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Audit as Key Element of System Management Improvement in Company

L. Wojtynek
Katedra Zarządzania Procesami Technologicznymi, Politechnika Śląska, ul. Krasińskiego 8, 40-019 Katowice, Polska
* e-mail: lilianna_wojtynek@o2.pl

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Abstract

This article presents what is an audit for a company, tries to regularize the quality audits, presents main differences between separate types of audits and between audit and control. There are also some exemplary types of nonconformance in a company. Each system has a risk of deficiencies. They can result from material defects or human imperfection. A good quality system should allow the company to detect them in an organized and systematical manner. It guarantees that the irregularities will be removed before they cause a defective production. Quality management consists of planning the quality via quality plans, control and research plans, and supervision and verification by audits and controls.
The objective of this paper is to present a special message of audit for organizations which is the improvement of management system in company. Quality audit is used with reference to quality system and its elements, to process, products and services. It compares the real values with expected ones with reference to the activities connected with quality and their results, and planned data. Thanks to quality audits, it is possible to state if the quality management instruments achieve the desired effect.
Quality audit can be conducted for the internal and external purposes. One of the quality audit purposes is to estimate if the improvement is necessary or to take corrective actions. The universality of audit, which is completed by periodic system review preformed by head management, allows the use of its application effects both on the strategic and operational effects. Audit is often misled with quality monitoring or control, i.e. activities which aim to control the process or accept the product. Therefore this paper shows the differences between the notions.
The information used to conduct an audit is only based on facts (evidence objective, which really exist, independent on emotions or prejudice). They can be documented, declared, based on observed phenomena.

Keywords: Management quality, Control, System management, Improvement, Nonconformance

1. Introduction

In a market economy it is necessary for enterprises that want to exist and develop to continuously improve their process, products and organization, which also means the continuous improvement of quality. Audit is key element of system management improvement in company.

The quality management system audits are planned activities of course. The planning for internal quality management system auditing should be flexible in order to permit changes in emphasis based on findings and objective evidence obtained during the audit. Relevant inputs from areas to be audited as well as from other interested parties should be considered in the development of internal audit plans. A lot of quality management consultants compare auditing to the theatre. Every internal audit, and external one too, has these main “actors”: client, auditee, auditor, technical expert. The effective audit asks for audit team. The experiences show that optimal audit team consists of three competent persons. The audit team may invite to audit also technical experts. The lead auditor together with audit team members has to prepare written report from internal audit. Before releasing and distributing the audit report the audit team must review it to check that statements it makes are fair, complete and true. The lead auditor is responsible for verifying the audit report. This report is distributed

to all relevant managers including top managers. Results of continuous improvement activities must be evaluated from the point of effectiveness and efficiency. The top management should insure that effective and efficient methods and approaches are used to identify areas for improvement of the quality management system. That top managers must be interested in process measurement or evaluating of quality management system performance.

2. General characteristics of the method

Publications in magazines and scientific booklets from the last years are painting at wider abilities using audit in the enterprise. Depending on the object of examination there are the audits of system, product and process. There are also planned and unscheduled audits. The types of quality audits are presented on fig.1. It is necessary to mention that there are the following audits: planned and unscheduled. The second ones are spontaneous controls conducted by a company to recognize the cause of a defect which appeared suddenly and to eliminate it as soon as possible with the use of corrective actions. Unscheduled audits can take place when:

- the organizational structure of a company was changed,
- some parts of company were closed, and some new ones were open,
- the processes newly implemented in the company change the Quality Management System,
- the quality problems connected with customers or within company showing that the Quality Management System does not work properly,
- an important customer suddenly announced an audit.

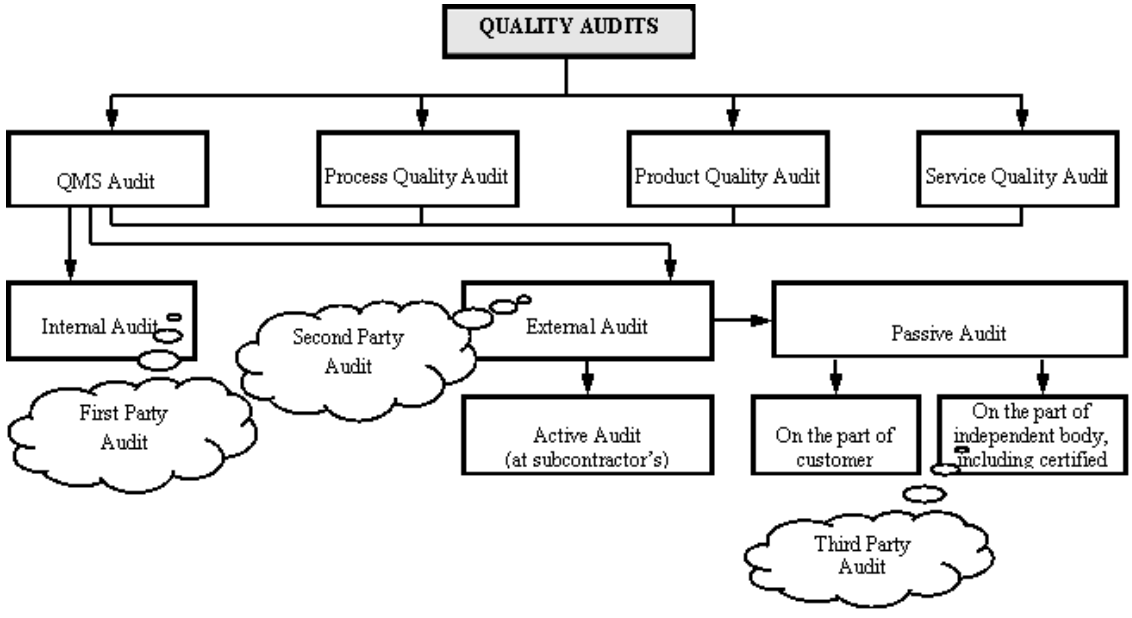

Fig. 1. Classification of quality audits [1-8]

In table 1 there is a list of the most important differences among specific types of audits. The notions of audit and control are often confused, therefore this paper pays attention on the differences between the actions of a controller and an internal auditor. They are presented in table 2. The objectives of control and the objectives of audit are different.

Table 1.
The most important differences among specific types of audits [1-8]

DIFFERENTIATING FACTOR	TYPE OF AUDIT		
	FIRST PARTY AUDIT	**SECOND PARTY AUDIT**	**THIRD PARTY AUDIT**
THE EFFECT OF AUDIT	The efficiency of quality system and concordance of the system with requirements of standards PN-EN-ISO are assured by:		
	▪ organisation management	▪ audit conducted by a company	▪ potential receivers and increase of their trust
THE COSTS OF AUDIT	▪ incurred by a company which conducted the audit	▪ incurred by auditing party with the participation of audited party	▪ incurred by audited party
THE DEGREE OF AUDIT	▪ obligatory	▪ indirectly required	▪ voluntary, but obligatory when the certified procedures are started
THE FREQUENCY OF AUDIT	▪ according to the internal audits programme and as it is necessary	▪ according to the internal audits programme and as it is necessary, before concluding an agreement with a new subcontractor	▪ after a successful certifying audit, the next audit is usually after three years, in the meantime supervising audits
AUDITORS	▪ own personnel, it is possible to hire external auditors	▪ auditors are sent by auditing company	▪ a group of auditors are sent by the certifying institution
AUDITORS' QUALIFICATIONS	▪ after a professional training of pn-en-iso standards and methods of conducting audit	▪ training within company, completing a course for the auditors candidates	▪ auditor certificate required
THE NUMBER OF AUDITING GROUP	▪ one or two people	▪ usually a staff of two people	▪ staffs of two and more people
THE AUDITOR'S COMMITMENT INTO THE REMOVAL NONCONFORMANCE PROCESS	▪ it is possible as counseling, it should be tactful and professional	▪ it is possible as counseling, at the request of audited company	▪ impossible
THE ORGANISATION OF MEETING BEGINNING AND FINISHING THE AUDIT (FORMAL OR INFORMAL AUDIT)	▪ a quick working meeting of auditors with management – rather informal	▪ preparation of a meeting of auditors with management - formal	▪ preparation of a meeting of auditors with management – very formal

Table 2.
The comparison of the actions between controller and internal auditor [4, 8]

CONTROLLER	AUDITOR
▪ checks the misuse, in case of disgrace of internal control system	▪ checks the efficiency of the whole internal control system, indicating the risk
▪ checks if the organization observe the regulations connected with each organizational unit of the organization	▪ checks the effectiveness, efficiency, productivity and other criteria which allow the organization to operate
▪ searches and detects discrepancy	▪ the objective is to improve a process to satisfy the quality criteria
▪ does not perform advisory functions	▪ performs the function of partner and advisor
▪ indicates guilty people and applies for their punishment	▪ indicates how to do something better and more efficient, the auditor also motivates and activates
▪ is considered as superior in front of the controlled unit	▪ contacts the audited unit ▪ to understand better the nature of process
▪ knows the standard	▪ learns as doing a job
▪ inspires the respect and distance towards the controlled unit	▪ inspires the respect and gratitude
▪ verifies the conformity, not paying attention to the process itself	▪ tries to understand the process to be able to show the actions to protect it
▪ monitoring and legalism	▪ supervision, coaching
▪ legal norm is his/her strength	▪ knowledge is his/her strength
▪ control oriented	▪ risk oriented
▪ the relations between the controller and controlled unit: "won-lost"	▪ the relations between the auditor and audited unit: "won-won"

The goal of control consists of finding errors, but the goal of audit is to indicate nonconformance. During the audit, the auditor takes measures to control and verify the process. The controller does not advise. Table 3 presents the examples of nonconformance.

Table 3.
Examples of nonconformance [2, 4, 8]

AREA OF NONCONFORMANCE	POINT OF NORM	EXAMPLES
COMMENTS ON DOCUMENTATION	4.3.4.	▪ lack of procedures or instructions concerning the use of statistic methods, processes of qualified suppliers ▪ lack of requirements concerning the quality plans ▪ lack of documentation marks and edition number (number of document and its publication) ▪ the use of invalid documents ▪ lack of the rules describing the marking of invalid documents to prevent from their accidental use ▪ lack of knowledge about the differences between documents and notes ▪ lack of standards management (PN,EN,ISO) based on documents
NONCONFORMANCES OF NOTES MANAGEMENT	4.4.2.	▪ lack of mark and notes identification (private notes) ▪ lack of instructions concerning electronic notes management ▪ there is no use of data for the quality analysis and the use of statistic methods
NONCONFORMANCE OF MONITORING AND THE DOCUMENTATION OF MANAGEMENT SYSTEM	4.4.3.	▪ lack of dates and signatures on the documents (prepared, checked and confirmed) ▪ lack of documentation mark and the edition number ▪ there are the examples of the use of invalid documents ▪ lack of the rules describing the marking of invalid documents to prevent from their accidental use ▪ lack of knowledge about the differences between documents and notes ▪ lack of standards management (PN,EN,ISO)
NONCONFORMANCE OF STOCKS MANAGEMENT	6.2.2.	▪ lack of documents about trainings concerning the knowledge of procedures and instructions used at the workplace ▪ lack of seasonal employee assessment ▪ lack of quality assessment and training efficiency
NONCONFORMANCE OF INFRASTRUCTURE	6.3.1.	▪ lack of documents and repair of machines and devices, and of the control of technical condition of the buildings ▪ lack of plans of inspection and of the repair of machines and devices ▪ lack of documentation conforming with the safety requirements ▪ lack of data confirming the qualifications and the selection of suppliers
NONCONFORMANCE AT THE WORKPLACE	6.4.1.	▪ lack of plans considering the working conditions research at the workplace ▪ lack of risk assessment at the workplace ▪ lack of plans of control of working conditions at the workplaces and the notes confirming the implementation
NONCONFORMANCE – INTERNAL AUDIT	8.2.1.1	▪ there are not many notes of conducted audits, very often there is a lack of notes concerning the nonconformance. ▪ insufficient frequency of audits in relation to the stage of the implementation system ▪ lack of efficiency of the audits which were conducted ▪ lack of auditor's work assessment criteria
NONCONFORMANCE – MONITORING OF THE NON-CONFORMED PRODUCT	8.3.1	▪ the notebook of entrance and exit of the lacks ▪ in the warehouse there is no separate area of the defective products ▪ there is no list of the costs of lacks of products and the reparation

The category of big nonconformance consists of defects in the system, e.g.:

- the system element is not described/not implemented.
- lack of required review of project,
- lack of required records,

A part of the measurement equipment is not modeled, there are the guidelines to verify the drafts, but they are not fulfilled.

The small nonconformance is an isolated case, i.e. the requirements are not fulfilled, but there are no serious consequences, e.g.:

- lack of state identification of one of the measurement device,
- one of the measurements is not noted,
- one pallet is not marked according to the instruction.

Some of the nonconformance can cause the risk of system defect if they are present in the same area/process. The meaning of nonconformance and its effects should be explained at the same area, during the meeting which finishes the audit.

3. Summary

Audit is element of system management improvement in company.

Internal quality management system audit consists from typical and standardized steps:

- initiating the audit,
- preparing the audit,
- opening meeting,
- on site examination,
- closing meeting,
- reporting the audit,
- quality management system improvement.

If the auditor detects errors, they are indicated in the report. The errors do not satisfy the requirements or the required state and the actual state are different. The book may not meet the quality requirements (guidelines). The practice may not be consistent with required guidelines (implementation) or ineffective (effectiveness). The discrepancy must be verified and based on objective proof/proofs. It can be big (systematic) or small (accidental).

The auditor is responsible for identification of nonconformity, while the audited unit is responsible for description, corrective actions which lay within his/her competences.

The efficiency of corrective actions is measured by:

- Deliberate audit (unscheduled),
- routine audit (planned),
- other possibilities.

References

[1] Auditor ISO 9000:2000. Internal Materials, Lloyd's Register Assurance, 2004 (in Polish).

[2] Guideliness for quality and/or environmental management systems auditing (ISO 19011:2002).

[3] Ligarski M.J.: The Process of Constructing the Quality Management System for Public Services Versus the Effectiveness of this System, Proc. Of the 8th International Commodity Science Conference, Current Trends in Commonidity Science, vol. I, Poznań 2005, p. 147-153 (in Polish).

[4] Tabor A., Rączka M.: Modern management quality, t.2, Kraków 2004, (in Polish).

[5] Pieczonka A., Tabor: Hand-book of quality, Kraków 2003 (in Polish).

[6] Russel J.P.: Auditing ISO 9001:2000, "Quality Progress", July 2001.

[7] Noaker P.M.: When a good process goes bad, "Manufacturing Engineering", t.112, No 4, 1994.

[8] Jedynak P.: Audit in management enterprise, Kraków 2004, (in Polish).

[9] Kleniewski A.: Internal auditor – Exterrnal auditor, "Problems of Quality", 2002, No 2, p.30 (in Polish).