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Abstract

This thesis concentrates on the problem of identification, estimation and risk analysis in the area of laboratory processes in defined condition for laboratories participating in accreditation process and laboratories offering their services outside this process.

This thesis presents evaluation model of risk and defined ways of risk management in the identified sources of uncertainty focusing in the area of technical and organizational area of laboratories and specifies a roadmap of risk.

This paper defines a methodology for the approach to the risk assessment in research laboratories. Indicates sources of information related to the risk and tools for their analysis. This paper presents also the results of analyzes based on the conducted questionnaire and the results of internal and external audits in the area studied laboratories. The implementation in line with laboratories strategy have a significant impact on improving the functioning of the laboratory activities.

Analysis of the results conducted questionnaire is based on the tools such as analysis of the risk structure index (named WSR), grid percentile calculation of risk, risk coefficient analysis between perspectives and their strength and linear regression analysis and ranking. To carry out the analysis of raw data from the results of internal and external audits author uses the following tools: analysis of the percentage of risk, analysis of Pareto distribution of risk analysis and analysis of standardized risk ranking.

The above-mentioned methodologies of analysis of questionnaire results and audit were the original solution in terms of risk undertaken subject in laboratory practice.

Ability to manage effectively the risk in the context of the highest quality of services to the customers will allow laboratories to gain a competitive advantage.