

# The Role, Importance and Motivations of ISO 9001:2015 Based QMS Implementation in SMEs

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## Abstract

*The empirical study addresses an important topic, namely the importance and motivations of QMS implementation in SMEs, based on the new edition of the international standard ISO 9001: 2015, and starting from the reality that in 2018 the share of SMEs that have implemented and certified QMS according to ISO 9001, also considering the ISO 9001 version the 2008 edition, is below 30%, and those that have implemented and certified the new 2015 edition have a share below 10%. Thus our study is based on a sample of 93 enterprises that have implemented the new standard. Regarding the certification of SMEs, we believe that obtaining the certificate by meeting its criteria is not enough considering that it determines more the direction to follow, the future evolution of the SMC, which is why its requirements can be considered as minimum criteria to be met for certification, not an end goal.*

**Key words:** implementation, quality standards, motivations for QMS implementation, quality management, quality certification

**J.E.L. classification:** M13, M14, M20, M21.

## 1. Introduction

Quality Management System (QMS) is considered a tool of changing in enterprises, which is why the strategy of improving quality should be included in all fields of the activity of an enterprise. It should also be extended to all organizational levels, so as to include activities from observing and analysing the market to delivery and services to customers. QMS are directed through processes like: specialising responsibilities at a structural level; providing information systems that would allow employees to acknowledge their task to achieve the goals; facilitating the achievement of quality objectives through action plans and projects; checking through establishing reference points, standards and feedback.

As compared to large enterprises, SMEs (Small and Medium-sized Enterprises) have adopted TQM later, having been reluctant about QMS implementation due to the SMEs managers' lack of expertise and skills in the quality field. This also causes a poor business strategic planning and a reduced effectiveness and efficiency of human resources managerial practices, which amplifies the problems of QMS implementation. (Temtime, Solomon, 2002; Ilies, 2003, Olaru, 2004).

Taking the responsibility of carrying out the quality objectives in SMEs is done by the top management. In order for them to be put into practice, they should be divided into specific objectives for each function, process activity. (Tricker,1999). In this way, the undertaken plans and actions can be effectively implemented and achieved. Successfully implementing a QMS on the basis of 9001:2015 stands as a strategic decision for any organisation.

To identify the problems to solve or the opportunities related to the effective quality objectives achievement imposes to determine the key factors and activities that will influence upon quality strategies implementation and putting into practice. As the number of processes and activities in a regular enterprise is very large, it is very difficult to comprise them in the elaboration of the quality improvement programs. Therefore, all the relevant processes and activities that contribute to

quality improvement should be analysed and assessed in relation with their influence upon the satisfaction of internal and external customers. After that, the necessary measurements should be delineated. (Temtime, Solomon, 2002 )

Identifying the successful key factors has to assure: establishing relevant indicators for quality improvement (e.g. reducing the order cycle, zero defects); identifying and putting into action the cost-cutting opportunities or productivity improvement; ensuring quality on the market, as competitiveness factors.

## 2. Literature review

QMS represents a managerial instrument by which the company directs and controls the activities (directly or indirectly) linked to achieving the quality improvement objectives. This is to be done through: ensuring an adequate structure; planning; efficient use of resources; documented information aiming to satisfy the clients' and other stakeholders' requirements. (ISO 9001:2000). The ISO 9001:2000 (SR EN ISO 9000:2006) standard points out QMS is not a distinct structure within an organization, but it is a working structure integrated in the managerial system of an organization and that its purpose, according to the quality objectives, is to obtain results in order to satisfy the clients' and stakeholders' requirements and meet their expectations. American Society for Quality (ASQ) defines QMS through: interrelated processes; adequate procedures and resources for the system implementation, maintenance and for continuous quality improvement. (Ciurea, Drăgulescu, 1995; Oakland, Porter, 1996).

In SMEs, a QMS assures the targeting and control of activities directly or indirectly related to achieving the expected results. Generally, it comprises the organizational structure, planning, processes, resources and documented information employed to achieve the quality objectives (such as satisfying the clients' and relevant stakeholders' requirements). It also refers to enhancing the QMS effectiveness, which involves improving the quality of interrelated processes and the product and service quality. It specifies the requirements for good managerial practices with the purpose of obtaining quality, without mentioning a particular product or service. (Garengo, 2009). Therewith, it shows the way the company is functioning, directing and controlling the directly or indirectly related activities to the achievement of the expected results. Broadly, it refers to the organizational structure together with planning, processes, resources and documented information employed to achieve the quality objectives (QMS effectiveness improvement, quality improvement of processes, products and services). It has to put a stress on prevention and not on repairing or remaking. Quality should be built at any level, any stage, starting with the design, continuing with the procurement, production, marketing, delivery, ending with the management system that would ensure the conformity of the product with the specifications. The objective is to consistently produce an output that fits the purpose. (Ghobadian, Gallea, 1998; Ilies, Crisan, 2011; Olaru, 2004; Oakland, 2004; Prajogo, 2011; Psomas, Kafetzopoulos, Fotopoulos. 2013).

An effective QMS establishes, implements, maintains and continuously improves the processes and the interactions among them, according to the ISO 9001 international standards. The effective functionality of a QMS is an prerequisite for an effective quality improvement, within a holistic approach at the level of the entire organization. The ISO 9001 standard doesn't compel the organization to undertake certain operations as it is a voluntary instrument, recognized and applied world-widely by various organizations, irrespective of their field. According to ISO 9001, QMS contains a series of defining elements, such as: processes, resources, responsibilities, procedures, organizational structures and proves about the attained results. (Pitic, 2011; Lewis, Pun, Lalla. 2006.).

The majority of the organizations confront a number of challenges when they develop a QMS. In SMEs, these challenges are potentially more difficult considering the answers they can offer due to:

- minimal available resources;
- QMS implementation, putting into practice, maintenance costs;
- difficulties in understanding the concepts: process orientation, context, based on risk thinking, organizational knowledge, etc;

- difficulties of putting into practice a QMS. (Psomas, Kafetzopoulos, Fotopoulos. 2013; Prajogo, 2011).

The QMS implementation and putting into practice in SMEs shouldn't generate excessive paperwork, lack of flexibility or financial problems. The expenditure related to QMS implementation and putting into practice should be seen as an investment that can offer advantages in the form of benefits or certain types of improvement.

### 3. Research methodology

The purpose of this study is to empirically validate the conceptual structure of QMS on the basis of the ISO 9001:2015 international standards (adopted in Romania as SR EN 9001:2015) in SMEs from industrial production and to determine the critical success factors having a significant impact on effectiveness. The survey is based on a structured questionnaire addressed to 93 SMEs and the interviewees are the managers/people in charge with quality management or the general managers. The analysis of QMS implementation is focused on the chapters from 9001:2015 standards that mainly focus on quality improvement, customer satisfaction, preventing non-conformances by taking into account critical factors such as: internal and external motivation, the features of SMEs and their influence upon the effectiveness of QMS implementing and putting into practice.

### 4. The analysis of QMS motivations and implementation in SMEs

The QMS of a company encompasses a set of interconnected elements (policies, objectives, processes) founded on ISO 9000 standards family, elaborated by the International Standardization Organization (ISO) which incorporates the majority of national standardization organizations. ASRO is a part of it, and also of other international standardization organizations (IEC, EN, CENELEC and ETSI). (<http://www.asro.ro>).

The QMS based on ISO 9001 standards do not focus on products and services, but focus on the processes they create. The applied standards are generic as they can be employed in industry, construction, services or any enterprise, irrespective of its size or field.

In order to ensure the effective implementation and putting into practice a QMS, enterprises must have an adequate communication system as well as an appropriate level of the employees' empowerment. At the same time, the quality improvement strategy should involve all the departments, teams and individuals to deal with the quality issues and to prescribe recommendation for improvement.

Irrespective of the type of approach, a QMS focuses more on the process improvement than the creation and reinforcement of a quality culture, based on teamwork, which is to be rewarded according to the degree of achievement of the objectives and quality standards.

For the analysis of QMS implementation in SMEs, on the basis of ISO 9001:2015, according to the respondents to our questionnaire, we developed the *Rol.QMS* variable, which adds up to 10 primary variables. (fig. 1). After having performed the reliability analysis, it came out that the *Rol.QMS* variable has been designed according to a relevant structure of items, having a good internal coherence (Cronbach's Alpha = 0,821). The items and the primary variables that form the *Rol.QMS* variable, as well as the statistic indicators are presented in fig 1.

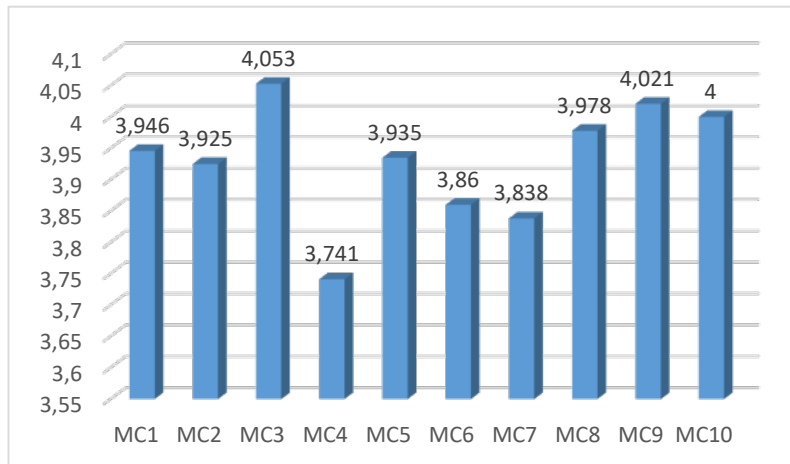
Table no.1. Tabstat *Rol.QMS*, statistics( mean count mean sd semean cv )

variable	mean	N	mean	sd	se(mean)	cv
Rol.QMS	3.931183	93	3.931183	.2666126	.0276464	.0678199

Source: Authors' contribution

Out from the data from table 1 it becomes obvious that the mean *Rol.QMS* variable is 3,931, with a mean deviation of 0,266 and a standard error of 0,027. These numbers show that the mean value is considerably close to the its real value as compared to the total population. Therefore, most probably, the real value is comprised between 3,877 ( 3,931 – 0,054) and 3,985 (3,931 + 0,054). The *variation coefficient (cv)*, 0,067 shows that the variable is normally distributed, meaning that the statistic population on which the variable has been determined presents a fine homogeneity.

Figure no.1. The role of QMS in SMEs



Source: Authors' contribution

The respondents to the questionnaire highlighted the fact that the importance of implementing the QMS in the enterprises of our survey consists of:

- understanding the internal and external clients' requirements, *MC3*, (4,0538);
- continuous quality improvement, *MC9*, (4,0215);
- solving the quality problems in teams and individually, *MC10*, (4,000)
- effective employees' involvement in implementing and putting into action a QMS, *MC8*, (3,9785);
- effective top management involvement in implementing and putting into action a QMS *MC1*, (3,9462);
- effective involvement of all employees in solving the quality problems, *MC5*, (3,9355);
- training the managers, at all levels, in quality management, *MC2*, (3,9251);
- using certain relevant indicators to asses quality and customer satisfaction, *MC6*, (3,8602);
- improvement of quality strategic planning, *MC7*, (3,8387);
- using the statistic instruments and methods to identify and analyze quality problems and control the processes, *MC4*, (3,7419) (fig. 1).

As we can see from fig. 1, according to the respondents, the most important QMS aspects which define its role in the organization refer to: continuous quality improvement; understanding the internal and external clients' requirements; solving the quality problems in teams and individually; effective top management involvement; effective training of the managers at all levels, in quality management.

We opine that there is a good opportunity for SMEs to implement QMS on the basis of ISO 9001:2015 standards, considering its flexibility and the lack of obligation to elaborate the quality manual. Additionally, the SMEs could give up all the conformance requirements which are not adequate for their good functioning.

## 5. The motivations of implementing QMS

Many specialists assert that the benefits ISO 9001 implementation shouldn't be determined only by the attractiveness of the standard, but mostly by the motivations that form the foundation of the decision to adopt the standard which has a positive impact upon the results. (Prajogo, 2011) It is a

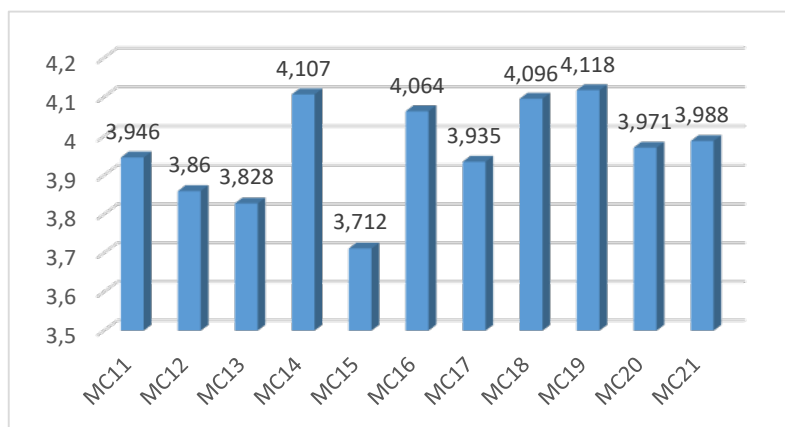
well known fact that the enterprises which have as motivation the certification for ensuring efficiency and product/services quality improvement can obtain higher benefits by increasing QMS effectiveness. (Feng, Terziovski and Samson, 2008). Nonetheless, in many circumstances, the ISO 9001 standards are implemented under the pressure of certain external factors pertaining to market partners. This means that many enterprises implement and certify a QMS on the basis of ISO 9001 because of some external motivations, such as the market pressure (from the clients and competition) or the use the certificate as a marketing tool. (Martínez-Costa, Martínez-Lorente, Choi, 2008). Despite this, the lack of internal motivation can affect the impact of ISO 9001:2015 upon the performance of the company (Rybski, Jochem, Homma, 2017).

Taking into account these facts, we have to highlight the idea that there are more and more specialists in favor of the necessity of taking into consideration both the internal and external motivations as a premise of assuring the QMS implementing and putting into action effectiveness, based on ISO 9001.(Terziovski, 2010; Psoomas, Fotopoulos and Kafetzopoulos, 2013).

The most important reasons for an enterprise to implement a QMS, regardless of its size, are:

- *satisfying the client needs*: it is the basic premise for a company to survive on the market and to ensure its competitive advantage. All the employees, irrespective of their position, have to act so to provide products/services according to the customers' needs. Along with the external clients' satisfaction, the company has to assure the internal clients' satisfaction, namely the employees' satisfaction, through an effective motivation system and an effective communication, which are critical factors for quality improvement;
- *professionalism in satisfying the client needs*: all the employees have to get involved in the processes and activities that assure products and services that meet high standards, according to the clients requirements. Being professional inflicts the use of the most adequate and effective methods and practices to improve quality;
- *market competitiveness*: it enforces enterprises to focus on strong market and client orientation, to operate at the same standards of the competitors, not only in product quality issues, but also in services to the client. The purpose is to ensure a competitive advantage, which asks for adequate strategies, policies and procedures elaboration and application, and for a functional and effective QMS implementation;
- *ensuring profitability*: it is not possible to talk about competitiveness on the market without assuring profitability, which implies the achievement of an acceptable profit rate;
- *responsibility to community*: any enterprise that wants a short and medium term success has to prove its ability to constantly provide quality products and services, which shows its responsibility to consumers and users, active members of community. (Juran, 1999; Ilies, 2003; Olaru, 2004; Briscoe, Fawcett, Todd, 2005)

Figure no. 2. The structure of the Motiv.QMS variable



Source: Authors' contribution

To analyze the motivations of QMS implementing on the basis of ISO 9001 in SMEs, according to the respondents, the variable *Motiv.QMS* has been produced. After having performed the reliability analysis, it came out that the *Rol.QMS* variable has been designed according to a relevant structure of items, having a good internal coherence (Cronbach's Alpha = 0,764). The items and the primary variables that form the *Rol.QMS* variable, as well as the statistic indicators are presented in fig. 2.

Out from the data from table 2 it becomes obvious that the mean *Motiv.QMS* variable is 3,979, with a mean deviation of 0,327 and a standard error of 0,033. These numbers show that the mean value is considerably close to its real value as compared to the total population. Therefore, most probably, the real value is comprised between 3,913 (3,979 – 0,066) and 4,045 (3,979 + 0,066). The *variation coefficient* (*cv*), 0,0822404 shows that the variable is normally distributed, meaning that the statistic population on which the variable has been determined presents a fine homogeneity.

Table no. 2. *tabstat Motiv\_QMS, statistics( mean count sd semean cv)*

variable	mean	N	sd	se(mean)	cv
Motiv_QMS	3.979462	93	.3272725	.0339366	.0822404

Source: Authors' contribution

The motivations of QMS implementing on the basis of ISO 9001, according to the respondents, refer to:

- effective administration of the quality problems, *MC18*, (4,096);
- the warranty of the company's capability to provide products and services according to the clients' quality requirements, *MC14*, (4,1075);
- the awareness of the entire body of personnel about the importance of conforming to the quality requirements, *MC17*, (3,935);
- ensuring market competitiveness through quality, *MC16*, (4,0645);
- improving the image/reputation of the enterprise, *MC20*, (3,971);
- increasing the customer trust, *MC19*, (4,118);
- the existence of an internal communication system, which would provide the necessary information about the stakeholders' requirements regarding the policies and quality programs, *MC11*, (3,9462);
- proving the management commitment and initiatives to improve quality, *MC21*, (3,9887);
- compatibility with other standardized management systems with the purpose of integrate them in effective management systems (e.g. quality, environment, health integrated management system, *MC15*, (3,7121);
- facilitating to meet the clients' and providers' requests in the logistic chain, *MC12*, (3,8602);
- aligning to the international practices in quality management, *MC13*, (3,8280).

According to their importance, the main motivations determined both by internal and external factors in QMS implementing (based on ISO 9001) are: effective administration of the quality problems; the warranty of the company's capability to provide products and services according to the clients' quality requirements; the awareness of the entire body of personnel about the importance of conforming to the quality requirements; ensuring market competitiveness through quality; improving the image/reputation of the enterprise; increasing the customer trust; the existence of an internal communication system, which would provide the necessary information about the stakeholders' requirements regarding the policies and quality programs.

## 6. Conclusions

The study proves the necessity and opportunity of QMS implementation in SMEs, as an important factor to achieve continuous quality by integrating all the functions and processes within a company which facilitates:

- the involvement of the company's management in the improving process, as a basic strategic objective;
- changes in the organizational culture by implementing a philosophy which confirms this direction and encourages the involvement of all employees as internal clients, as a requirement for the ethics of continuous improvements;
- introducing the mechanisms of change through training, communication, recognizing the results, the managers' behaviour, working in teams and programs to satisfy the clients' expectations;
- the managers' making use of the quality instruments and encouraging communication and feedback to ensure a stimulating environment for quality improvement; defining the mission, elaborating the quality strategy and stating the quality policy in order to achieve the quality strategic objectives; stimulating, training and updating the personnel; determining the quality costs as a non-quality measure, which means to not satisfy the clients needs and requirements. (Oakland, Porter 1996; Ilies, 2003; Olaru, 1999).

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