METHODS FOR ASSESSING COMPETENCIES THROUGH QUALIMETRY IN EMPLOYEE MANAGEMENT

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Abstract. *This article analyzes the methods of assessing competencies through qualimetry in the process of employee management. The study highlights modern approaches to the objective assessment of employees' professional knowledge, skills, and abilities, and reveals the importance of qualimetry in human resource management. In addition, the criteria and indicators for competency assessment, as well as the mechanisms for their practical application, are examined. The article substantiates the role of identifying and developing employee competencies in improving organizational efficiency.*

Keywords: *qualimetry, competency, competency assessment, human resource management, employee management, assessment methods, professional competency, efficiency, personnel development.*

INTRODUCTION

The criteria for assessing employees' competency levels have always been a controversial topic. However, summarizing the existing views, it can be said that employees' professional competency levels not only determine educational outcomes but also enable them to perform successfully in their professional activities. The criteria for professional competence are determined based on the content of the competencies that need to be acquired.

Professional competence is the ability to apply acquired and developed knowledge, skills, and abilities in practice, while the level of professional competence serves as a criterion for determining the degree to which an employee is prepared for professional activity.

Although today the phrase "competence approach" is usually associated with education, the origins of this approach go back to the assessment of the professional qualities of already formed specialists. In this case, the primary consideration is not only the individual's professional knowledge, but also their experience, level of mastery of techniques and technologies, ability for self-management and self-assessment, and ability to solve problems.

In other words, the competency paradigm does not focus on specialists' fragmented knowledge and skills, but on their integrated combination, that is, the ability to effectively solve professional tasks in a specific subject area. The main task of the aforementioned approach is to identify and examine the specific competencies necessary to achieve a predetermined outcome.

Determining professional competency levels based on a qualimetric approach yields effective results because it strengthens the objectivity of assessing quality indicators and levels of preparedness. Therefore, the study of qualimetry-based assessment methods is important for improving the scientific foundations of employee management and personnel development.

MATERIALS AND METHODS

This study is based on theoretical analysis, synthesis, comparison, and benchmarking of competency assessment approaches used in employee management. The methodological basis of

the study is the qualimetric approach, which makes it possible to evaluate employees' professional qualities through measurable criteria and indicators.

Qualimetry, from the ancient Greek word "metros" meaning "measure" and the Latin word "qualis" meaning "quality", is a scientific field that includes methods for quantitatively assessing the quality of products, objects, and processes and determining the results achieved using various methods and tools.

Qualimetry, as a science, studies the determination of the qualitative and quantitative indicators of an object through the application of established and accepted measurement procedures. It is based on the theory of measurement, using the volume, units, scales, and requirements that define the quality of the object being studied and evaluated.

According to modern approaches, qualitative indicators of qualimetry are studied by dividing them into two large groups: social and natural indicators. Natural indicators, in turn, are divided into chemical, biological, and physical quantitative indicators of the object under study. Social indicators are applied to the products of production and consumption, events, the individual's status and role in social and independent life, literacy, and overall personal development at a particular stage of societal progress.

Qualimetry studies the quantitative and qualitative indicators of each of the above-mentioned groups in an integrated manner and develops a general procedure for their evaluation. International experience has shown that in order to achieve high quality in goods, services, and processes, it is necessary to develop scientific, technical, and organizational criteria for assessing their quality.

The evaluation is carried out by measuring the quality of a specific object, process, or service against the criteria of a model accepted as a benchmark and by comparing the obtained results. In this process, the main methods of qualimetry are analysis, synthesis, comparison, and benchmarking. The quality of an object is determined by taking into account its characteristics and evaluating them against the quality indicators of a model accepted as a benchmark.

If we analyze an employee's qualifications, then this is a multifaceted and complex characteristic. Therefore, the more aspects of a specialist's qualities or professional activities are considered separately during the evaluation process, the more objective and comprehensive the final assessment will be.

The methodology of giving an overall assessment to an object through the sum of the assessments of its individual characteristics is called a multi-criteria approach. To better understand this approach, it is necessary to clarify the meaning and essence of the concept of a criterion.

Considering the concept of a criterion in the context of developing professional competence of professional education personnel, this study relies on the interpretation provided by N. V. Sichkova. According to her, in order to determine the criteria, first, these characteristics must be diagnosed and measured; second, they should reflect the essence of the main directions and priorities of the activities they carry out; third, they should cover all significant aspects of the process and provide a holistic understanding of it.

Criterion, from the Greek kriterion, is a sign of something with the help of which an assessment, determination, or correction is carried out. A synonym for the word criterion is the term "measure", which is also used to compare, evaluate, or measure something. The most common criteria in the field of qualimetry are formalized criteria, which take into account the position held by the specialist, the presence or absence of academic or honorary titles, academic

degree, number of publications on a particular topic, work experience, and other indicators. The first and main condition for applying a multi-criteria approach is the presence of formal criteria.

The differential-integral approach is also important in developing a system of criteria. At various levels of personnel management, different types of criteria, lists of evaluation indicators, and other sets of data are used to evaluate employees' professional performance.

On the one hand, the development of a system of evaluation criteria represents a complex procedure as a preparatory stage of the assessment process, in which the decision-maker does not participate directly. On the other hand, a specific set of criteria used to evaluate an employee's multifaceted activities constitutes one of many possible alternatives.

To describe various aspects of employees' activities and professionally significant qualities, the multi-criteria approach involves the development of numerous criteria and indicators for their assessment. The main idea is that the greater the number of independent and non-overlapping evaluations based on different criteria, the more comprehensive and meaningful the assessment of activities or qualities becomes.

Each criterion is used to evaluate a certain characteristic or type of activity of an employee. The methods considered in the study indicate that the characteristics being evaluated can be combined into groups of the same type. Therefore, competency assessment requires both general methodological principles and practical tools suitable for employee management.

RESULTS AND DISCUSSION

There are many different methods used in multi-criteria decision-making, including the Analytic Hierarchy Method, the SMART method, and other related approaches. The task of evaluation differs from the task of decision-making in that the objects being evaluated are generally not alternatives to one another and cannot simply be excluded from consideration. Therefore, methods that rely on eliminating alternatives are not appropriate for this particular context.

The analysis of existing approaches shows that employee competence can be assessed through several methods, each of which has its own characteristics, strengths, and limitations. These methods make it possible to evaluate employees' professional and personal qualities from different perspectives.

Table 1. Methods for assessing employees' professional competence

Method	**Characteristics of the method**	**Distinctive features of the method**
Rating	Rating multi-point evaluation system.	It is used to assess how well an employee is suitable for their current position. However, the assessment does not include all of the employee's qualities; for example, a 110-point assessment may be used.
Multi-criteria evaluation	Evaluates an employee's professional and personal qualities.	Focuses on a comprehensive assessment of the employee from multiple perspectives.

Method	Characteristics of the method	Distinctive features of the method
Analytic Hierarchy Method (ANR/AHP)	Allows a complex problem to be structured in the form of a hierarchy and allows alternatives to be compared and evaluated qualitatively.	It is used to assess work quality and determine the importance of criteria through pairwise comparisons.
SMART	A heuristic method based on mathematical theory.	It is convenient for practical use. However, this method does not take into account the possibility of interdependence of criteria, which is its disadvantage.
90°, 180°, 360° method	Comprehensive employee assessment involving a manager, colleagues, and self-assessment.	A method based on a competency-based approach. It is mainly used to assess competency levels and is regarded as a type of objective assessment.
Portfolio	Consists of a collection of materials and information that demonstrate an employee's professional competence.	It includes documents, certificates, diplomas, and other evidence confirming the results achieved by the employee during professional activity.

The SMART method, or Simple Multi-Attribute Rating Technique, proposed by W. Edwards, is a heuristic method based on the mathematical theory of utility. The Analytic Hierarchy Process, proposed by T. Saaty, enables the structuring of a complex problem in the form of a hierarchy and allows the comparison and qualitative evaluation of alternatives.

The SMART method is convenient for practical application, and this feature is one of its important advantages. However, this method does not take into account the possibility of interdependence of criteria, which is its disadvantage. In addition, the final assessment is calculated using the weighted sum method. The unreasonable use of weighted sums to evaluate alternatives may be problematic for many reasons. In particular, within the framework of this method, there is an assumption that the transition from one dimension of the scale to another for the decision-maker in determining preferences increases smoothly, which is not always true in practice.

The advantages of the hierarchical analysis method include pairwise comparisons, the possibility of introducing changes to the current matrix, the presence of a verbal-numerical scale, and an established quality criterion of expert work. Pairwise comparison is consistent with the way people naturally compare objects. The introduction of new criteria requires the comparison of only newly formed pairs, while the verbal-numerical scale creates the possibility of comparing factors expressed in different dimensions and concepts. However, these advantages mainly relate to calculating the importance of the criteria, while the final assessment itself often depends on calculated sums across the hierarchy.

The 90° method is most often used to assess the competency levels of employees in corporations and firms. In this article, it is adapted for assessing employees' professional

competence. In the 90° assessment, an employee's specific competencies demonstrated in professional activities are evaluated. Based on the results of the assessment, a specific rating is formed and competencies that still need to be developed are identified.

The main advantage of the 90° assessment is that it allows the identification of an employee's weaknesses and competencies that need to be developed, which helps in creating an individual development plan or program. It is also effective in making important managerial decisions, including dismissal or the assignment of professional categories.

The 180° evaluation is a method of evaluating an employee's work performance that includes self-assessment of the employee's performance and assessment by assigned supervisors. This method provides a more balanced perspective than one-sided managerial evaluation because it combines internal reflection with external assessment.

The 360° assessment method extends the evaluation process by incorporating two additional perspectives: evaluations provided by an employee's subordinates, if any, and, when adapted to an educational context, evaluations provided directly by learners. It includes self-evaluation and evaluation by supervisors. In degree-based assessment, assessors should have a clear list of competencies and clear evaluation criteria.

The portfolio method consists of a collection of materials and information that demonstrate an employee's professional competence. The portfolio includes documents, certificates, diplomas, and other materials confirming results achieved by the employee during professional activity, participation in olympiads, competitions, and international or national conferences. The work performed should be checked and evaluated by the manager.

The discussion of these methods demonstrates that the qualimetric approach can increase the objectivity of employee assessment when criteria are formalized, measurable, and connected with actual professional activity. At the same time, no single method can fully assess professional competence in all its complexity. Therefore, an integrated assessment model that combines rating, multi-criteria evaluation, degree-based feedback, and portfolio evidence can provide a more reliable basis for employee management.

CONCLUSION

Studying methods for assessing an employee's level of professional competence makes it possible to draw several important conclusions. First, the complex hypothetical characteristics of an employee's professional activity and professionally significant qualities should be repeatedly differentiated in accordance with the differential-integral approach until specific qualification-related characteristics of the employee are identified.

Second, professional competence is a broad characteristic that encompasses the professionally significant qualities of an employee. The competency-based approach makes it possible to divide this characteristic into its constituent components. Therefore, professional competence should be regarded as a comprehensive characteristic that reflects both an employee's professional activity and professionally significant qualities.

Third, the meaning and content of each competency are revealed through the examination of the qualification-related characteristics that constitute it. Each of these characteristics can be evaluated using several types of criteria, and, as a result, the level of development of each competency can be assessed through a multi-criteria decision-making methodology.

In general, qualimetry provides an effective scientific and methodological basis for improving employee management. By applying measurable criteria, comparing them with benchmark models, and combining several assessment methods, organizations can identify

employee strengths and weaknesses more objectively, design individual development programs, and improve overall organizational efficiency.

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