

# ISO 9001 IN ORGANIZATIONS: INFLUENCING FACTORS AND BENEFITS

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**Annotation.** The aim of this study is to identify and classify potential and verified benefits of implementing quality management systems according to ISO 9001 standard and to give an overview on how certain positive or negative factors manifest in the adherence to ISO 9001 in practice. The paper classifies the major identified benefits into internal and external ones. It also relates the potential benefits to factors and indicators which reflect specific standard requirements in order to attain these benefits.

**Keywords:** quality management; ISO 9001 quality standard; implementation of ISO 9001; benefits

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## INTRODUCTION

Over past 60 years quality management has shown its importance in increasing competitiveness of companies and economies (Priede, 2012) and this importance is still vital with the increase of global competition. Top management is looking for more competitiveness tools in order to survive.

Quality management systems are one of the most effective tools for companies to increase competitiveness and scientists have carried out various researches in attempt to disclose different incentives and benefits for companies implementing quality management systems, especially ISO 9001 standard. The standard provide guidance and tools for companies and organizations who want to ensure that their products and services consistently meet customer's requirements, and that quality is consistently improved

The aim of this study is to identify and classify potential and verified benefits of implementing quality management systems according to ISO 9001 standard and to give an overview on how certain positive or negative factors manifest in the adherence to ISO 9001 in practice.

Study design: The research is based on a review of the relevant literature, mostly articles relating to implementation of the ISO 9001 standard

Originality/value: By aggregating the outcome of several research papers the paper paints a more comprehensive picture of business benefits from ISO 9001 implementation, which could be a step towards further research and help management and practitioners in companies to develop their quality management systems.

## CONCEPTUAL FRAMEWORK

Quality is still very important and strategic component of competitiveness. One of the most popular quality management systems in the world is ISO 9001 standard. The ISO 9000 family of standards has been developed to assist any organization in all sectors regardless of size, type and activity to implement and operate effective quality management systems. It has many benefits that make it so popular within entrepreneurs (Priede, 2012). To improve competitiveness around the world, ISO 9000 has been widely adopted as a quality management system, but with mixed success (Kuo et al., 2009).

### *Positive effect of ISO 9001 on company performance*

Different studies investigated different impact of quality standards' adoption on the company' s performance, giving focus on:

- financial results Albulescuab , 2016; Ullah, Wei & Xie, 2014; Heras-Saizarbitoria, Molina-Azorín & Dick, 2011;).
- labor productivity, (Garcia-Pozo, Sánchez-Ollero & Marchante-Mera, 2014),
- improved consistency of output (processes are clear and understandable to employees and work can be done right from the first attempt).
- information to the top management whether
  - ✓ all processes are running as it was defined;

- ✓ procedures ensure corrective action when defects occur;
- ✓ defects are caught earlier and are corrected at a lower cost;
- ✓ the causes of defects are identified and preventative actions defined;
- ✓ procedures are documented (assure smooth work of new employees);
- ✓ organizations retain or increase market share, increasing sales or revenues (Priede, 2012).

Because ISO 9001 specifies the requirements for an effective quality management system, organizations find that using the standard helps them:

- Organize a QMS;
- Create satisfied customers, management, and employees;
- Continually improve.

It can be generally concluded that ISO 9001 generates positive effects for the companies that implement it (Castillo-Peces, et al., 2018) and these positive aspects can be classified into “external benefits” and “internal benefits”. The first ones are related to improvements in terms of marketing and promotional aspects, increase in customer satisfaction and the improvement of market share, while internal benefits are related to organizational improvements, the reward system, team work, the measurement of performance and communication, continuous improvement (Kaziliunas, 2010; Coleman & Douglas, 2003; Gotzamani & Tsiotras, 2002). These benefits are shown in Table 1.

Table 1

**Typology of positive effects deriving from adherence to ISO 9001**

	Factors	Indicators
EXTERNAL BENEFITS	Financial	✓ Increased turnover
	Commercial	✓ Access of new customers and Access of new markets
	Customer management	<ul style="list-style-type: none"> <li>✓ Customer satisfaction</li> <li>✓ Decrease of non-conformities or claims</li> <li>✓ Greater production value</li> <li>✓ Image improvement</li> </ul>
	Market share	<ul style="list-style-type: none"> <li>✓ Greater consumption,</li> <li>✓ Increased market share</li> <li>✓ increased competitiveness</li> </ul>
INTERNAL BENEFITS	Organizational / strategic	<ul style="list-style-type: none"> <li>✓ Control of production / service management</li> <li>✓ Establishment of responsibilities and rules (clearer working methods and requirements)</li> <li>✓ Increased innovation</li> <li>✓ Improvement of internal control system</li> <li>✓ Better communication and information management</li> <li>✓ Improvement of coordination with suppliers</li> </ul>
	Implementation of activities	<ul style="list-style-type: none"> <li>✓ Better use of resources</li> <li>✓ Reduction of inspection costs</li> <li>✓ Improvement of overall efficiency</li> <li>✓ Reduction of non-conformities</li> <li>✓ Improvement in the fulfillment of implementation time</li> <li>✓ Reduction of “non-quality” costs</li> </ul>
	Human resource management / motivation	<ul style="list-style-type: none"> <li>✓ Teamwork</li> <li>✓ Improvement of employee suggestion systems</li> <li>✓ Reduction of absenteeism</li> <li>✓ Greater satisfaction and motivation at work</li> </ul>

(Source: Susniene & Sargūnas, 2017; Castillo-Peces et al., 2018)

As an external motivation factor, ISO 9001 certification is frequently used as a marketing tool (Poksinska et al., 2006). Companies evidence that without ISO 9000 certification they would not be able to get considerable number of contracts (Douglas et al., 2003). Customer pressure is also important as not only current customers can be retained but also new ones attracted (Martínez-Costa & Martínez-Lorente, 2003).

From the customer perspective, ISO certification would create positive customer sentiment for specific manufacturing industries, promote customer's long-term support and enhance customer satisfaction and loyalty. Quality may be considered as a strategic competitive tool, and organizations cannot afford to ignore the strategic implications of quality for their competitive position. Lee et al. (2009). The ISO 9000 standard, by requiring all processes and procedures to be documented, undoubtedly, is commonly associated with better control of organizations (Molina et al., 2004). This standard enhances the control of management systems by documentation and formalization (manuals, procedures, instructions, protocols, etc.) and systematization (hierarchical, orderliness, sequentially interacting processes) (Anwar & Jabnoun, 2006). From the financial perspective, ISO certification would be beneficial to the promotion of activities, improvement of profitability and the productivity of facilities; from the internal process perspective, ISO certification would effectively improve the standardization and systematization of production processes and further reinforce the overall working environment.

## METHODOLOGY

### *Research objective*

The application of the ISO 9001 standard can be assessed in two ways: as giving real benefits for all internal and external processes within the organization and as a management quality system that can be assessed negatively due to its complexity, periodic updating and the demand for large financial resources.

In this context, it is possible to form the objective of the empirical research - to identify the reason for the application of the ISO 9001 quality standard by the example of the enterprises in Panevėžys County. The research problem was to reveal how the application of ISO quality standards determines the activities of Lithuanian companies in Panevėžys County.

### *Research sample*

Non-probability sampling was used and involves selecting participants using methods that do not give every individual in a population an equal chance of being chosen. The type of this sampling involved was **purposive sampling** that sought out individuals that meet certain criteria. In our case 98 quality representatives or employees in other positions (that are also responsible for quality matters in a company) were involved. Our study sought to analyse specific phenomenon in depth with a smaller sample size limited to companies in Panevėžys County which is the fifth largest county in Lithuania. We targeted companies that have implemented the most popular international quality standard ISO 9001.

As the final deadline for implementing ISO 9001: 2015 is September 2018, the study was carried out under ISO 9001: 2008; furthermore, it requires a certain period of time to feel the benefits of the new standard and its new philosophy with more emphasis on risk assessment and leadership. The questionnaire was sent in December 2016 by electronic mail and the second time in March 2017 to increase the number of completed questionnaires. Finally, 89 questionnaires were received.

The identification of participants regarding their seniority at a company was used in order to get information on their work experience at a company and to get more reliable and valid data from their answers. The survey found that the vast majority of respondents had sufficient work experience to objectively evaluate the application of the ISO 9001 standard in the company, since they have been working for 10 years or more (46.94%) respectively. 19.39% of all the respondents work more than 1 year (from 1 to 3 years).

### *Questionnaire*

Taking into account the designed typology of positive effects deriving from adherence to ISO 9001 in this research, the assessment of the application of ISO quality standards benefits can be made. The components of the questionnaire and the characteristics of the ISO Quality Standards Survey are presented in Table 2.

The questionnaire is based on the typology of positive effects deriving from adherence to ISO 9001 and the interfaces between the components of the empirical research and their indicators. The submitted questionnaire is anonymous; it consists of the following parts: introductory, identification of practical application, standardization of benefits and negative aspects of identification, and highlighting the recommendations for the planning companies.

The first part of the questionnaire consisted of survey type questions that allowed identification of respondents according to their gender, duties, education, length of service in the company (work experience), etc. In answering these questions, the respondent was able to select only one possible answer. The second

part of the questionnaire sought to highlight the respondents' experience in participating in ISO 9001 standard deployment processes.

In this part of the questionnaire respondents were able to choose one answer option; one question was in the form of a ranking scale (asking for the evaluation of the statements from the full consent to the total disagreement). The next part of the questionnaire was characterized by the identification of the respondents' opinion regarding the application of the practical standard. In this section, questions with one possible option and one question of a rated type prevailed (1 as very bad and 5 as very good). The most useful information was obtained from the third part of the questionnaire, in which the respondents had to identify both the positive (benefit) and the negative aspects of application of the standard in the company they represent. In this section, most of the statements were of a type rating scale.

Table 2

**Interfaces between empirical research components and their indicators**

Questionnaire component	Component indicators
<b>Implementation of ISO 9001 quality standard in the company</b>	<ul style="list-style-type: none"> <li>• Clarity and comprehensibility of ISO quality management standard implementation process for all company professionals and executives;</li> <li>• Different types of consultations used at a company for the implementation of the standard;</li> <li>• Appropriateness of standardization of company processes to ensure the quality of the operation;</li> </ul>
<b>Practical / realistic application of the ISO 9001 standard in the company</b>	<ul style="list-style-type: none"> <li>• Precise performance of works and functions according to the quality manual;</li> <li>• The proper functioning of the standard in the company;</li> <li>• Perceived benefits of the standard in the company;</li> </ul>
<b>Benefits of the ISO 9001 standard to the company</b>	<ul style="list-style-type: none"> <li>• Better marketing opportunities;</li> <li>• Satisfaction of customers and partners with the quality of production;</li> <li>• Increased consumption leads to higher profits;</li> <li>• Increasing competitive advantage;</li> <li>• Increasing or steady performance;</li> <li>• Delegation of jobs according to the positions and objectives of their performance;</li> <li>• A clear salary and promotion system;</li> <li>• Smooth and timely communication of information to employees of the company;</li> <li>• Increased efficiency of the company;</li> </ul>
<b>The negative aspects of the ISO 9001 standard</b>	<ul style="list-style-type: none"> <li>• Much time spent for extra work;</li> <li>• Complex implementation of the system;</li> <li>• Frequent system updates;</li> </ul>

*Results*

All respondents were asked if they were involved in the ISO 9001 standard implementation process. The aim was to reveal the aspects of implementation of the standard in the enterprises, to introduce the main implementation problems encountered by the persons questioned. After summarizing the results, it turned out that more than half of all respondents, i.e. 64.29% participated in the standard implementation process, the rest indicated that they had not participated (35.71%).

Those who answered questions about the standard implementation process were asked whether they had a clear implementation of this standard. It should be noted that all managers and the majority of the heads of divisions responded to these questions, but the majority of respondents were specialists in the field (49.21% of all respondents to this question). Such involvement of active specialists in the standard implementation process can be linked to the tasks delegated to them from higher-ranking employees of the company and with the greater involvement of respondents in the survey.

The study found that 53.97% of persons who participated in the implementation of the ISO 9001 standard found the implementation process clear and understandable. This indicates that these respondents were well prepared to adopt a new quality assurance system, they were probably aware of the peculiarities of

this process in advance. To a lesser extent, the process of introducing the standard for respondents to this question was only partially clear, making up 38.10% (24.49% of the total number of respondents). In addition, the results showed that only a small percentage of respondents did not understand the implementation process (7.94% of respondents to this question). It can be concluded that respondents who participated in the process of implementing ISO 9001 standard were not only carefully selected by the managers of companies, but also properly prepared for this work, and therefore obtained comparatively very good results.

In order to get a wider view on the implementation of the quality management system in companies under investigation, the respondents were asked to evaluate the clarity or uncertainty of these works. The results obtained are presented in Figure 1.

After summarizing the data obtained, it became clear that many quality system installation works for respondents were clear. According to this, it can be concluded that the process of implementation of ISO quality standards in Panevėžys County enterprises was consistent and did not cause any major concern within companies. Respondents identified the preparation of quality system documents as the clearest work of system implementation (63.49%). It can be argued that this result was influenced by comprehensive recommendations and instructions that describe the course of work required. However, it is noted that the essence of same work was not understood by 25.40%. It was mentioned that not all employees can properly interpret the information provided and apply it in practice.

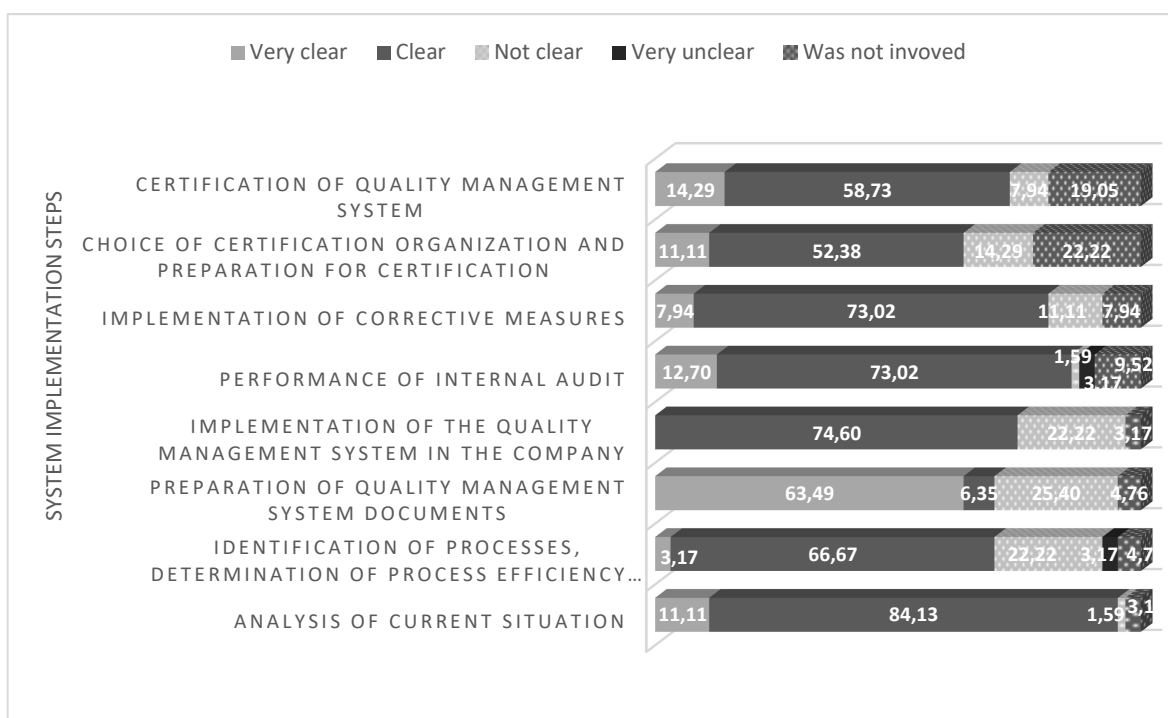


Figure 1. Evaluating the clarity / uncertainty of implementation of the quality management system

It should be noted that only a small number of respondents assessed several quality system implementation tasks as highly unclear, namely: process identification, determination of process efficiency indicators and measurements (3.17%) and internal audit performance (3.17%). It is noteworthy that the first negative work was unclear to men who appeared to be heads of a particular department and the second to female specialists. This distribution of responses was probably due to the characteristics of individual employees (ignorance of certain areas or lack of competence).

Given the fact that the ISO quality standard process is highly documented, compliance with the rules is required, not everyone is able to properly interpret the information received and adapt it, and therefore, there is a need for a certain level of consultation that helps to properly perform the required work. Respondents were asked whether they had participated in consultations on the implementation of the ISO quality standard. It is noteworthy that most of the people (76.19%) who participated in the ISO quality standard process participated in the consultation process. The remaining respondents indicated that they had not taken part in the consultation. Looking at the position of the heads of directors and heads of departments



who took part in the consultations, it can be seen that all directors and 62.96% of participants participated in the consultations. It could be argued that the consultation was especially needed for those who are most committed to managing the ISO quality management system and functioning. Moreover, such an active participation of respondents can be based on the desire to have sufficient knowledge or to deepen existing ISO quality standard deployment.

The study sought to find out what activities were the most difficult in the process analysis. The obtained results are presented in Figure 2.

As it turned out during the research, for the respondents it was most difficult to analyse existing documents and their compliance with the requirements of the quality management system (31.82%). This could have led to a lack of complete documentation of certain documents in the company, a lack of practical experience, lack of knowledge of the specifics of the company, or a lack of staff expertise in the process of document analysis and evaluation. In addition to this, two other key actions that have encountered difficulties in implementing a quality system in the company were identified: preparation of missing documents, their preparation schedules (22.73%) and clarification of requirements for a certain process (22.73%). As the easiest activity with least uncertainties, the respondents identified the determination of the level of employees' duties and authority in quality (6.82%). This could have been the consequence of the direct work of the majority of respondents (directing other employees) and the principal similarities in these activities (to identify who is responsible and to delegate certain tasks to others).

It is often the case that many companies that have implemented a certain standard do not apply it in practice, as this is usually the desire of customers, but not the need of the organization itself. In our research, the majority of respondents said that ISO quality management standard in their company is applied in practice (65.31%). This shows that companies are responsive to this standard, see the positive side of the standard and seek not to formally but actually operate in the company. However, 28.57% of respondents indicated that the standard is applied partly. It should be noted that only 6.12% of the respondents said that this standard is only a formal phenomenon and therefore practically is not applied in their company. Possible causes of non-full practical application may include such as lack of time, high volume of documentation or a lack of quick benefit.

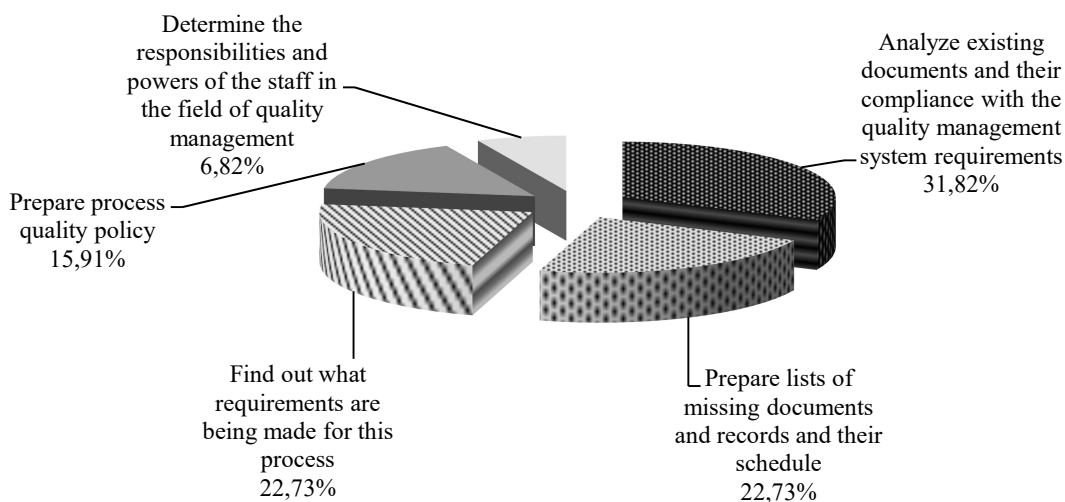


Figure 2. The most difficult activities in the process analysis

In conclusion, it can be stated that the reviewed empirical research supports all of the identified benefits and disclose a relatively good practical application of the ISO 9001 in Panevėžys County. Obtained positive results may be determined by the specifics of the activity of respondents' and their positions as the majority of them were involved or were responsible in the implementation of the standard.

## DISCUSSION AND CONCLUSIONS

Quality and its management is still very important strategic component of competitiveness. One of the most popular quality management systems in the world is ISO 9001 standard. It has many benefits that make it so popular within entrepreneurs, but the managers of organizations should carefully design the ISO 9001 implementation strategy. In this respect, it is important to realize the necessity to align quality programmes with business strategies in order to ensure that efforts reflect the long-term goals of an organization. A critical point in this effort is the commitment of top management to set priorities in appropriate resource allocation during the design and implementation of the ISO 9000 quality system.

The academic literature presents possible benefits of the implementation of the ISO 9001. The paper classifies the major identified benefits into internal and external ones. It also relates the potential benefits to factors and indicators which reflect specific standard requirements in order to attain these benefits.

The literature provides two explanations about how quality management practices improve business's performance (Lafuente, Bayo-Moriones & García-Cestona, 2010). On the one hand, the operational view underlines that firms adopting quality management schemes better address risks and improve their performance, preventing production processes' failures. On the other hand, the strategic approach emphasizes that quality standards' adoption costs can be seen as investments, bringing further benefits to companies

With this research we described which are the benefits obtained thanks to the ISO 9001 standard and at the same time we have identified and classified benefits into two types: external and internal with their factors and indicators. The paper has discussed the benefits of implementing the ISO 9001 in relation to standard requirements and important factors (such as financial, customer management, market share, strategic, implementation of activities, motivation), which must be considered and assured when implementing the ISO 9001 in order to achieve those benefits. Finally, benefits associated with all factors and indicators have also been empirically confirmed. Following the assessment of the application of ISO quality standards by the example of Panevėžys county companies, it can be stated that the ISO quality standard for companies especially operating in the international market is beneficial due to increased efficiency of operation, better marketing, more favourable image formation and effective practical application. It is noteworthy that the quality standard has had a positive impact on many areas of the company, such as profit, quality or advertising. However, a concern remains of how to stimulate companies to develop and maintain their quality management systems in such a way that the mentioned benefits are attained.

The results achieved in this study have some limitations and suggest areas for future research. Firstly, the respondents surveyed mainly represented positions that were close connected with quality management, so their opinions could be biased due to certain interest in stating that the implementation results were positive. Second, our research was carried out when the ISO 9001:2008 was valid and the respondents based their answers on the practice of this standard. The new version of the ISO 9001:2015 standard brings the user a number of additional benefits: puts greater emphasis on leadership engagement; helps address organizational risks and opportunities in a structured manner ; uses simplified language and a common structure and terms, which are particularly helpful to organizations using multiple management systems, such as those for the environment, health & safety, or business continuity; addresses supply chain management more effectively; is more user-friendly for service and knowledge-based organizations.

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