

## PERFORMANCE EVALUATION IN ISO 9001:2015

Radosław WOLNIAK

Politechnika Śląska, Wydział Organizacji i Zarządzania, Instytut Ekonomii i Informatyki; rwolniak@polsl.pl,  
ORCID: 0000-0003-0317-9811

**Purpose:** The aim of the paper is to analyze the problems connected with the performance evaluation realized within the organization in the ISO 9001:2015 implementation process.

**Design/methodology/approach:** Critical literature analysis. Analysis of international literature from main databases and polish literature and legal acts connecting with researched topic.

**Findings:** The organization shall evaluate the performance and the effectiveness of the quality management system. it should retain appropriate documented information as evidence of the results. To achieve good performance evolution level in organization which have ISO 9001:2015 quality management system we need to implement appropriate monitoring system. Especially useful system is a system based on KPIs indicators which can measure particular activities of the organization. If we use good and broad system of KPIs indicator we can measure almost all aspect of functioning of quality management system. Then we could use those measure in the process of quality management system improvement. It lead to better performance of the system, better quality and better customer satisfaction.

**Originality/value:** Detailed analysis of all subjects related to performance evaluation in ISO 9001:2015.

**Keywords:** quality management, ISO 9001:2015, ISO 9001, performance, KPI.

**Category of the paper:** literature review.

### 1. Introduction

The using of quality management system is now widely widespread in almost all counties (ISO 9001:2015; Chen et al., 2016; Cholewicka-Goździk, 2016; Łagowski, and Żuchowski, 2016; Wolniak, and Hąbek, 2015; Wolniak, and Skonicka-Zasadzień, 2010; Wolniak, and Sułkowski, 2015; Wolniak, 2020). New version of implemented standards need the implemtnation of performance evaluation processes (Hillson, 2001; Gębczyńska, and Wolniak, 2018; Juszczak-Wiśniewska, and Ligarski, 2015, 2016; Łuczak, and Wolniak, 2016; Sułkowski, and Wolniak, 2016, 2018; Szczucka-Lasota, and Wolniak, 2018). This evaluation is widely used in organization to achieve the increase of effectiveness of quality management

system implemented in particular organization (Horodecka, and Wolniak, 2015; Pacana, 2014; Pacana et al., 2014, 2017; Pacana, and Stadnicka, 2006, 2017; Wolniak, 2011; Wolniak, and Sułkowski, 2015; Wolniak, and Sułkowski, 2016; Wolniak et al., 2019; Wolniak and Skotnicka-Zasadzień, 2008, 2011, 2019; Novakova, et al., 2016; Stawiarska, et al., 2020).

The organization shall evaluate the performance and the effectiveness of the quality management system. it should retain appropriate documented information as evidence of the results.

The aim of the paper is to analyze the problems connected with the performance evaluation realized within the organization in the ISO 9001:2015 implementation process.

## 2. The scope of performance evaluation

To do a proper performance evaluation the organization shall to determine (ISO 9001:2015; Ząbek, 2016):

- what needs to be monitored and measured;
- the methods for monitoring, measurement, analysis and evaluation needed to ensure valid results;
- when the monitoring and measuring shall be performed;
- when the results from monitoring and measurement shall be analyzed and evaluated.

The processes of the quality management system should be improved. The main processes under improvement are (Natarajan, 2017; Egonsson et al., 2013):

- General requirements.
- Nonconformity and corrective action.
- Continual improvement.

Evaluating the customer's performance firstly the organization should to measure the customer satisfaction (Pokosińska et al., 2002; Szkiel, 2016; Żemigła, 2017). The organization shall determine the methods for obtaining, monitoring and reviewing this.

We can define customer satisfaction as (Wolniak, 2018; Hoyle, 2009; Montgomery, 2009):

- customer satisfaction measure how well the expectation of a customer concerning a product or service provided by company have been met,
- the degree of satisfaction provided by the goods or services of a company as measured by the number of repeat customers,
- a feeling of satisfaction felt by customer with a product or service obtained from a business,

- customer satisfaction indicates the fulfillment that customers derive from doing business with a firm. In other words, it's how happy the customers are with their transaction and overall experience with the company,
- satisfaction is as a judgment following a consumption experience – it is the consumer's judgment that a product provided a pleasurable level of consumption-related fulfillment.

### 3. Monitoring and measuring

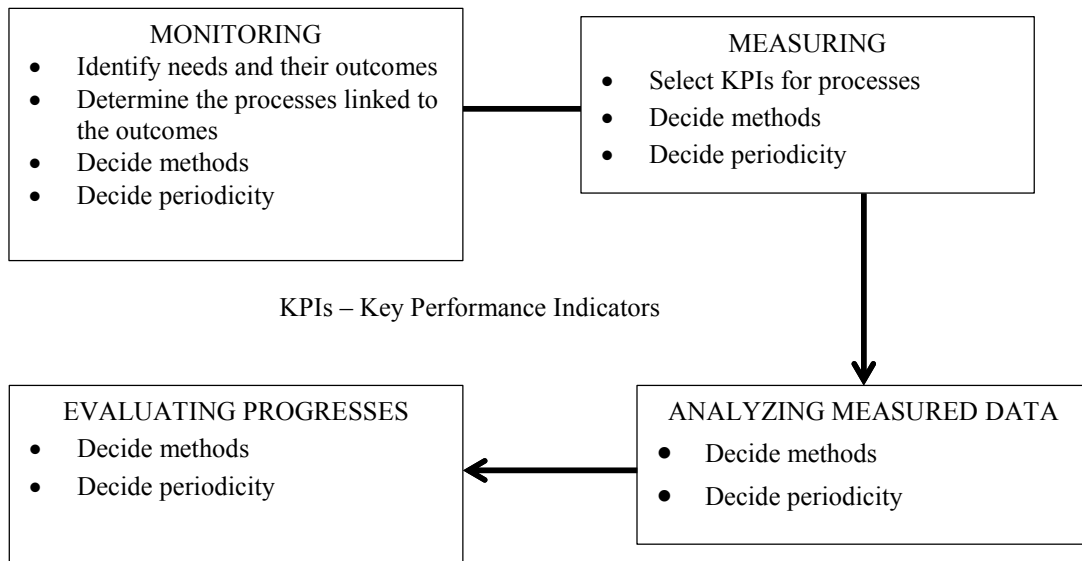
The organization shall analyze and evaluate appropriate data and information arising from monitoring and measurement (Locher, 2008; Misztal, 2013; Mitra, 2016; Vogt, 2010). The results of analysis should be used to evaluate following activities (Wolniak, 2018):

- conformity of products and services;
- the degree of customer satisfaction;
- the performance and effectiveness of the quality management system;
- if planning has been implemented effectively;
- the effectiveness of actions taken to address risks and opportunities;
- the performance of external providers;
- the need for improvements to the quality management system.

Monitoring and measuring the performance of quality management system processes generate data. The data is analyzed and the results of analysis are used to evaluate the performance of processes. The planning of monitoring, measurement, analysis and evaluation activities are presented in the figure 1.

The definitions of the terms used in the figure are as follows (ISO 9001:2015):

- Monitoring—a continuous inspection or observation of process performance or process output for a special purpose through a defined scope (e.g., with a sample size or over a period of time) and maintaining records of those observations.
- Measurement—the activity of delivering data to a method in order to define objectively a quantitative or qualitative measure and capturing a situation without any references to the significance.
- Analysis—a set of techniques for examining trends and tendencies of measurements of an output (process or product).
- Evaluation—the action of comparing a process or process output measurements against given criteria to determine the performance of the process or conformity of a process output.



**Figure 1.** Planning of monitoring, measurement, analysis and evaluation. Source: (Natarajan, 2017).

The standard measure of functioning quality management systems are KPIs – Key Performance Indicators. They are used in the organization to evaluate the effectiveness of a system. Monitoring and measuring KPIs present the performance of processes, operations and activities related to KPIs. When choosing the KPIs suitable for particular organization we should consider following points (Natarajan, 2017):

- The KPIs shall be related to the needs and expectations of interested parties, for example, KPIs may be part of the customer satisfaction or product performance objective.
- The KPIs shall be aligned with organizational strategies and drive the organization to achieve its quality objectives, for example, KPIs shall relate to quantity of nonconformities or level of customer satisfaction.
- KPIs should focus on a few high-value activities that reflect effectiveness of the process and that will deliver the most adequate data.
- KPIs shall provide critical information and data. In other words, changes that will be based on results of monitoring and measuring the KPI will induce changes and reactions on the organization.
- KPIs may be based on standard definitions, rules, and calculations, in order to enable a better analysis of the data they provide.
- For each KPI, an individual, a group, or a specific person shall be held responsible, for example, a process owner.
- KPIs shall be practical, which means it will be possible to draw conclusions from the data that are delivered.

- KPIs should relate to the activities and operations of the quality management systems, and the relevant personnel may understand how they may influence them.
- The KPIs shall indicate points and events in a process that must be analyzed and evaluated.
- KPIs shall relate to the business activities and will make it possible for employees to know and identify when their intervention is needed when nonconformities are detected.
- Different KPIs should reinforce each other and not compete, contradict, or arouse conflicts with other KPIs.

The decisions on what is to be achieved and monitored should be derived from the risks and opportunities the organization face in successfully running the activities and improve further. Whatever we measure should help to (Purushothama, 2015):

- demonstrate the conformity of goods and services to requirements,
- evaluate the performance of processes,
- ensure the conformity and effectiveness of the quality management,
- system, and evaluate customer satisfaction.

Each monitoring and measuring activity should be conducted according to a defined method. The goal is to identify for each process, the parameters of output that affect its quality and determine the activities necessary to ensure valid results, activities that will ensure that the monitoring and measurement deliver results that can be analyzed and evaluated. When we monitor a process, the following issues should be referred (Abuhay, 2017):

- Identification of the processes or process outputs that must be monitored and measured.
- Identification of those parameters or outputs that may indicate how the process behaves.
- Identification of the function or the role responsible for conducting the activities of measurement (designated employees, a certain department, organizational unit, etc.).
- Definition of parameters for monitoring such as process conditions, interval, sampling rates, batch loads, and quantities.
- Description of the stages during the process where measurement activities shall be undertaken.
- Tools, equipment, or software required to perform or assist in the measurement.
- The activities and the use of techniques of measuring the process.
- Where and how the results must be documented.
- The criteria necessary for the evaluation of the results (the objectives).
- Action required in case nonconformities are detected.

## 4. Conclusion

To achieve good performance evolution level in organization which have ISO 9001:2015 quality management system we need to implement appropriate monitoring system. Especially useful system is a system based on KPIs indicators which can measure particular activities of the organization. If we use good and broad system of KPIs indicator we can measure almost all aspect of functioning of quality management system. Then we could use those measure in the process of quality management system improvement. It lead to better performance of the system, better quality and better customer satisfaction.

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