

TOWARDS A QUALITY ASSESSMENT PROCEDURE: QUALIMETRY BASED APPROACH

Timchenko M., Cherednichenko O.

National Technical University “Kharkov Polytechnic Institute”, Kharkov

Quality of goods and services is the determining direction of the company management, which allows providing a high level of satisfaction of consumer needs and increasing profits enterprise through a careful and prudent management of production and service.

The aim of this work - to improve the quality of the production process through the development of integrated methods of coherence qualimetric assessment of the production objects and use them in the management.

After analyzing main principles of qualimetry in the given work it's proposed to develop methodology for finding the quality assessment of resource supply objects basing on the generalized method of qualimetry. Given method suggests two stages in the process of obtaining the quality estimates: development and realization the estimation methodology, and each of them needs automatization. On the first stage it is necessary to provide collection, processing and storing data of the assessment situation, property tree, defined indices and estimation scale, and chosen rejection and reference values. After this the system must provide on-line survey, followed by data storage and processing of expert estimates. Basing on the expert interviews and using the method of pairwise comparisons it is needed to provide calculation and storage of the data about: estimation of vector of local

priority by formula $\delta_i^k = \frac{\sigma_i^k}{\sum_{i=1}^m \sigma_i^k}, \forall i = (\overline{1, m})$, checking the consistency of

matrices of paired comparisons $\lambda_{\max}^k = \sum_{i=1}^m (\sum_{j=1}^m c_{ij}^k) \cdot \delta_i^k$ and consistency attitude

$OS^k = \frac{IS^k}{SS_m}, IS^k = \frac{\lambda_{\max}^k - m}{m - 1}$, calculation of vector of global priority

$\omega_k = \omega_p \cdot \delta_i^k, k = (\overline{1, n - 1})$ Also system must provide the calculation and storage of coherence index. At the stage of assessment methodologies realization is essential to provide on-line identification and storage of data on the absolute values of the properties and to calculate and store data about the relative importance by

formula $q_i = \frac{|p_i - v_i^{rej}|}{|v_i^{ref} - v_i^{rej}|}, i \in I$.