basic resources that help us in planning the audit process; *Prior expertise*. Relates to previous understanding what information technology audit will require. The goal is to understand the process layers or the zone that wil be audited.

Standard test procedure. Dealing with standard work procedures for different areas of information technology auditing.

Fieldwork and Documentation

During this phase the audit team collects data and conducts interviews that will help information technology audit to determine potential risks and which of them shall be reduced accordingly. An important place in this phase occupies documentation as an important part to the inherent conclusions.

Detection of problems and their evaluation

During the audit process it is created a list of potential problems, which it remains one of the most important stages.

Continuing the evaluation process audit information technology has raised a problem, it is important to assess the degree of importance of the problem whether or not included in the final report is important here to find appropriate solutions.

Development of solutions

Once we determine the potential problems that we encountered in the audit area and have evaluated the facts and risks, we have to work together with the audit client to determine and plan solutions that address each problem detected.

In finding solutions should be determined the responsibility for execution of the action plan and time in which should finish. In finding solutions taking present that not always risk reduction is 100% effective related to costs, compared to the costs of risk reduction of 80%.

Preparation of report

There are several formats of a report where the main elements are for the purpose of the audit assessment, an abstract summary of the audit process and a list of problems associated with their respective solutions.

Problem Tracking

An audit process can not be considered fully complete if we find problems, we find solutions and we address them in the structures responsible person or organization,

if you have not control the process until completion of the action plan to minimize these problems. Information technology auditors are responsible together with information technology to achieve timely resolution of any particular problem. This cooperation is extended in time to see if the way of solving the problem is giving the right expectations.

3.2 Types of information technology auditing

Various authorities have created taxonomies to distinguish different types of information technology audit. Goodman & Lawless claim that there are three specific systematic way to care for the information technology audit.

—The process of technological innovation audit.The purpose of this audit is to build a risk profile for existing and new projects. The auditor will assess the breadth and depth of experience of the company in its technological choices, as well as presence in related markets, the organization of each project and the part of industry structure that goes with this project or product, organization and industry structure.

—Audit of Development Comparison. This audit as tells also the name understands the behavior of an analysis by the ability to change the company being audited compared to its competitors. This requires examination of the company's research and development equipment as enrollment in the manufacture of new products.

—Technological position audit: This audit reviews the technologies that business currently has and who need to increase. Technologies are characterized as something "the base", "the key". Others describe the spectrum of information technology audit of five categories:

- Application and system: An auditor should verify that systems and applications are appropriate, efficient, adequately and controlled to ensure valid data entry, reliable and timely data, and to realize the product and processing at all system activity's level.
- Processing of equipment information: An audit should verify that the processing equipment is checked to ensure timely processing and of applications and efficiency under normal and potential conditions.
- Systems development: An auditor should verify that the system under development achieves the objectives of the organization and ensure that systems are developed in accordance with generally accepted standards.
- Management of information technology and enterprises architecture: An auditor should verify that the management of information technology has developed an organizational structure and procedures to ensure a controlled and efficient environment for information processing.
- Client /Server, Telecommunications, intranet and extranet: an auditor should verify that controls are ok with the client (computer receiving services) networks servers and connecting the client with servers.

An information technology audit should not be confused with an audit of financial statements. While there may be similarities, primary purpose of financial audit is to assess whether an organization is based on standard accounting practices. The primary function of an information technology auditor is to evaluate the efficiency and security of the protocol, particularly to assess the organization's ability to protect information assets and properly distributing information to interested parties. Information technology auditor's work can be summarized with the following questions:

Should be avaiable the computer systems for business computers to the required time? (Availability)

Does the information in the system will be open only to authorized users? (Confidentiality)

Will be the provided information by the system always accurate, reliable and timely? (Integrity)

Information technology audit focuses on determining risks that are relevant for information assets and access control in order to reduce those risks. Implementing risk control effect can be minimized but cannot completely eliminate all risks.

4 Results

4.1 Problems for the use of the information technology in the public administration

It is noted that the Albanian public administration in general has no complex applications and institutional use of information technology for research.Information technology for research are used as separate instruments to perform daily, not as cohesive institutional information systems.

Difficulties that public administration is facing

There are a number of issues that departments of information technology for research consider as obstacles:

Lack of proper legislation in relation to information technology for research

Lack of standarts

Low levels od skills in specialized areas through sensitive information technologies for research, such as security systems of crisis and to come out from crisis.

The lack of a stable job market for professionals.

Lack of cordination in the field of information technology for research .

Lack of a national strategy for information technologies for research, as a very important document which will also have an impact on how information technologies for research departments will operate in the future.

Low levels of schooling and university education levels and lack of ongoing training programs in new developments.

It is noted that most of goverment indtitutions use computers for text processing, personal data processing and exchange messages and practices between different offices.

Institutional use of information technologies for research as a rule is overestimated be the staff, probaly due to lack of the knowledge concepts to understand the differences between individual and institutional use of information technologies for research.

Using institutional applications and integrating them into the country will dramatically improve the efficiency of public administration. Information technologies for research could be used for the preparation of the content of procedures necessary for the public administration. For this purpose, the installation of information technologies for research should be seen as undivided part of processes of creating institution and administrative reform.

Also, installation of information technologies for research and expanding their applications should be decentralized. But in order to ensure the integration of separate infrastructures, it should be prepared and implemented by the central levels those technical terms that will enable interconnection and communication between them.

As a prerequisite for normal use of institutional applications, special attention should be devoted to funding the digitization of existing data in public administration. In contrast, new applications, however excellent they are, may fail if they will be used in parallel with the old ways and work style based on "paper". Especially in the field of Internet use, different numbers are given in reports that are used to prepare this document. Without returning to the sources of used reports, should not be able to explain clearly the changes.

Local Registers of Internet that offer their services in Albania are: AT& T Internet services, registry based in the EU; Teleglobe International Cooperation, registry based in the EU; New Skies Satellites, registry based in the Netherlands; ABCom Albania, ISP national; Consultix GmbH, Germany-based registry; CabinetOy, based registry in the United Kingdom, and the Holy See - the city-state, etc.

It seems that there is only one Albanian company, ABCom Albania, which serves as the local Internet registry.http://www.ripe.net/statistics/hostcount/2002/08/al/hosts.cmp.html.

Free use of the Internet was provided after the Ministry of Public Economy and Privatization ended the state monopoly on communication and after parliament passed a law to establish ERT in February of 1998.

One difficulty with using the internet in the country is the registration of the

domain names. It is very difficult to register a domain name directly in the "AL". From 19 registered domains in the domain "AL" 6 of them are mainly sub-domains (com. al; edu.al; gov.al; mil.al;net.al; and org.al), 7 of them belong to universities and the rest of the state institutions (Parliament-Parliament . al, Presidency -president.al) or private companies (Coca Cola - cocacola.al,AMC - amc.al, Vodafone - vodafone. al, KPMG - kpmg.al). The main domain "AL' is on server in Italy and appers to be difficult and costly to have this domain. Albanians prefer to choose one of the primary sub-domains. Until July 2002, there are 71 entries in the domain "Com.al", 21 entries in the domain "Edu.al", 42 in the domain "Gov.al" 30 in "Org.al" and 2 in "Net.al". The local NIC- domain is responsible for ERT. Registration is free for educational institutions, for everyone else; the cost is $100 for 2 years. Only organizations legally registered in Albania can get domain names directly in these sub-domains. However, most ISP's offer secondary registration to their clients. Exist plans for a revision of the domain names registration. Under these plans, since September 2002, the main domain names and other domains should be kept in the country, making it possible their registration in primary level.

So we can find that:

There are a number of obstacles that still must be treated, which are partly cultural and economic problems such as electricity distribution. Also high levels of poverty especially in remote regions of the country poses a challenge to spread the use of information technologies for the researches. Most associated with information technologies for research, a major problem is the lack of data on the spread of information technologies for the research in the country, it is very difficult to understand the use of information technologies for research by different organziations and different projects financed by donors. Another problem associated with this is the difficulty for small and medium enterprises (SMEs) to find relevant information for their businesses. Studies have shown that many such enterprises (SMEs) have to rely on services such as business plans and management base, especially to provide the necessary capital. Furthermore we can talk about a limited technical training and professional sevices and accounting and control weaknesses. Very few companies have websites and understand the importance of information technologies for research. Content providers are focused to use servers abroad, because of frequent power outages, which may discourage business internet use within Albania.

Although public administration uses computers, yet they are still absent and are not yet developed institutional applications which can be the basis for an efficient job in the administration and beyong to achieve e-goverment applications. Eduacation at all levels is regarded as fundamental to society.Rapid developments in this field require necessarily continuous training the auditors in this sector.

Establishing a surveillance system should not be considered as a purpose in itself. It must harmonize best roles among supervisors on one hand and the professional body from the other hand.

To be in accordance with the Eighth Directive, the public oversight authority can

take over coordination of the drafting and / or adoption of professional standards, may have the right to conduct direct investigations of the auditors and audit firms, etc. Public oversight must have ultimate oversight responsibility for issues such as approval and registration of statutory auditors and audit firms, the adoption of standards of professional ethics, internal control and audit quality, discipline systems, investigating and providing security for quality.

All these tasks can not be realized without the role of professional body, which in addition to duties, which is the ultimate responsibility of the supervisory authority will need to correct by itself issues such as entry into the profession, continuing training, implementation of professional standarts, control quality etc.

This can be achieved only in the process of testing the knowledge is fair, transparent and unaffected. The system of certification should remain a right of public authorities' present experts, auditors.

4.2 Technology Achievements

There are different ways to express the achievement and the use of technology in a general way. One way is that of the patents number. Patents and license fees are those that approximate level of technological creation. Under the Patent Registration Office, the number of patent data in Albania is 60. According to the Statistical Institute of fees for licenses amount is 0.

This report presents the technological achievement index (IAT - TAI), which aims to capture how a country creates and delivers technology, and create professional human basis, which reflects the opportunity to participate in the technological development of the network era. This is not a measure of how the country leads the global development of technology, but it is focus on how much a country in its entirety takes part in the creation and use of technology. IAT aims to help policy makers determine the strategies and technologies. IAT is a composite index that helps a country to establish themselves in relation to others. The conception of the index reflects two distinct aspects. First, focus on indicators that reflect the political attention to all countries, regardless the level of technological development. Secondly, it aims to be useful for developing countries.

IAT focuses on four dimensions of technological capabilities that are needed to harvest the benefits of the network era. Selected indicators are related to important objectives of technological policies for all countries, regardless of their level of development. These four dimensions are:

- Creation of technology
- Diffusion of innovation
- Spread of old innovations
- Human professionalism.

Each of the four dimensions has equal weight. Each of the indicators that constitute the dimensions has also the same weight.

Future plans for improving information systems in public administration

There are organizing plans for the improvement of the information technology and communication such as:

To Change / improve hardware systems, associated with the replacement of

respective functional systems.

To expand and require intensification in using the information technologies.

Work towards providing Internet services.

- Improving methods of data transfer.

However, if they encounter obstacles in this effort, the most important are: a) communication service with low quality in Albania; b) the security issues of electronic data c) lack of maintenance services; d) the high cost of initial investment and periodic operational costs.

Legislation to liberalize the restrictions is seen as a key factor in improving efficiency. Reporting is still in low professional levels. Physical transfer policies with reports Floppy is implemented only recently, while later reports was given to the physical copy.

As a result we can highlight:

Albania has made significant progress during the past three years and many changes were made in public administration. These changes have helped to improve the functions of public entities and the alignment of laws and practices with international standards. Some of these changes can be compared with best practices that currently apply in EU countries (for example the new Law on Budgetary System Management and his references to internal control). Given the rapid economic development of Albania, making changes requires not only institutional reforms but also changes in culture and in how civil servants perform their work. Albania will continue to develop the Public Internal Financial Control in accordance with EU requirements and international standards of financial management and budgetary control and administration. Implementation of all these standards by all public administration in Albania is a prerequisite for recognition and respect of all legal norms and requirements of the EU to candidate countries that are on the path towards integration with the EU. Fulfilling the Plan of Action has a tremendous importance for ensuring powerful systems and appropriate management and control and internal audit function. The Action Plan also sets out areas where further support is required and technical assistance.

5 Conclusions and recommendations

1. Albania shows promising developments in the information technology sector. This is very impressive, when compared with the situation a few years ago, and although Albania is still the European country with the lowest penetration of information technology.
2. A major problem associated with information technology is lack of data on the spread of information technology in the country; it is very difficult to understand the use of information technology by different organizations and different projects financed by donors.
3. Although public administration uses computers, yet they are still absent and are not institutional develop applications which can be the basis for an efficient job in the administration and beyond to achieve e-government applications.
4. To comply with the Eighth Directive, the public oversight authority can take over coordination of the drafting and / or adoption of professional standards, may have the right to conduct direct investigations of the auditors and audit firms, etc.
5. The real mission of a department of internal information technology audit is to assist in the improvement of internal controls in an organization.
6. Auditors are not really independent but must be regarded as objective.
7. The best case and an effective information technology audit group is the control provided on all layers and not only in that application.

In connection with recruitment or training of auditors we recommend:

a. Complexity of the Information Technology environment
b. Boundaries and complexity of computer audit tasks to be undertaken;
c. Computer education to existing staff;
d. Need to provide necessary training during al the time;
e. Advising foreign computer experts

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