

Impact of Implementation of Standardized Quality Management Systems on the Functioning of Organizations in the Textile Industry

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Abstract

This article addresses the issue of the impact of implementing a standardized quality management system on the functioning of organizations in the textile industry. An empirical research was carried out by the authors in 2017 on a group of small and medium enterprises operating in the textile industry in Poland and Slovakia. The main objective of the study was to determine the impact of standardized quality management systems on the functioning of small and medium-sized textile organizations. The research process and analysis of the results obtained allowed us to comment on the research questions and state that the following: the main prerequisites for textile organisations to implement quality management systems include internal factors that contribute to the improvement of customer management and customer management processes. Standardised quality management systems have a relatively significant impact on the improvement of key processes in enterprises.

Key words: textile industry, quality management system, ISO 9001, SMEs.

■ Introduction

Enterprises operating in the textile industry, both locally and globally, are increasingly forced to take measures directed to elevating the effectiveness of the operation and implement innovative solutions. This is due to the fact that organizations operating in this industry must fully adapt to the needs of customers who have specific requirements for quality, choice and the purchase timing of a product, which is associated with seasonality and its specificity. Because of this, companies operating in the textile industry ought to adjust their business models to current market conditions, as well as produce products that will enable them to offer greater value to their customers and to strengthen their competitive position [24]. The cause of this condition, among other things, is the

fact that the textile industry is closely interrelated to the phenomenon of fashion creation. These large clothing companies, through designers, create fashion for specific clothing designs, changing the styles each season and maintaining a low inventory level [6]. Therefore they can, at least partially, reduce the risk of excess supply of such designs that do not find buyers. Unfortunately smaller organisations do not have such opportunities and have to take some risk by bringing their collections to market, being aware that wrong decisions can bring enormous losses. [9, 11, 14]. It should be mentioned that in recent years, the structure of the textile and clothing industry in Poland (but also in Slovakia, Germany and other European countries) has radically changed, and now 90% of organisations are small and medium enterprises. Defragmentation of production causes that textile companies are struggling additionally with many problems that limit their efficiency and effectiveness. These problems relate to areas such as:

- issues with managing a wide variety of short-life products,
- difficulty in maintaining proper relations with customers,
- staffing issues,
- meeting customer expectations (in advance and timely delivery),
- increasing supply chain transparency to improve customer information and facilitate decision-making in a timely manner,
- establishing proper relationships with suppliers,

- improving internal processes,
- improving ways of managing the organization.

The problems highlighted cause that small and medium-sized entrepreneurs are looking for solutions that will enable them to streamline their wide-ranging customer services and improve critical processes both within the enterprise and throughout the supply chain [15]. According to the authors of this publication, the requirements of standardised quality management systems should be helpful in this context. These systems target the customer and improvement of essential areas in business management [2-3, 16, 22]. Unfortunately the implementation of solutions proposed by standardized quality management systems does not always meet organizations' management expectations [1, 27-28]. Particularly small and medium-sized enterprises relatively often raise some concerns and doubts about the meaning of the implementation of the requirements of standardised quality management systems. Entrepreneurs formulate the thesis that the ISO 9001 quality management system (which will be analysed in this publication) is not adapted to smaller organisations and that its implementation costs do not justify the effects achieved. While keeping these opinions in mind, it should be mentioned that the causes of abnormalities in the operation of a standardized quality management system may be many, and they can range from misunderstanding of the basic principles proposed by the ISO

Table 1. Hierarchy of prerequisites for implementation of management systems. *Source: own research results.*

What are your main reasons for deciding to implement quality management systems in your company: (Please choose from 1 to 3 variants of answers)	Answers	
	Number of answers	Percentage %
Environmental aspects	5	3
Prestige, resulting from certificate ownership	7	4
Influences from cooperating divisions	8	5
Cost reduction	8	5
Timeliness and reliability of supply	12	8
Maintain or improve market position	14	9
Minimise errors and mistakes	21	13
Arrange basic processes within the organization	37	23
Improve customer service processes	48	30

9001 standard to financial difficulties or blatant errors made while implementing ISO 9001 requirements in an enterprise [8, 25]. In addition, each industry has its own characteristics which also might be relevant in the context of the implementation of standardised quality management systems. Therefore the essential question arises as to whether the implementation of standardised quality management systems in small and medium textile organizations is justified and needed. In order to find an answer to such questions, the authors carried out a research process on a group of Polish and Slovakian small and medium enterprises operating in the textile industry.

■ Research methodology

Empirical research was carried out by the authors in the first half of 2017 and covered substantive and organisational activities. The research was conducted using research tools, such as a questionnaire, which consisted of twelve questions, both open and closed. The survey was conducted through an online survey. The main topics in the research area include:

- lack of comprehensive research, both primary and secondary, in national literature on this subject,
- importance of inclusive customer service in the textile industry,
- specification of the Polish and Slovakian markets, which focuses on the production of high quality products rather than on mass production,
- recognition of links between quality management and organisation improvement in the textile industry,
- the significant number of small and medium-sized organisations in the textile industry, for which the research could be useful in deciding whether to

implement standardised quality management systems or not.

The main objective of the study was to determine the impact of standardised quality management systems on the functioning of small and medium-sized textile organisations. The explanation of such a broadly researched problem as well as its refinement prompted the authors to formulate the following research questions:

- What are the prerequisites for the companies surveyed to implement quality management system requirements?
- To what extent standardised quality management systems affect the improvement of key processes in the organizations studied?
- Is the implementation of a standardized quality management system justified?

In attempting to get answers to such questions, a questionnaire was developed. Questionnaires were distributed to members of the board of directors and quality managers of 250 small and medium-sized organizations operating in the textile industry in Poland and Slovakia. A prerequisite for the selection of the company was:

- implemented quality management system in accordance with ISO 9001,
- falling within the group of small and medium-sized enterprises.

Fully completed survey forms were obtained from 33 organizations (20 Polish and 13 Slovak). More than one form (filled in by several members of the board and quality managers) was obtained from 16 companies. As a result, 56 respondents were involved in the research process.

■ Presentation and analysis of the results of the research

The first step in the research process was to identify the conditions that would have a significant impact on the implementation of system requirements by small and medium-sized enterprises operating in the textile industry. The level of importance of individual conditions is presented in *Table 1*.

At the outset, it is worth pointing out that when deciding to implement system requirements, it is necessary to develop its assumptions at the design stage; therefore, they can contribute as much as possible to the individual needs of the enterprise or the supply chain [17]. The choice of prerequisites, the determination of objectives and the adequate planning of the stages of system implementation largely affect its later effectiveness and efficiency. Based on the analysis of the survey results (shown in *Table 1*), it can be stated that the main prerequisites for the implementation of the requirements of standardised quality management systems by companies operating in the textile industry include:

- improving customer service processes,
- arranging the basic processes within the organization,
- minimising errors and mistakes.

Looking closer at the prerequisites presented above, it is concluded that the companies surveyed focus on improving both customer service standards and management concept. The distribution of responses clearly shows that respondents are aware that improving customer service is inextricably linked to increased efficiency of processes and the reduction of errors and mistakes.

On the other hand, the respondents rated marketing and environmental aspects as the least important. This may suggest that small and medium-sized enterprises operating in the textile industry are primarily counting on improving internal processes, which is crucial to maintaining market share. Aspects related to sustainable development and promotion are the least important.

The next stage of the research process was the analysis of the impact of standardized quality management systems on the improvement of key processes in the organizations examined (*Figure 1*). For

the purpose of the research process, the following procedures were identified:

- Accuracy: number of errors, incompatibilities, complaints and deficiencies.
- Safety: delivery of products in perfect condition.
- Customer service: ability to create and distribute products that meet customers' needs and expectations.
- Information flow: enhancing information channels between processes in the supply chain.
- Speed: accelerate execution time of orders.
- Timeliness: execution of tasks within the assumed deadline.

A general analysis of the distribution of responses indicates that implementation of the requirements of standardized quality management systems has a significant impact on the improvement of the aspects evaluated. The greatest impact was noted on:

- Customer service (4.4): development of companies operating in the textile industry is heavily dependent on their ability to evolve with changing tastes and customer preferences. These companies must, therefore, correctly predict and define social change and trends [7]. Consequently they need concepts that will allow them to fully focus on the needs of the customer. Standardized quality management systems have been developed to emphasise the importance of the customer in the management process. The high rating given by respondents to improving customer service suggests that quality management systems in the textile industry are effective. The implementation of system requirements subordinates the key processes in the enterprise as well as the supply chain to customer requirements.
- Information flow (4.2): a high assessment of this factor is clearly associated with the fact that standardised quality management systems lead to the design and construction of new and improved channels of information flow between collaborating organisations within the supply chain and between the company and customers (both internal and external). Improving the forms of information flow is very important because the feedback obtained from clients is the basis of taking corrective action and improvement. Appropriate management of the

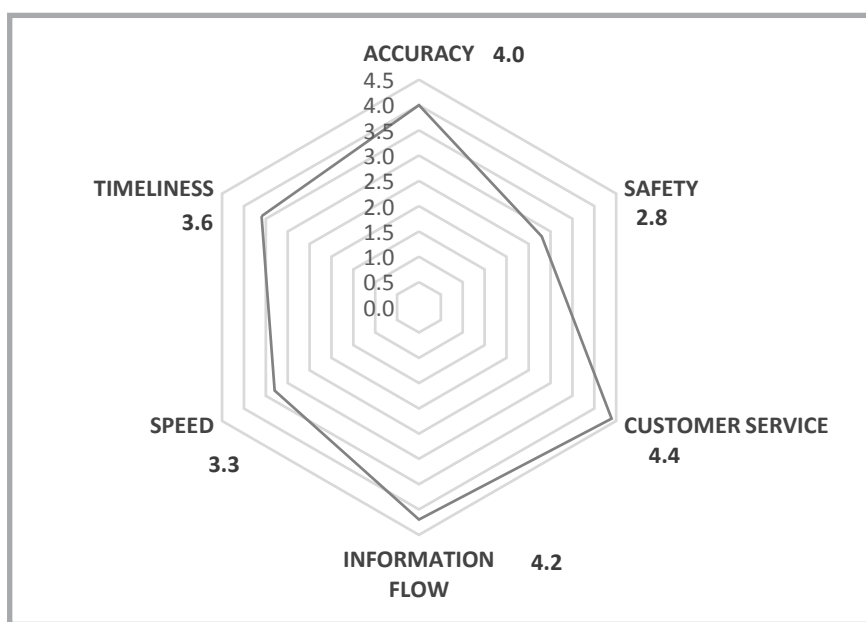


Figure 1. Impact of quality management systems on improving selected processes in the research organizations. **Source:** own research results.

flow of information is an essential element in the effectiveness of cooperation within the supply chain in the textile industry [18]. In addition, efficient exchange of information affects the determination of clear and transparent rules of cooperation, which, according to Kafela and Sikory [13], affects the quality level of products and services offered.

- Accuracy (4.0): normalised management systems require entrepreneurs to develop documentation that governs the functioning of critical processes in the organisation [20]. Proper development of procedures and work instructions makes it easier to maintain established standards and provides repeatability of implemented actions [23, 26]. Similarly Hajdarovic et al. [10] recognized that standardized quality management systems contribute to the reduction of tangible and unmanageable quality losses caused by defects and incompatibilities. In addition, the ISO 9001 standard requires organisations to carry out internal audits, whose results are also used in further pro-quality activities.

For other aspects, the impact of standardised management systems is not as significant, but certainly noticeable. The results obtained are confirmed in the work of Casadesus and de Castro [5], who, after thorough examination of the impact of the implementation of the requirements of ISO 9001 on the functioning of the

organisation in the supply chain, clearly stated that they did not find any evidence that the implementation of the ISO 9001 standard negatively impacted any of the processes in the enterprise or supply chain. On the contrary, they were able to distinguish at least a few processes in the supply chain which ISO 9001 improves. The most important of them are:

- increase in delivery timeliness,
- reduction in cost of nonconformity,
- improved collaboration with suppliers,
- strengthening of competitive position.

The next two questions were general and the respondents were asked to evaluate the level of achievement of the objectives assumed at the implementation stage and the appropriateness of implementing a standardized quality management system in textile companies (**Figures 2 and 3**).

By analyzing the data contained in **Figures 2 and 3**, it can be observed that the distribution of responses is very similar. In most of the organizations surveyed (63%), the initial objectives were realized; In addition, most respondents (65%) recognise that the decision to implement the system requirements in enterprises operating in the textile industry is reasonable. Similar results were obtained by Okay and Semiz [19], who, on the basis of a research process involving 108 small and medium-sized organisations operating in the textile industry, found that in most cases quality management systems

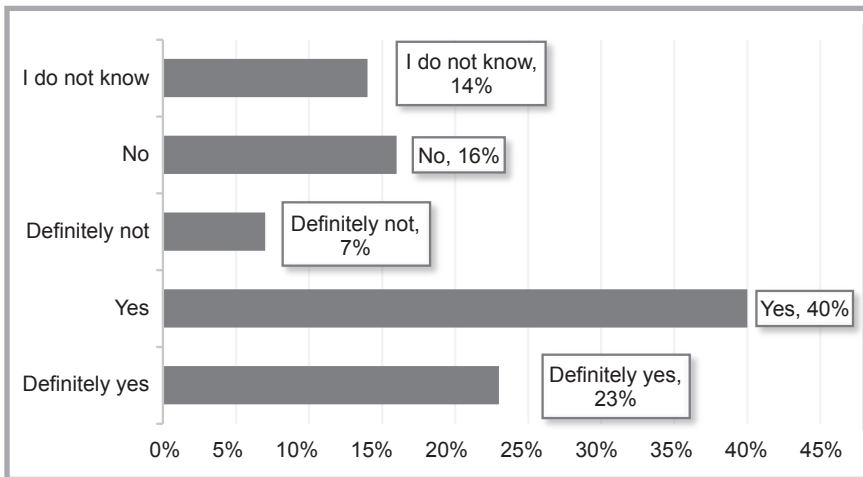


Figure 2. Have the objectives adopted during the implementation of quality management systems been met? **Source:** own research results.

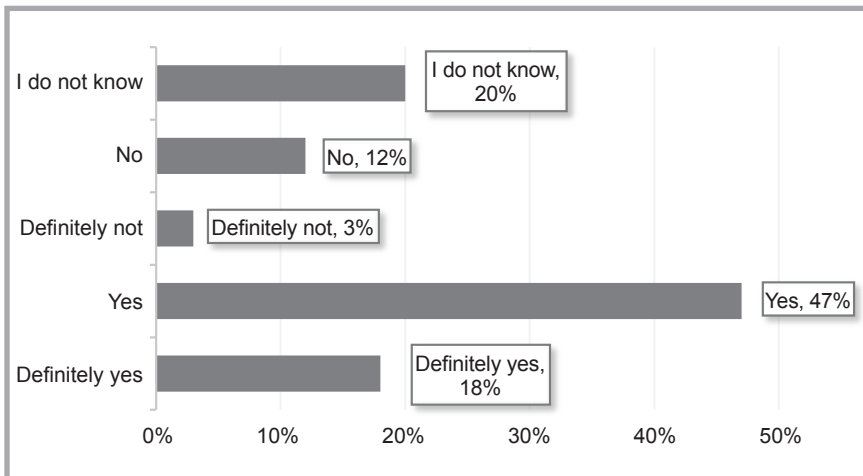


Figure 3. Is the implementation of quality management systems in companies operating in the textile industry needed? **Source:** own research results.

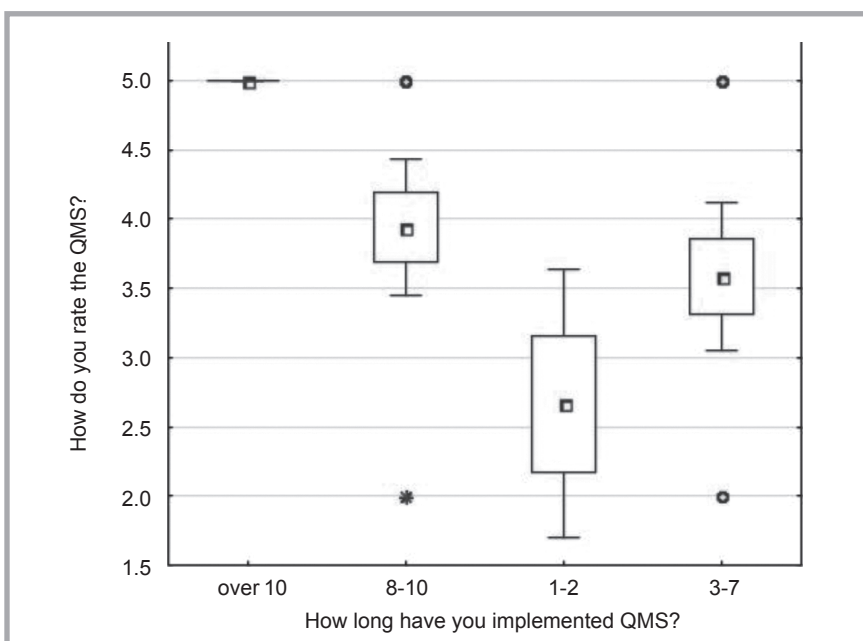


Figure 4. Relationship between periods from the implementation of systems in enterprises and achieving system satisfaction. **Source:** own research results.

contributed to the realization of goals and proved to be effective and efficient.

In order to enhance the research process with the chi-square test, the relationship between the degree of achievement of the objectives and the perception of the need to implement certified management systems by textile companies was analysed. On the basis of the results obtained, it was found that there is a very high statistically significant relationship between the fact of the declaration of goals and the validity of the implementation of the system ($p = 0.0034$).

It is worth noting that the distribution of responses is also very similar when comparing those concerning lack of achievement of targets (23% of indications) to the appropriateness of system implementation in the industry analysed. On this basis, it can be assumed that the effectiveness of a quality management system largely depends on the correct implementation of its requirements, and determines its overall assessment. According to the authors, the negative opinions may, to some extent, be due to anomalies in the implementation of standardized systems. This thesis is also confirmed by Prajogo and co-authors [21], who, on the basis of their analysis, concluded that the implementation of a quality management system has an impact on improving the efficiency and effectiveness of enterprises. However, in order to achieve such effects, the design and implementation process of the quality management system must be properly carried out. Organisations that have made mistakes in the implementation of the system do not record visible benefits.

The next stage of the research was to determine the effect of assumed objectives during the system implementation stage to improve customer service and streamline communication channels. The analysis used (due to the sequential nature of the variables compared) was the Spearman rank correlation coefficient. **Table 2** contains the value of the coefficient together with the assessment of the statistical significance of the relationships studied.

Analysis of the data contained in **Table 2** reveals that both relationships have been shown to be statistically significant, with a more reliable and stronger relationship between goal achievement and customer service improvement. The statistical studies conducted allow us to say that

the basis for a positive evaluation of the functioning of systems is the effective implementation and improvement of the system.

Then the relationship between the periods from the implementation of systems in enterprises and achieving system satisfaction (expressed on a scale from 1 – very dissatisfied to 5 – very satisfied) was examined. The Kruskal-Wallis ANOVA test was used to study the relationship, the results of which are presented in **Figure 4**.

On the basis of the results obtained (probability value $p = 0.007$) and analysis of the data contained in **Figure 4**, it can be stated that there is a statistical dependence between the variables tested, and thus the longer the system operates in the enterprise, the higher the respondent's rating is. This is probably due to the fact that systems usually need several years to be fully integrated with the specificity of the organization.

At the end of the research process, an attempt was made to get familiar with and systematize the loose opinions and reflections of respondents on the functioning of the quality management system in companies operating in the textile industry. For this purpose, the respondents were approached with an open question about just this issue. After analysing the responses, the following conclusions were made:

- the implementation of quality management system requirements has a significant impact on the increased involvement of staff in the accomplishment of the quality policy and its objectives,
- quality management systems are a set of rules and procedures that facilitate the quality management of services and projects at all levels of management in the enterprise,
- solutions proposed by quality management systems do not go beyond the general management rules; moreover, they prove to be helpful,
- maintaining a standardised quality management system is quite expensive. Bearing in mind the fact that having a certificate loses its marketing qualities, it is quite a good idea to implement the required standards but not go through certification process.

Strict adherence to a standardised quality management system has a significant

Table 2. Impact of meeting the goals of implementing systems to improve customer service and streamline communication channels. **Source:** own study based on research results.

Execution of implementation goals of standardised management systems	Impact of implementation of management systems on:	
	Customer service improvement	Streamlining communication
	$R = 0.51; p = 0.0014^{**}$	$R = 0.42; p = 0.0321^*$

impact on improving customer service at many levels. A similar claim was made by Brotons and Sansalvador [4]: ISO 9001 accreditation emphasises the importance of customer service, which allows us to obtain the information necessary to conduct improvement activities, and affects the activation of direct contact with the end user.

■ Conclusions

The research process and analysis of the results obtained allowed us to comment on the research questions and state that:

- the main prerequisites for textile organisations to implement quality management systems include internal factors that contribute to the improvement of customer management and customer management processes,
- standardised quality management systems have a relatively significant impact on the improvement of key processes in enterprises (evaluation average of the factors studied in the 1-5 scale was over 3.7),
- 65% of respondents recognise the implementation of standardized quality management systems in textile companies as a fair decision. Such systems contribute significantly to the improvement of industry-specific aspects, such as improving customer service, minimising discrepancies, and improving communication with organizations in the supply chain and with customers.

On the basis of the research carried out, additional conclusions can be drawn regarding the functioning of a quality management system in companies operating in the textile industry:

- when comparing the responses of respondents representing Polish organisations with Slovakian organisations, it was noted that Polish entrepreneurs were more favourable towards quality management systems (both in terms of objectives, implementation as well as system impact assessment for the improvement of individual processes),

- the basis for satisfaction with a quality management system is the process of implementation and improvement of the system, respectively. A system implemented in a hurried and botched manner will not produce the results expected.

Implementing a quality management system by companies operating in the textile industry seems a good solution in the context of improving key management processes. However, the decision to undergo a certification process (due to the decrease in marketing value) should be preceded by a thorough analysis of profits and losses. A similar claim was made by Ifrim et al., [12] who recognize that the implementation of quality management requirements in the textile industry leads to long-term success.

The research was exploratory in nature, and as such was subject to some limitations. First, although the sample size of the questionnaire survey is satisfactory, a larger sample size could have provided a broader assessment, deeper insights and a firmer basis for generalisation. Second only small and medium-sized organisations were involved in the study, and hence should be taken into account when analysing the results. Third the focus of the study is exclusively on the Polish and Slovakian market. For this reason, the validity of evidence presented in this study is limited to the Polish and Slovakian market situation. Accordingly one must exercise caution in extrapolating the results geographically.

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