

INTERNAL AUDIT OF AIRPORT COMPANY

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Summary: The thesis contains information about internal audit, auditor and internal control system. Content is divided into six chapters. First one is dedicated to history of internal audit and its place in an organizational structure. The thesis dealt with conditions of internal audit execution and base legislation related to audits. Next part brings up ethical code. Next is safety system divided by intentions to the security of information systems and the occupational safety and health. It's about decision-making and statistical methods. It helps to get oriented in chosen methods of audit, which is divided into subchapters. Last chapter describes design of internal audit execution in finance division of an airport company.

Keywords: audit; decision-making methods; statistical methods; design of internal audit in airport company

1. INTRODUCTION

Internal audit evaluates potential risks of finance management and other operations of audited company and recommend measures to eliminate this risks.

Control includes activities to determine whether obtained results correspond to the planned ones. Internal control is synonym for control systems within organization. Attention is paid to internal control system, where are solved problems of its definition, objectives and goals.

The safety audit is evaluation of security of information systems, practices, procedures and level of risks, with which the information system and its data do regularly encounter. Objective of the audit is to evaluate a state of information security, detect irregularities, assess effectiveness of implemented measures and suggest improvements to increase security level of audited systems.

Decision-making methods are aimed at obtaining information and are used for problem solving. There is a purpose to provide knowledge about these methods, which are divided into chapters: graphical methods, collaborative decision-making methods and other methods.

Statistical methods are focused on an internal auditors' work with information. Statistical methods include statistical characteristics and scales, statistical comparison, regression and correlation analysis, time series, analysis of data upon sampling and hypothesis testing.

Thesis shows, by concrete example, how should internal audit in an airport company looks like and what should be the output.

Objective is to give a general overview about audit and design audit realization of an airport company using practical example.

2. HISTORY OF INTERNAL AUDIT

First knowledge about audits are from beginning of ancient world, 3 500 years B.C. Establishment of The Institute of Internal Auditors in the year 1941 in USA is considered as a foundation of modern internal audit. Internal audit has gradually transformed from area oriented on accounting to a profession focused on management. The basis for the development was to enlarge the scope of internal auditors to classify all activities in organization.

In Slovakia, internal audit has begun to develop more intense in the last decade. [1]

2.1. Position of internal control system in information system of company

An important tool and also an object of economic control is every component of an information system i.e. budgeting, costing, accounting and statistics. Therefore, the company is required to deal with such area of internal control system that will ensure the accuracy of data and information provided by the components of the information system. [1]

2.2. Internal audit as an organizational unit

Internal audit as an organizational unit represents the actual role of internal audit within a company, where the internal audit as such, could not exist without its presence. Every organization, before it will definitely decide to include internal audit department into organizational structure of organization, should examine what pros and cons will bring creation of internal audit department. Conditions affecting the establishment of the internal audit are:

- size of a company,
- economic situation,
- availability of personnel and material resources,
- level of internal management and control,
- information and communication systems in company. [2]

3. BASE CONDITIONS OF INTERNAL CONTROL REALIZATION

Overall activity and thus the effectiveness of control work are created based on an efficiently executed individual sub actions, which are necessary for realization of early and rigorous control of the activity. Practical experience through time crystallized individual forms, methods and procedures of the control performance, to be met so that the performance will be practical and economical implemented, it means it will be effective.

Control activity requires that employees who execute it are experts in the field.

Procedure of inspection can regulate one or more employees. The control group consists of more workers. Entitled leader elect structure and selection of control teams and also determine their leader. While choosing a controller he takes into account his focus, knowledge and experience. A suitable choice of employees allows detailed control, creation of effective proposals to enhance the activity and quick elimination of imperfections.

The team leader manage its operations, he is in charge of right flow of whole control action. He take care also of factual and time filling of the schedule, he coordinates work of individual workers and proper consultation and making conclusions of the control action. [1]

3.1. Code of ethics of internal auditor

Code of ethics belongs to methodological tools within the realization of internal audit. It's required, that internal auditor is using and respecting following rules and principles, i.e. independence, honesty, objectivity, discreteness, expertise, no conflict of interests, ethic manners and correct relationships. [1]

The Code of ethics published by The Institute of Internal Auditors, is part of International Professional Practices Framework. Goal of Code of ethics is to improve ethical culture in the field of internal audit. The Code of ethics and International professional practices framework together with other recommendations of the Institute of internal auditors provide instructions for internal auditors how to proceed in meeting audit duties. [2]

3.2. Internal audit in terms of legislation of the Slovak Republic

In purpose of law National Council of the Slovak Republic no. 502/2001 Collection of laws in version of law no. 618/2004 Collection of laws about finance control and internal audit and about change and addition of some laws is internal audit defined as independent objective evaluation and consulting activity, which for finance management, rates observance of general mandatory legal rules, examine possible risks and offer proposals for their elimination. It provides accurate and actual information about activities of audited object for management workers. [1]

4. RELATION BETWEEN SECURITY SYSTEM AND INTERNAL AUDIT IN ORGANISATION

We can think, direct link between security system and audit in organization, in intention of:

- a) primary object of security system, which is Occupational safety and health,
- b) security system of information systems.

4.1. Internal audit and Occupational safety and health

Activities of Occupational safety and health managing are widely influenced by environmental protection and quality management. This fact initiated idea to create integrated security, i.e. to unify Occupational safety and health, fire protection, quality management and environmental protection to a single system.

4.2. Security of information systems and internal audit

Inclusion of information process to the processes is possible almost in all organizations. Formulation of information process can be done as early as there is an origination of first useful information for management and it results in fact that it carries the content and recording subject and is subject of evaluation according to content, meaning and quality.

In terms of the audited subject, information security has primary goal of organization security against the unacceptable events by method that will secure main data attributes, i.e. confidentiality, integrity and availability. [1]

5. DECISION-MAKING METHODS IN INTERNAL AUDIT

Responsibilities of internal auditor's work, requires his approach to his work with an open mind, with the ability to propose solutions in the audited areas. In following subsections are selected methods that can internal auditor use while troubleshooting, either personally or within the group.

5.1. Graphical methods

Cause-and-effect diagram is medium, which helps to identify, sort and present possible causes of particular problems or quantitative characteristics. This diagram is also called Ishikawa diagram or Fishbone diagram thanks to its look.

Decision tree provides summary analysis of decision-making, in which the following actions are the results of previous actions. The power of decision can not be established with certainty.

Pareto chart usefulness of this diagram for auditor is in identification of factors with most influence to the system and also not distracting with less important factors within analysis. Diagram therefore provides the focus on more important factors in examined problem.

Analysis of supporting and breaking forces is simple, but effective technique for identifying positive and negative forces, acting on considered change.

Flowchart represent by symbols audited system or directly auditor's workflow. Dividing the process into partial steps can detect errors that may occur in the process.

5.2. Collaborative decision-making methods

Brainstorming is an open discussion with its beginning and end, which is designed to search for new ideas. Brainstorming can be used to solve the problems.

Brainwriting is modification of brainstorming method. In prepared forms are written proposals to address problems, which later circulate among the participants.

SWOT analysis is simple method, which helps to get required insight to managing functions. It can be used about formulation the strategy of the organization.

Delphi method is a simple method, because it doesn't require organization of personal meetings of involved.

Synectics is another method for creative problem solving. It takes several days and in some cases it is appropriate to attend also consultants. From brainstorming differs mainly by defined number of ideas that are subsequently developed.

Six thinking hats is an important technique that examines the problem with various possible approaches. Among basic approaches it provides different attitudes, those are necessary for a comprehensive understanding. The method can be used by auditor alone or also in discussions, where it represents encounter of several ways of thinking.

5.3. Other methods

Cost-benefit analysis this technique is used in situations, where is need to decide by selection of the single variant. It helps auditor also to choose methods that are most adequate for problem solution.

System diagrams helps to understand, how the very factors influence each other. There may also be present feedback. [2]

Critical path method represents the longest in time process required to complete project. It is the summary of time periods of critical activities, which do not have time reserve. Date of completion activities on the critical path is also the date of the project end. **Chyba! Nenašiel sa žiaden zdroj odkazov.**

6. STATISTICAL METHODS IN INTERNAL AUDIT

This chapter focuses on the work of internal auditors with data. In the previous chapter it was described how to acquire this data. [2]

6.1. Statistical characters and statistical scales

Statistical character is formally presentable, measurable information of monitored changing attribute of statistical units. [3] **Statistical scales** are nominal, ordinal, interval and ratio. **Statistical characteristics**, here belongs: location characteristics, mode, median, arithmetic mean, variability characteristics, range, variance, standard deviation, coefficient of variation, skewness and kurtosis.

6.2. Statistical comparison – index analysis

Index analysis provides observation and examination of the development of economic indicators of two examined periods. It uses index numbers called indexes.

6.3. Regression and correlation analysis

About **regression analysis** we can consider whether the character y depends on the character x , or vice versa. These dependencies can be quantified in the statistics. Auditor must think about whether he work with causal dependency or dependency is only apparent.

Correlation analysis can be used in measuring the dependency size of two or more variables.

6.4. Time series

Time series is one of the methods for observing and exploring the development of values. Time series is represented by chronological sorted values for the selected statistical character.. It is a kind of correlation. For series independently variable is a time.

6.5. Sampling

On a sampling basis, the auditor can verify that the properties of this sample occur throughout the population. For choice can be applied statistical and non-statistical methods. We know the sampling methods e.g. Simple random sampling, Systematic interval sampling, Systematic accumulated sampling, Group sampling, Stratified sampling, Intent sampling. [2]

6.6. Hypothesis testing

About items of population we can have certain assumptions (type of distribution, frequency, etc.). These can be verified by statistical hypothesis testing. Each hypothesis testing is based on verification of base hypothesis, which we refer to as the **null hypothesis** (H_0). Against the null hypothesis we raise **alternative hypothesis** (H_1) as opposite. Hypothesis testing has objective to decide whether we accept the null hypothesis or reject. If we reject the null hypothesis after verification, it is necessary to accept alternative hypothesis. **Chyba! Nenašiel sa žiaden zdroj odkazov.**

7. DESIGN OF AUDIT REALIZATION IN AIRPORT COMPANY

For a description of the issues I have used only well known and sample data that do not represent a data of specific airport company.

At the beginning of the execution of the internal audit of finance department I recommend to prepare a plan of internal audit, which includes the terms of reference, scope of audit, general objectives and audited management objectives.

Documenting individual management processes

In next step of internal audit realization I suggest to choose or note concrete management processes and select greatest risk for them.

In the finance department can be identified managerial activities for field of:

- accounting,
- purchasing,
- noncash payment system,
- cashier,
- bank accounts, with its security.

Analysis and evaluation of individual management processes in terms of risk

For processes should employees of finance department and workers realising this audit determine these risks:

- error,
- fraud,
- theft,
- breaking the rules,
- leak of information,
- loss or disruption of executing process or information,
- unthrifty using of resources.

Next I suggest that personnel of the finance department and workers performing the audit, to express their views on the risks that are associated with the above stated activities.

The risk assessment for specific management activities of finance department can be done by examining by a questionnaire in the organization (we can use ratings from 1 to 5, where 5 represents the highest risk).

The results of risk evaluation may be averaged and stored in the table:

Table 1 Classification of management processes of finance department in term of major risks [2]

Risk	Error	Fraud	Theft	Rules breach	Info. leakage	Loss	Unthrift	Average risk of particular activity
Accounting	3,90	2,15	2,30	4,20	3,45	3,58	1,85	3,06
Purchasing	3,00	4,15	3,90	1,90	1,10	1,25	4,15	2,78
Noncash payment	3,60	3,15	2,90	3,75	3,35	3,80	2,05	3,23
Cashier	3,50	3,30	4,25	4,10	2,85	3,70	2,60	3,47
Bank accounts	2,90	2,90	1,65	2,10	3,95	3,50	1,75	2,68
Average rate of particular risk	3,38	3,13	3,00	3,21	2,94	3,17	2,48	x

According to investigation by questionnaire is therefore possible to state that:

- the most hazard process is management of cashier (where is the greatest risk factor the theft). Another of the riskiest processes is management of noncash payments (where, unlike cashier management, is greatest risk the possibility to loss of ability to execute certain activities),
- such an activities with lower risk we can determine management of accounting (the greatest risk is seen in breaking the rules), management of purchasing (with the highest risk is fraud and unthrifty usage of finance resources) and management of bank accounts and their security (the most hazard is information leakage),
- according to the average risk rate among all processes of finance department on the greatest risks queues possibility of error or rules breach. By contrast the least hazard factor is non effective using of resources.

Sampling methodology

When determining the sampling method it is assumed, that the set of data to be verified is large range and the individual parameters acquire known values. Next, to the acquisition of the results of the reviewed data set, we need to know the level of confidence with which we can conclude that deficiencies found in the observed sample will be located in the whole group (in this case e.g. in the company's entire accounting).

In assumption that set is normally distributed and for defining size of representative sample, we can use following calculation.

$$\text{Calculation of the required sample size: } ns = \frac{z^2 * \sigma^2}{d^2},$$

where

ns – general sample size,

z^2 – critical value of required reliability,

σ – standard deviation,

d – tolerance of errors.

$$n = \frac{ns}{1 + \frac{ns}{N}}$$

where

N – size of population.

Compiling the conclusion and formulation of recommendations

According to examined documents of company together with the findings from selected samples can be compiled these conclusions, which are supplemented by more detailed records and conclusions in the audit document:

- In company is present adequate process of accounting management that is supplemented by internal by-law, which is reliable that information about record financial will remain relevant, exact and actual and are not in contradiction with defined accounting principles. Revealed lack of accounting management process is undefined responsibility for bookkeeping of airport company (with inaccurate defined job descriptions of finance department employees).
- Compliance of the purchase process in airport company, does not ensure that when acquiring goods and services will be always used the most effective option.
- All the money that airport company income is appropriately kept in the accounts and for the cash are defined adequate procedures how to handle it.
- Securing the airport company bank accounts against fraud and unauthorized access is suitably selected by active internal rules (it consist of disposal authorizations and actual specimen signatures), whose performance is regularly (quarterly) examined. At the same time regularly performs control of finance documents of the company with bank statements of account.

For these findings can be provided following advices (recommendations):

1. identify suitable employees of finance department, which will be directly responsible for managing and controlling the activities carried out within finance department,
2. to update job descriptions for each employee from the finance department,
3. establish and continuously (preferably quarterly) check the effectiveness, efficiency and relevance of the purchases realized with finance department. [2]

8. CONCLUSION

Main idea of this work is the internal audit as an assessment activity, whose task is to examine the credibility of the data, efficiency in use of resources, security of property, the achievement of the objectives of the operation and whether they complied with laws, regulations, rules and conditions of contract.

An essential requirement of the internal auditor is considered qualification and compliance with principles and rules. If he wants to become an auditor, university education is not enough, because it does not prepare him for his experience and qualifications will only help direct him professionally. Auditor has available to choose from a lot of decision-making and statistical methods, therefore it is necessary to know them and know when to use which.

We must not forget the security of information systems in the assessment. The information security is constantly evolving new threats and ways to protect. It is effective for managers and auditors raising efforts of education and has knowledge of computing. Security has to be well designed and must be systemic and described, with clear responsibilities.

This thesis does not contain all information about internal audit and more information can be found in the references, in law or in Slovakia are institutions focused on internal audit as is SKIIA, ISA, SKAU and UDVA.

Since is an internal audit voluminous topic, I did not go very deep and from the available information about internal audit, I chose only the relevant information for the airport company. For the need of airport companies could initiate an institution of auditors for airport companies in Slovakia, similar to worldwide institution AAIA, but maybe it would not have the desired effect, as in Slovakia is only 6 international airports.

The benefit of the thesis is specification of the internal audit realization for airport company. Thanks to this you should have enough information for internal audit realization.

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