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# IS QMS CAPABLE OF SUPPORTING THE COMPANY'S INNOVATIVITY? – RESEARCH RESULTS

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**SUMMARY**
*One of the eight pillars supporting the quality managements systems compliant with Series 9000 ISO standards requirements is continuous improvement. This rule is present within EU politics for years 2007-2013, aimed at increasing the innovativity of the economy. This article presents the research results, conducted on a certain number of small and medium-size companies. The goal of this research was to define whether there is a connection between a QMS implemented in the company and capability and willing of these companies to implement innovations. The research was conducted on a population of 130 production and service companies.*

**Keywords:** quality, management, innovation

## 1. INTRODUCTION

Innovation is understood as changes which might have a technological, organisational, social and psychological nature. The notion of innovation also encompasses the introduction of new products, the improvement of the already existing ones or introducing a new production technology. In economic sciences this notion may refer to the opening of a new market, the introduction of new promotion, sale or purchase methods or launching a production of the already known products while using new materials or innovative methods of manufacturing process organization [1]. Although Schumpeter's deliberations go back to the middle of the previous century, they have not become out of date. This is reflected in the strategy adopted by the European Union. The targets for the years to come up to 2020 include the implementation of provisions contained in the union documents focusing on the development of innovation in Europe. This plan, issued in 2011 by the Enterprise and Industry Directorate General, establishes prospective targets until the year 2010, among others to promote innovation as a means to generate new sources of growth and meet social needs. According to the adopted strategy, knowledge and innovation are areas of key importance for the future of European economy. In order to fulfil the assumptions of the new strategy Europe 2010, the European Union is beginning to implement the provisions contained in one of the leading initiatives – Innovation Union.

The need to introduce innovations was emphasised by Drucker [2]. He claims that enterprises which are not able to introduce innovations cannot survive in the changing environment. Also Deming treats innovation as a necessary means to improve production processes, which

together with creativity improves the effectiveness of an enterprise, and in consequence improves its competitiveness [3].

The economic and political transformation in Poland coincided with the first issue of ISO series 9000 standards. These changes, initiated at the beginning of the 90s, were related to Poland's preparations to European Union accession. Adjusting Polish economy to the free market requirements was connected with the implementation of adjustment programmes, which were first financed by the Polish government, and next by Union pre-accession and structural programmes. These programmes, especially the ones geared towards small and medium-sized enterprises, included programmes to support quality management systems implemented in these enterprises, based on the requirements of ISO 9000. Quality systems based on the concepts contained in ISO series 9000 standards rely on eight pillars, which beside customer focus, leadership, engagement of people, process and system approach, highlight the importance of continuous improvement and taking decisions on the basis of facts [4]. The relationship between a QMS (Quality Management System) and the strategic goals of an organisation, business and financial targets was highlighted in the document ISO/TC176/IAF, 2003, issued at the meeting in Sydney (Fig. 1). From this perspective, a QMS is a tool which allows organizations, irrespective of their size, not only to improve a product by tailoring it to the needs of a customer, but also to streamline business and organizational processes. However, the effectiveness of the implemented quality systems in view of the assumptions adopted in Sydney is determined by the proper preparation of small enterprises for the process of quality system implementation [5].

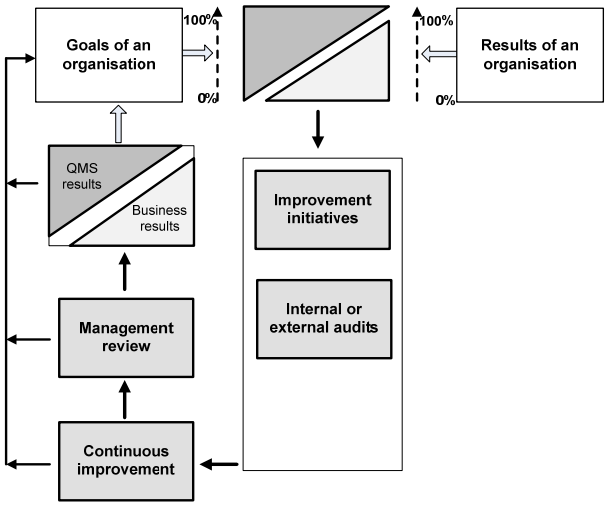



*Figure 1 The relationship between the aims of an organisation, its economic results and improvement cycle.*

The major aim of internal quality improvements is to eliminate from the internal processes the activities which do not bring an added value, i.e. to prevent the defects and problems in internal processes, use the resources in a better way, design more efficient processes and improve a product or service. The improvement of external quality is geared towards the external customer in order to increase his satisfaction [6]. The implementation and maintenance of a QMS and the resulting continuous improvement is closely related to innovation, and consequently, becomes part of the EU policy. A question might therefore be asked whether the organizations which implemented quality management systems use them to introduce innovations.

## 2. A QUALITY MANAGEMENT SYSTEM VERSUS INNOVATION OF ENTERPRISES – PRESENTATION OF RESEARCH RESULTS

Investigations were carried out in order to evaluate whether there is a relationship between the established and implemented QMS and the ability of enterprises to introduce innovations. A thesis was advanced that the introduction of a QSM in small and medium-sized enterprises favours the introduction of innovation. For the research needs, the innovative character of enterprises was broadly defined as an internal ability and tendency of enterprises to create and make a practical commercial use of innovations – its meaning encompasses the ability to create, implement and diffuse innovations, as well as the skill of receiving innovation from outside, from the environment [7].

## 3. RESEARCH METHODOLOGY

130 subjects operating in Poland, in the Province of Silesia were selected for the survey. In order to obtain a broader range of conclusions, also big companies and the ones which did not have a certified quality management system were selected – the total of 47 subjects. After carrying out a questionnaire survey and evaluating the completeness and consistence of the obtained data, the results concerning 41 companies were accepted for synthetic analysis. The investigations were conducted by the questionnaire method (internet survey) in the period from September to October 2010. The selected companies were sent a questionnaire, which was divided into three parts referring to – general information on the enterprise, the implemented QMS and the issues related to innovation. The formulation of questions concerning innovation was based on the methodology of cyclical international statistical surveys regarding the innovative character of European Union enterprises (Community Innovation Survey – CIS 3) [8]. Questions in this part were divided according to the typology contained in the Oslo manual [9]. The surveyed enterprises were classified from the point of view of such qualities as: size (according to employment), type of activity, age (period of operation on the market), branch, type of property, scope of activity and the current financial situation of a surveyed subject (Fig. 2).

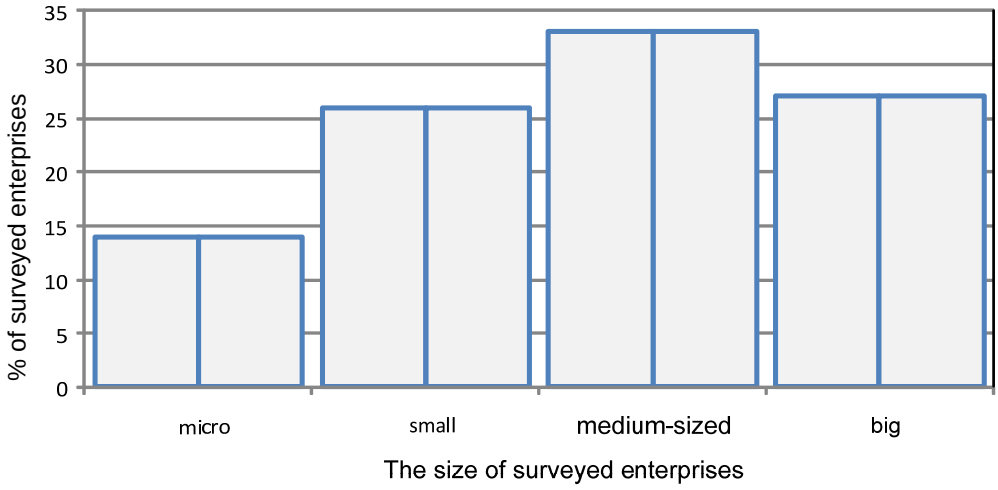
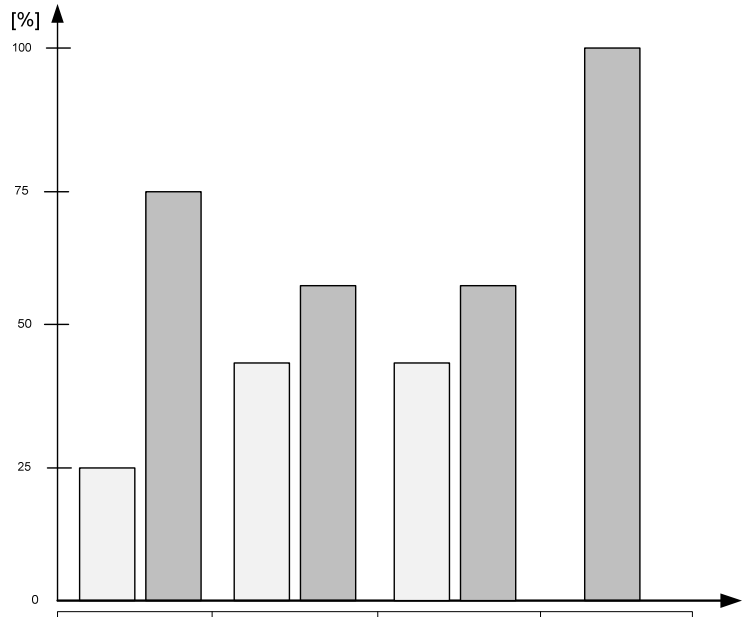



*Figure 2 Division of enterprises in the examined sample according to size*

Most of the surveyed companies were production plants – 34%, service providing companies – 26% and production & service firms – 19%. 66% of the companies might be described as mature due to the experience based on the period of operation (longer than 10 years on the market). The second largest group among the surveyed companies (21%) were firms operating on the market for 5 to 10 years. The division of companies according to the implemented QMS has been presented in Fig. 3.




| | micro | small | medium - sized | big |
|---|---|---|---|---|
| yes | 25% | 43% | 84% | 100% |
| no | 75% | 57% | 16% | |

*Figure 3 A Quality Management System in small and micro-enterprises*
*Source: own study*

Process and product innovations were the most frequently introduced in the surveyed enterprises. Innovations were more often introduced in the group of small and medium-sized enterprises having a certified QMS than in the group of enterprises which did not have a quality management system (the group of enterprises without a QMS included the enterprises currently implementing a QMS). In the group of SMEs having a QMS certificate, 25% of enterprises did not introduce innovations, whereas in the group without a QMS this figure reached 39%. In the group of big enterprises (analysed as one group due to the fact that all subjects in this group had a QMS) 19% accounted for subjects which did not introduce innovation. The most significant source of innovation in small and medium-sized enterprises, irrespective of the possessed QMS, and in the group of big enterprises was the enterprise itself/the employees. Another important source of innovation were other enterprises, customers. Institutional sources were quoted in the group of big enterprises (25%) more frequently than in the group of small and medium-sized enterprises (12%). In the group of big enterprises an important source of innovation were also fairs and exhibitions (38%). What attracts attention is the fact that small and medium-sized enterprises having a quality management system more frequently pointed to customers and suppliers as the source of innovation.

## 4. THE EFFECTS OF INTRODUCED INNOVATIONS

The effects most frequently quoted by small and medium-sized enterprises included: the improvement of product quality (45%), broadening the range of products (36%) and increasing the sale (31%), that is the effects related to product innovations. The effects of introduced innovations which were most frequently indicated by big enterprises included: an increased production capacity (69%), improved product quality (63%), reduced costs of material and energy per a production unit (50%) and broadening the product assortment (50%). In general, small and medium-sized enterprises having a QMS pointed to more effects of the introduced innovations than the ones which did not have a QMS.

## 5. SOURCE OF FINANCING

Innovative projects were most frequently financed by own means (owner, current activity of an enterprise) both in SMEs and big enterprises, no matter if they had a quality management system or not. Other sources of financing included banks - quoted by 29% of SMEs and 44% of big enterprises, as well as UE funds – 21% and 25% respectively. Small and medium-sized enterprises having a QMS pointed to finances from European funds (29%) more often than the group of enterprises without a QMS (7%).

## 6. THE EFFECT OF A QUALITY MANAGEMENT SYSTEM ON THE INNOVATIVE ACTIVITY OF ENTERPRISES

Both in the group of SMEs and big enterprises the respondents more frequently pointed to the lack of influence of the implemented quality management system on the increased number of the listed types of innovative activity. An exception is the application of innovative methods and tools in production management. Both in the group of SMEs (yes – 42%, no – 38%) and in big enterprises (yes – 56%, no -31%) the respondents more frequently pointed to an increased number of innovative methods and tools applied in production management after implementing the quality management system.

## 7. SUMMARY

In the subject literature the notion of innovation is interpreted in different ways. There is, however, agreement regarding one claim: innovation is one of the key factors in the achieving of competitive advantage. New products, technologies or management systems are necessary for the development of an enterprise. An efficiently functioning quality management system generates data and information on an enterprise, the analysis of which gives access to knowledge. When properly employed, this knowledge may become an internal source of information. A quality management system may therefore stimulate the innovative character of an enterprise. However, not all enterprises see a QMS this way (as a tool to enhance their innovation), which has been confirmed in the investigations carried out by the authors. In the opinion of respondents representing SMEs, the implementation of a QMS did not have or had very little effect on increased innovation (51% - the highest percentage).

Big enterprises more often pointed to positive effects of the implemented QMS. 50% of enterprises in this group reported a high or very high degree of increased innovation due to the QMS functioning (50%). The most frequently quoted barrier in the QMS implementation in the case of SMEs were economic factors. Small and medium-sized enterprises which did not have an implemented QMS pointed to the lack of customers' participation (36%) in the process of generating innovations more often than enterprises having a QMS (13%). Small and medium-sized enterprises which had a quality management system pointed to more types of undertaken innovative activities than enterprises without a QMS. In the opinion of respondents, both from the group of SMEs and big enterprises, the implemented QMS influenced only an increased number of innovative methods and tools applied in production management.

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