

Received: June 2023

Accepted: December 2023

DOI: 10.7862/rz.2023.hss.77

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A MODEL OF INTERNAL AUDITORS' MANAGEMENT SYSTEMS ASSESSMENT COMPLIANT WITH ISO 45001

Internal audits are a requirement of point 9.2 of the ISO 45001 standard. They are a very good tool to improve the management system, but also the entire organization. Audits and the auditors conducting them should be improved. Therefore, this article aims to develop a model for evaluating internal auditors of occupational health and safety management systems according to ISO 45001. The model includes both the guidelines of the ISO 19011 standard and expert knowledge resulting from experience in assessing auditors. The following tools are adequately integrated: the SMART(-ER) method, brainstorming (BM), and control sheets. The result is the estimated quality of the auditor's work. Rankings created using this model cannot be used to punish auditors; the model is intended to help chart an improvement path for internal auditors. Due to its nature, the model can be used to assess internal auditors in any management system. It can also be modified according to the original solutions in the field of auditing in a given organization.

Keywords: internal audit, ISO 45001, management system, production engineering, ISO 19011.

1. INTRODUCTION

Since the beginning of the 1960s, in market economy countries, producers wanting to ensure the reliability of their suppliers and cooperators began to carry out research and assessment of the possibility of maintaining a stable level of supply quality, in accordance with the technical requirements contained in the contract. In this way, the practise of audits.

Also, with the spread of standardised system solutions, mainly in the field of quality, environment and occupational health and safety, the practise of auditing the implemented management systems developed. The need to standardise the audit methodology was then observed. It turned out to be particularly important in relation to audits, which resulted in certification or registration in the so-called list of qualified suppliers. Occupational health and safety audits have been used since the middle of the last century, when the importance of occupational health and safety began to grow. It was also then that a lot of regulations were created in the field of occupational health and safety, which were associated with increasing legal and economic responsibility. The second type of occupational health and

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safety audit was related to occupational risk assessment. Along with the development of formalised management systems, national standards appeared, and then an international standard (ISO 45001) specifying the requirements for occupational health and safety management systems. These systems are audited in the same way as other management systems, e.g. quality or environmental (Pacana, Stadnicka, 2006).

Due to the popularity and importance of audits, the ISO Technical Committees (International Organisation for Standardisation) developed international standards containing guidelines for conducting quality, environmental, and health and safety audits. In 2012, these standards were replaced by one ISO 19011 standard, "Guidelines for auditing management systems", which can be used both in relation to quality and environmental audits as well as occupational health and safety audits. In 2018, this standard was amended and its current edition bears the number: PN-EN ISO 19011:2018-08.

This standard provides guidance on the principles of auditing, the management of audit programmes, the conduct of management system audits, and the competence of management system auditors. This standard is applicable to all organisations that need to conduct internal or external audits of a management system or the management of an audit programme. The application of this standard to other types of audit is in principle possible, provided that particular attention is paid to defining the competencies that the members of the audit team should have in such cases. The guidelines contained in the standard are intended to be flexible. The application of these guidelines may vary depending on the size, nature, and complexity of the organisation as well as the purpose and scope of the audits that will be conducted.

The credibility of the audit process depends on the competence of the people performing the audit. Competence is based on a demonstration of auditors' personality traits and the ability to apply knowledge and skills acquired through education, work experience, auditor training, and auditing experience. The concept of auditors' competencies, according to the ISO 19011 standard, is presented in Figure 1, taking into account the fact that the standard provides guidelines for auditing both quality management systems and environmental management (Balkat, Khaleel, 2021; Karanikas, Weber, Bruschi, Brown, 2022; Pacana, Stadnicka, 2006).

Some of the knowledge and skills are common to the three basic groups of auditors (quality, environment, health and safety), and some are specific to auditors in a given area. Auditors maintain and improve their competence through continuous professional development and regular participation in audits, and their progress should be assessed (Lawlor, Hornyak, 2012).

The PN-EN ISO 19011:2018-08 standard consists of seven chapters. The seventh chapter provides guidelines on the necessary competencies of the auditor and indicates the possibility of evaluating auditors. However, this chapter does not specify the method by which this assessment should be conducted. This fact generates a scientific gap that allows the search for adequate evaluation models of management system auditors. This also applies to the auditors of the occupational health and safety management system. However, your audit work is specific due to its scope. Therefore, the internal auditor evaluation model for this system should be specific.

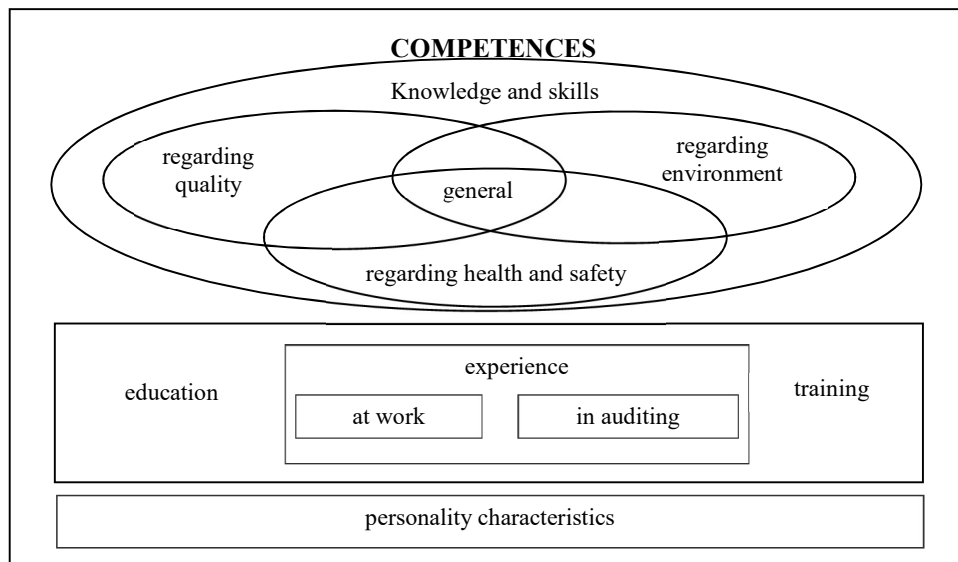


Figure 1. Conception of the internal auditor assessment of the management system on the base 19011 standard

Source (on the base PN-EN ISO 19011:2018-08 (2018); PN-ISO 45001:2018-06 (2018)).

The audit of auditors should be conducted not only to improve OHS auditors, but also to improve the audit process and, consequently, to improve the OHS management system (HSMS). Skilful conduct of this assessment increases the likelihood of benefiting your system. The lack of a standard in this respect means that different organisations can use different methods of evaluating the work of auditors. In this study, we present one of the models that can be used in various organisations.

2. ASSESSMENT OF INTERNAL AUDITORS OF ENVIRONMENTAL MANAGEMENT SYSTEMS IN STANDARDS

The requirements for internal auditing are presented in Section 9.2 of ISO 45001. According to this requirement, the organisation shall plan, establish, implement, and maintain an audit program(s) taking into account the importance of the activities considered and the results of previous audits. The organization shall conduct internal audits at scheduled intervals to provide information on whether the OH&S management system complies with its OH&S organization requirements, including the OH&S policy and objectives, with the requirements of this document.

The organisation must also in the area of internal audits:

- a) plan, establish, implement and maintain an audit program(s), including frequency, methods, responsibilities, consultation, planned requirements and reporting, which must take into account the validity of the process concerned and the results of previous audits, as well as:
- b) define the audit criteria and scope for each audit;
- c) select competent auditors to ensure the objectivity and impartiality of the audit process;

- d) ensure that the results of audits are reported to the appropriate management and audit findings are reported to the appropriate employees, or, where appropriate, to employees' representatives, and to relevant stakeholders;
- e) take appropriate action in relation to non-compliance and continuously improve the implementation of the provisions of the health and safety management system;
- f) maintain documented information as evidence of the implementation of the audit programme and audit results (PN-ISO 45001:2018-06 (2018)).

In search of specific information on internal audits of occupational health and safety management systems, the ISO 45001 standard refers to the ISO 19011 standard.

The ISO 45001 standard does not require the development of a procedure/process card for internal audits. It only requires the maintenance of documents from the conducted audits. Nevertheless, from a practical point of view, it is good practise to establish, implement, and maintain an audit procedure(s). This is especially important when the OSH management system is new and the organisation does not have much auditing experience. Such a procedure should then establish, in particular:

- responsibilities and requirements for planning and conducting audits, reporting results, and retaining related records,
- the course of the audit process,
- definition of audit criteria, scope, frequency and methods (PN-EN ISO 19011:2018-08 (2018)).

The selection of auditors and the conduct of audits should ensure the objectivity and impartiality of the audit process. To ensure the correct conduct of audits, it is necessary to skilfully select auditors, i.e., people competent to conduct an audit (point 7.2 of ISO 19011).

To assess the work of auditors, the guidelines contained in points 7.3–7.5 of the ISO 19011 standard can be used. According to these guidelines, the evaluation of internal auditors should be:

- planned,
- implemented
- saved,

in accordance with established procedures to ensure an objective, consistent, fair, and reliable result (PN-EN ISO 19011:2018-08 (2018)).

The evaluation of auditors should take place in the following stages:

- initial assessment of people who want to become auditors;
- assessing the auditor before assigning him to the audit team;
- Continuous evaluation of the auditor's performance to identify the need to maintain and improve his knowledge and skills (PN-EN ISO 19011:2018-08 (2018)).

It seems that this continuous assessment of the auditor's work may have the most significant impact on the improvement of OHS management system audits and the entire management system. ISO 19011 only gives an outline of such a continuous assessment process. It should include four main stages (PN-EN ISO 19011:2018-08 (2018)):

- Step 1 – Identify the personality traits, knowledge, and skills necessary to meet the needs of the audit programme.
- Step 2 – Establishing evaluation criteria.
- Step 3 – Choosing the appropriate assessment method.
- Step 4 – Make an assessment (Balkat, Khaleel, 2021; Pacana, Stadnicka, 2016; PN-ISO 45001:2018-06 (2018)).

The evaluation should be carried out by a person or group of people, according to specific evaluation criteria. Auditor evaluation methods, one or more of which may be used in an organisation are: review of documented information, positive and negative feedback, interview, observation, investigation, post-audit review (PN-EN ISO 19011:2018-08 (2018)). This information is the basis for the building of an evaluation model for internal auditors.

The assessment itself consists of comparing information about the assessed person with the criteria established at an earlier stage. If this person does not meet the criteria, additional training, work experience, and/or auditing experience is required, followed by reassessment (PN-EN ISO 19011:2018-08 (2018)).

When specifying the evaluation criteria, quantitative criteria are indicated:

- number of years of work experience,
- education,
- number of audits carried out,
- number of training hours,

or qualitative:

- personality traits,
- knowledge,
- skills (PN-EN ISO 19011:2018-08 (2018)).

The ISO 19011 standard proposes that when determining what level of knowledge and skills is appropriate, the following should be taken into account.

- the audited organisation (size, nature) and the complexity of its management system;
- objectives and scope of the audit programme;
- certification/registration and accreditation requirements;
- the audit process and its role in the organisation;
- required level of confidence in audits.

As can be concluded from a short review of the ISO 19011 standard guidelines, the application of these guidelines in a small and medium organisation, which has often not conducted audits so far, not to mention improving them or evaluating auditors, seems to be relatively difficult. Therefore, OSH Management Systems Representatives (or persons responsible for the internal audit process) sometimes conduct a simple, but unfortunately unique, assessment of internal auditors. Often this assessment is informal. Therefore, it seems advisable to propose such a model for evaluating internal auditors, thanks to which this assessment would be possible to use with or without modifications in each organisation and would not pose too many difficulties to the person conducting it.

3. MODEL

A universal model of the internal audit process in occupational health and safety management systems has been developed. This model incorporates the expectations of organisations and other stakeholders. The concepts, determinants of the selection of the proposed instruments, assumptions, and characteristics of the model are included in the next part of the study. Figure 2 shows the visualisation of the model.

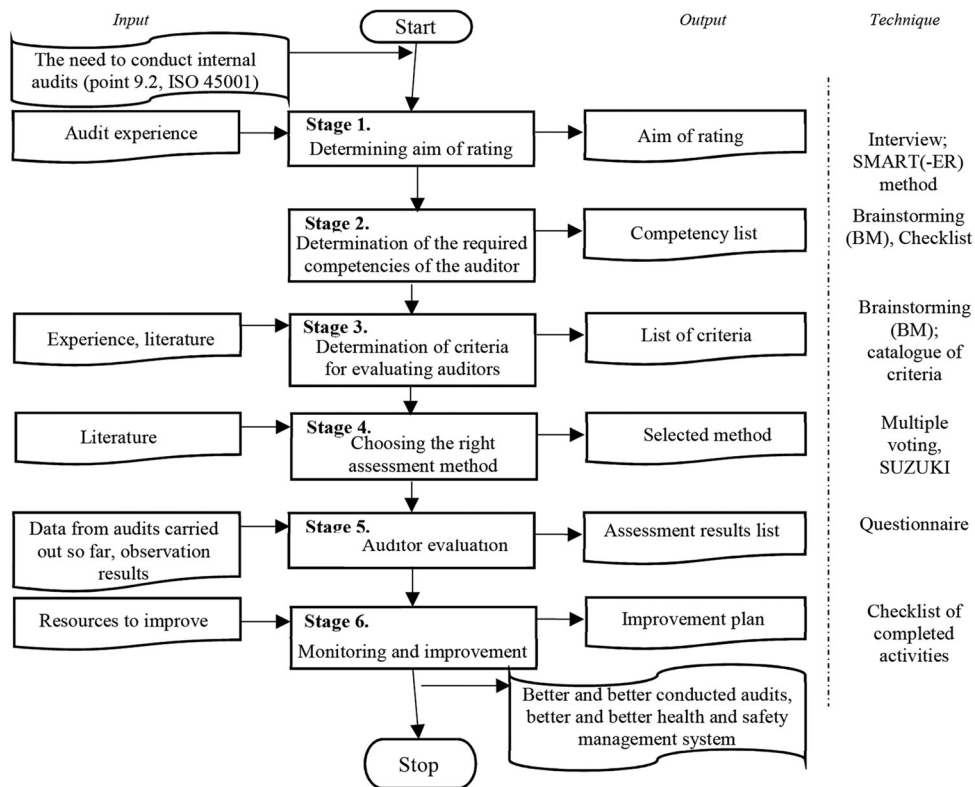


Figure 2. Internal auditor evaluation model

Source: Own study.

The short characteristic of the proposed approach is shown in the next part of the study.

Stage 1. Determining the objective of the rating. It has been assumed that the objective is defined by the entity (the Representative, the person responsible for the audits). In the proposed approach, the goal will most often be the adequate selection of the method for evaluating internal auditors in the health and safety management system. To determine the aim, it is preferred to use the SMART(-ER) method (Lawlor, Hornyak, 2012).

Stage 2. Determination of the required auditor competencies. When deciding on the necessary competencies, it is recommended, according to ISO 19011, to take into account the following aspects:

- the size, nature, and complexity of the auditee's organisation and processes;
- auditing methods;
- the field of the management system to be audited;
- the complexity and processes of the audited management system;
- type and level of risks and opportunities addressed in the management system;
- objectives and scope of the audit programme;
- uncertainty in achieving audit objectives;

- other requirements, such as those imposed by the audit client or other relevant interested parties,
- if appropriate,
- desirable personal qualities of the auditor (eg ethics, perseverance, perceptiveness). A complete list of features is given in ISO 19011.
- desired auditor knowledge. This applies to general knowledge in the field of conducting audits, but also to knowledge specific to audits of health and safety management systems (e.g. legal requirements).

Stage 3. Determination of criteria for evaluating auditors. The first step in creating a concept is to define the evaluation criteria. You can use those listed in ISO 19011, where it is recommended that the criteria be:

- qualitative (such as desirable behaviour, knowledge or skills demonstrated in training or on the job);
- quantitative (such as years of work experience and education, number of audits performed, hours of audit training) (PN-EN ISO 19011:2018-08 (2018); PN-ISO 45001:2018-06 (2018)).

As you can see, the instructions in the standard are not precise. When evaluating, for example, skills, it is impossible not to take into account the criterion of knowledge or personality traits that allow these skills to be demonstrated. The same applies to quantitative criteria. It is hard not to notice their connection and partial penetration with quality criteria. As you can see, these are not unambiguous criteria, but guidelines for evaluation. Therefore, in the proposed model, it is worth using criteria presented differently, which are suggested by the experience of internal auditors' assessment of the health and safety management system. Such criteria include:

- timeliness of the audit,
- timely delivery of documentation after the audit,
- quality of post-audit documentation,
- selective participation of the Representative in selected audits or their parts,
- selective interviews with auditees (Pacana, Stadnicka, 2016).

It is also worth paying attention to the training of internal auditors. Both the participation of internal auditors in internal and external training, as well as training by internal auditors, e.g., employees of the organisation, should be considered. Another such specific criterion is the number of audits mentioned in ISO 19011. The more auditors conduct audits, the more experience they gain. On the other hand, the more audits there are, the more their quality may not be the highest. Therefore, it is worth paying attention to this criterion under specific conditions in a given organisation.

Taking into account the two sources of criteria mentioned above (experience and ISO 19011), the following criteria for evaluating internal auditors of the OSH management system can be proposed for use in the model (as basic):

- A) Personality traits.
- B) Completed trainings.
- C) Knowledge gained during training.
- D) Ability to apply knowledge in the field of audits and OH&SMS.
- E) Number of audits carried out.
- F) Timeliness of the audits performed.
- G) Quality of audit documentation.
- H) Subjective assessment of the auditor's work.

These eight criteria for evaluating the auditor can be modified by the OHSMS Representative depending on the needs of the organisation. They take into account the ISO 19011 guidelines (criteria: A, B, C, D, E) as well as previous experience (criteria F, G, H). Such a number of criteria makes it possible to partially limit the interpenetration of individual criteria. On the other hand, the number of criteria is not so large as to hinder auditor evaluation. Following the authors (Siwec, Pacana, 2021), it was assumed that the number of all criteria should be about 10 criteria. It is necessary to determine a single group of criteria that are characterised by all verified criteria. So, this basic list of criteria can be extended. For this purpose, the model proposes the use of the following methods: Brainstorming (BM); Catalogue of criteria.

The next step in the design of the concept of evaluating internal auditors of the HSHSMS is to determine the classification of the assessment of individual criteria. Based on the literature on the subject, a four-stage classification was found (Abdulkerim, Avvari, Cherkos, 2019; Siwec, Pacana, 2021) to be appropriate. It was assumed that the worst grade would be one point and the best grade would be four points.

Stage 4. Choosing the right assessment method. It is recommended that the assessment be made using one or more of the following methods:

- Review of records.
- Feedback.
- Conversation.
- Observation.
- Test.
- Post-audit review.

The proposed model proposes an original approach to the assessment of auditors of the OHS management system. In the first phase, a grouping of the criteria identified in the earlier phase is proposed. In the next phase, it is suggested to determine the importance of the groups of criteria. Based on the literature and experience, it was assumed that personality traits will have a weight of 0.1. The knowledge gained while preparing for the trainings, as well as the knowledge gained during the participation in the trainings, will have a weight of 0.15. The weight of 0.2 was assigned to the total ability of applied knowledge in the field of audits and the health and safety management system. The criterion concerning the number of audits carried out was given a weight of 0.05. Due to the fact that timeliness plays an important role in the auditing process, it was assumed that the weight of the criterion: timeliness of audits will be 0.15. In turn, the quality of post-audit documentation (checklist, number of observations and non-compliances, etc.) is the highest weight – 0.25. This is due to the fact that the OHS management system is being improved on the basis of this documentation. The criterion based on the subjective assessment of the auditor's work received a weight of 0.1. The lowest weight (apart from criterion E) was assigned to criteria that are either not possible to be precisely verified by the representative (or the person responsible for the audits) or his knowledge in this area may be insufficient. In turn, the greatest importance was assigned to the audit documentation, also because the Representative (or the person responsible for the audits) can assess it in the most accurate way.

The following approach has been adopted to assess internal auditors.

$$Q = 0,1 A + 0,15 (B + C) + 0,2 D + 0,05 E + 0,15 F + 0,25 G + 0,1 H \quad (1)$$

where letters from A to H correspond to the criteria as in Table 1.

In the Table 1 presents a sample sheet that is useful in evaluating the internal auditors of the health and safety management system.

Table 1. The form of internal auditor assessment of the safety management system

First and last name of the auditor	
Personality traits	(A)				
Completed trainings	(B)				
Knowledge gained during training	(C)				
Ability to apply knowledge in the field of audits and OH&SMS	(D)				
Number of audits carried out	(E)				
Timeliness of performed audits	(F)				
Quality of audit documentation	(G)				
Subjective assessment of the auditor's work	(H)				
Final evaluation of the auditor's work	(Q)				
<p>Note: Values for individual criteria according to the subjective assessment of the OHS Representative should be placed on a scale from 1 (worst) to 4 (best)</p>					
<p>Conclusions after assessment: 0 ÷ 11 – improvement needed 12 ÷ 21 – correct work (continuous improvement) 22 ÷ 32 – very good work (continuous improvement)</p> <p>.....</p> <p>date, signature of the OHSMS Representative</p>					

Table 2 introduces some repeatability of the assessments in subsequent assessments of the same auditor, as well as between auditors. Its application will allow drawing conclusions from the analysis and planning the path of development of internal auditors of the environmental management system.

Table 2. The values of the safety management system internal auditors assessment

Points awarded:		1	2	3	4
Personality traits	(A)	No features typical of an auditor	Poorly developed auditory characteristics	Moderately developed features typical of an auditor	Excellent developed features typical of an auditor
Completed trainings	(B)	0	1	2	More than 3
Knowledge gained during training	(C)	0	1	2	More than 3
Ability to apply knowledge in the field of audits and OH&SMS	(D)	Bad conduct of audits	Average auditing	Good auditing	Very good auditing
Number of audits carried out	(E)	0	1-2	2-3	More than 3
Timeliness of performed audits	(F)	Delays over 1 week	Delays up to 1 week	Delays up to 1 day	No delays
Quality of audit documentation	(G)	Numerous comments from the Plenipotentiary	There are comments from the Plenipotentiary	Minor remarks of the Plenipotentiary	No comments from the Representative
Subjective assessment of the auditor's work	(H)	Numerous remarks	There are minor remarks	No comments	There are praises

The quoted Table 2 is preliminary and is a general proposal of the authors, who did not want to expand the auditor evaluation procedure and adopted some simplifications. They can be omitted by introducing modifications to the evaluation of the criteria. These modifications should take into account the specificity of the organisation in which the auditor's evaluation is conducted.

Stage 5. Auditor evaluation. It is recommended that the information on the auditor being evaluated is compared with the criteria given in 7.2.3. If the assessed auditor to participate in the audit programme does not meet the criteria, additional training, work experience, or auditing experience and reassessment are recommended.

Stage 6. Monitoring and improvement. Auditors and lead auditors should continuously improve their competence. Auditors should maintain their auditing competence through regular participation in management system audits and continuous professional development. This can be achieved through measures such as additional work experience, training, individual learning, coaching, participation in meetings, seminars, conferences, or other appropriate activities. The person(s) managing the audit programme should establish appropriate mechanisms to continuously evaluate the performance of auditors and lead auditors. Continuing professional development activities should include:

- a) changes in the needs of individuals and organisations responsible for conducting the audit;
- b) developing auditing practises including the use of technology;
- c) relevant standards, including guidance/supporting documents and other requirements;
- d) changes in sector or fields.

The presented model, although based on standards, literature, and experience, should be improved in every organisation. This is due to the specificity of the organisation and the changing environment of the organisation.

4. DISCUSSION AND CONCLUSION

Internal audit is an element of the health and safety system that allows you to examine the system and determine the path to improvement. This significant role of audits becomes even more important in the case of health and safety management systems, where the aspect of health and life of the crew appears. Therefore, it is extremely important to conduct internal audits with skill in management systems compliant with ISO 45001. To do this, internal auditors must be educated and then improved. A tool for this can be a repeatable assessment model for these auditors. The results of the assessment should be used to determine the improvement paths of individual auditors, because each of the auditors, despite knowing his company well, should improve the specifics of its operation. Knowledge of the organisation makes it easier for the auditor to assess the observed facts. However, on the other hand, he may be accused of a lack of objectivity due to his personal involvement in the affairs of the organisation, knowledge of the people surveyed. Therefore, the requirement of the ISO 4001 standard is that the audit be performed by a person who is not responsible for the audited area. In a sense, the internal auditor is an instrument of management in the company. Its activity can help to introduce procedures or improve the manufacturing process. As the plant employee who is auditing, he can help determine corrective actions. The proposed evaluation model is intended to help persons responsible for the audit process in evaluating the work of auditors. The assessment made with the use of the proposed model will allow us to show the auditors who work well, those who need to be improved and those who for some reason cannot be or do not want to be good auditors. The assessment can be carried out on the basis of the proposed concept, but it can also be modified. Especially when the already obtained results of the assessment are not satisfactory from the point of view of improving the work of internal auditors of health and safety management systems.

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