

IMPACT OF IMPLEMENTATION OF ISO 9001 REQUIREMENTS ON STREAMLINING OF PROCESSES INTEGRATION IN THE SUPPLY CHAIN FROM A PERSPECTIVE SMALL AND MEDIUM-SIZED ORGANIZATIONS

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Abstract

The main objective of this publication was to investigate the influence of standardized quality management system according to ISO 9001 on the improvement of cooperation in the supply chain from the point of view of small and medium-sized organizations. The study was conducted in April 2016 using a technique online survey. Surveys were sent to a group of 80 small and medium-sized organizations carrying out their activities in the southern Polish. For the analysis classified 18 correctly completed questionnaires survey. In the study group there were 7 small and 11 medium-sized organizations. Analysis of the results showed for positive relationships between the implementation of ISO 9001 and integration with suppliers.

Keywords

SMEs, supply chain, cooperation, quality management

Introduction

Strengthening supplier relationships in the supply chain is one of the most important aspects that affect its effectiveness and efficiency (Petersen et al., 2005; Sabet et al., 2016; Zimon et al., 2016). The foundation of supply chain integration is to develop a co-operation strategy and full co-operation of its links based on common goals and priorities, which are intended to manage core business processes so that they can maximize profits and achieve optimal customer service standards (Qi et al. 2017, Lisińska-Kuśnierz, Gajewska, 2014). This goal will not be achieved if the cells will operate independently, pursuing their own aspirations and focusing only on maximizing their benefits (García-Bernal, García-Casarejos, 2014). Therefore, the construction of an effective supply chain should begin with the integration efforts of its individual participants. According to the author the integration process should include the following stages:

- to isolate the central link (an enterprise that, due to its size, bargaining power or other characteristics, is capable of taking over a dominant role in the supply chain) that is responsible for developing and overseeing the strategy,
- determine the requirements of the final customer,
- develop an optimal method of inventory management.

The realization of the above steps can be regarded as a foundation leading to the initiation of the fundamental processes of integration in the supply chain. Further action should focus on obtaining reliable information on: thinking patterns, management techniques, behavioral schemas, staff qualifications, implemented instruments, systems, organizational culture, and the aspirations, needs and aspirations of the various supply chain actors. On the basis of the data obtained, you need to create a strategy and determine the scope of control and responsibility for each chain in the supply chain (Power, 2006, Filina-Dawidowicz, 2014). The final step in cementing a lasting partnership is undertaking joint business ventures. At this stage, the supplier is no longer considered as an external organization, but as a part of one multilevel corporation. There is therefore a wide transfer of knowledge, technology, staff exchange, technical consultancy, the opening up of channels for bilateral communication (Harland et al., 2007) joint development of strategic objectives and pursuit of their realization.

Integration should be understood as a close cooperation entities in the supply chain aimed at the realization of one overall strategy. In other words, it is a rejection of the ambition of individual cells to subordinate to top-down or jointly worked out ways of operation, which will lead to the improvement of the main processes taking place in the supply chain (Diaye et al., 2014) Implementing one common strategy is recommended because it improves the supply chain, which brings profit to all its participants, in line with the principle of "we are as perfect as the supply chain that we contribute to". In order to meke the integration process to begun, it is necessary to select a central coordinator for all the flows within the chain.

It is worth noting that from the point of view of small and medium-sized organizations strengthen relationships in the supply chain seems to be especially important because (Lenny Koh et al. 2007, Zimon, 2017, Arend & Wisner, 2005, Palomero & Chalmeta, 2014):

- Smaller organizations (which often serve as an auxiliary in the supply chain), in order to strengthen its position in the market should aspire to the title of stable links in the supply chain, which they're co-create. Road leading to this is a strong integration with other cells and active involvement in the implementation of the strategy outlined by the coordinating link.

- Cooperation and the pursuit of sustainable partnerships usually results in an increase in the potential of all links in the supply chain, which is extremely important for smaller organizations.
- Proper operation of the subsystem of supply is crucial for proper implementation of the activities assigned to another subsystems logistics and the same quality of finished products. The main reason for this state of affairs is the fact that supply subsystem is the first subsystem of logistics, closely linked to the subsequent (especially subsystem of production). In addition, as rightly observed by Tunjić and coauthors (2014) procurement process connects the supply chain and provides the desired quality created by suppliers in the chain. Quality of service and of property "incoming" to the system affects the quality of the "outgoing" with his products, and thus to customer satisfaction and income of the company.
- Proper management of relationships with suppliers can significantly result as a minimization of the supply costs, which depending on the specifics of the company and implemented strategy can be up to several tens of percent of total business spending.
- Suppliers are a source not only of supply products, but also innovation and should be treated as an integral part of the enterprise buyer.
- Durable integration in the supply chain leads to raising the technological suppliers. Manufacturing companies (acting in their own interest) relatively often decide to transfer knowledge and technology, which may be a significant boost with the development of smaller organizations, which have a limited budget for development.
- Integration over the long term leads to a blurring of the boundary between the individual links in the supply chain, which favors the implementation of the joint strategy and affects the growth of competitiveness of all its cells.

In addition, it is worth pointing out that small and medium-sized organizations, due to their limited capital and technological potential, should be highly flexible (Kafel & Sikora, 2014), which will allow them to adapt to the requirements of the coordinating links in the supply chain. (Vaaland & Heide 2007). This is a mandatory condition for establishing a stable position in the supply chain. In a similar tone, Tatoglu and coauthors (2016) emphasize that the basis for increasing the competitiveness of small and medium-sized organizations is to integrate their respective supply chain, which co-create.

As a result, small and medium-sized businesses are looking for solutions that can streamline the integration process within the supply chain. It seems that the implementation of standardized quality management systems may be helpful in this context (Sila et al. 2006). These systems are aimed at supporting and improving key processes in the enterprise and throughout the supply chain, and at the center of their interest are broadly based customer service (Attia, 2016). In addition, the implementation of standardized quality management system guidelines in the supply chain means that links to the same management principles are more open to collaboration. (Fernandes et al. 2014). In a similar vein speak Fura and Wang (2017) recognizing that the development of the science of supply chain management is increasingly accentuated its relationship with quality management and combine these concepts allows to achieve synergistic effects.

1. Methodology of the research

The main objective of this publication was to examine the impact of standardized quality management systems ISO 9001 on improving supply chain collaboration from the point of view of small and medium sized organizations. The choice of ISO 9001 was due to the fact that it is currently the most popular standard in the world, and it can be addressed to any type of organization regardless of its size or activity profile.

The study was conducted in April 2016 using a technique online survey. Surveys were sent to a group of 80 small and medium-sized organizations carrying out their activities in the southern Polish. For the analysis classified 18 correctly completed questionnaires survey. In the study group there were 7 small and 11 medium-sized organizations. The research tool was a questionnaire, which consisted of 8 questions, both open and closed and it is addressed to representatives of the board of the organizations. The paper assumes the following research hypothesis:

It is assumed that the implementation of a standardized quality management system requires the development of standards and procedures that facilitate the integration of suppliers into the supply chain,

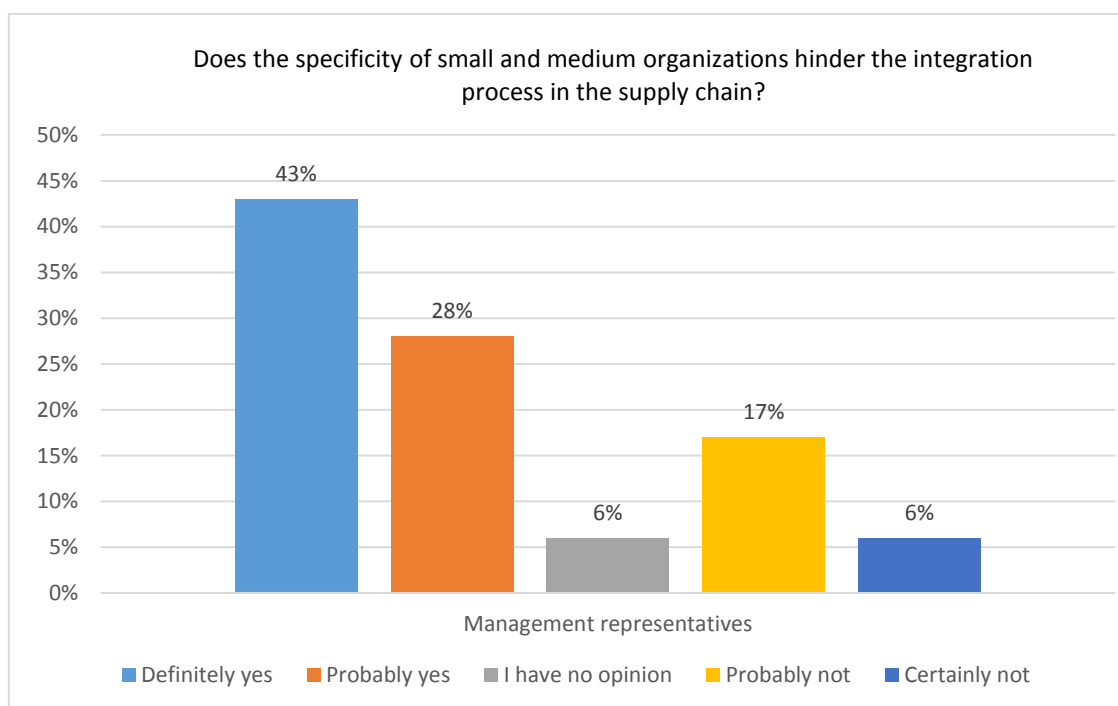
It is assumed that small and medium-sized organizations due to its specificity have significant problems with the full integration of the supply chain.

It should be noted, that due to the rather limited research sample, the research presented is of a pilot nature and should be treated only as a starting point for further in-depth research.

2. Analysis of the results of research

The purpose of the first question was an attempt to determine whether the specificity of small and medium-sized organizations hinders the process of integration in the supply chain. Distribution of respondents' answers is shown on Fig. 1.

Figure 1: Answers to the first question



Source: own processing

By analyzing the distribution of the responses presented in Figure 1, it is noted that, according to the majority of respondents (71%), small and medium-sized organizations face barriers to their integration processes. This leaves only 23% of respondents had a different opinion on this issue. The respondents were asked to elaborate their thoughts on an open question. By analyzing the responses, it was found that the respondents stated that the biggest obstacles to the integration process were the respondents:

- Lack of capacity to implement innovative information technologies, as rightly observed that Vanpoucke and colleagues (2017) are key to strengthening integration and improve supply chain efficiency,
- Limited availability and poorly trained staff. This is certainly a problematic situation because according to a study of Hooshangiego and co-authors (2017), a commitment and skills of employees directly influence the improvement of relations with direct suppliers and customers.

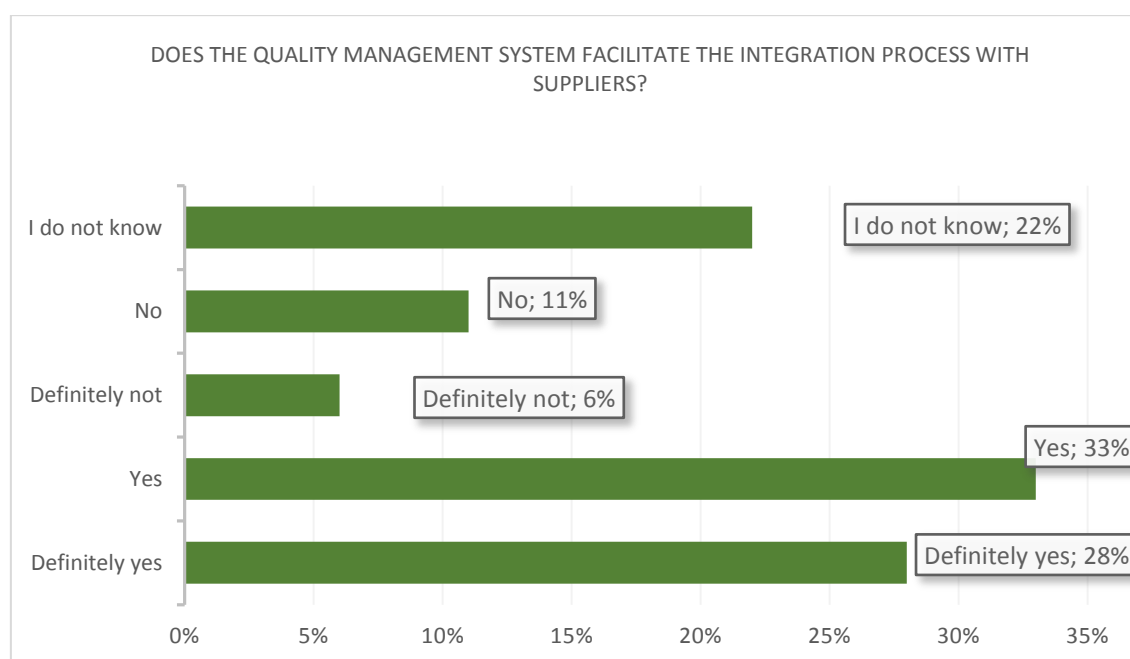
- Lack of funds for investment in infrastructure, which would enable to meet customer requirements at the intended level.

In turn, respondents who did not notice the problematic situation responded in the following way:

- smaller organizations are characterized by high flexibility and speed, which allows them to adapt to the strategy pursued in the supply chain,
- small and medium-sized organizations usually perform auxiliary functions, and in this respect are not so big problems with adjustment to the requirements of clients and customers.

The purpose of the next question was to determine whether the implementation of standardized quality management systems facilitates the process of integration with suppliers (Fig. 2).

Figure 2: Answers to the second question



Source: own processing

On the basis of the answers it can be concluded that the majority of respondents (61%) considered that the implementation of the requirements of standardized quality management systems facilitates integration processes with suppliers. Only 17% of organizations do not have noticed the positive impact of the implementation of ISO 9001 on strengthening relationships with suppliers. The positive image of the implementation of the system requirements in this aspect may be due to the fact that quality management systems present a number of requirements aimed at maintaining proper relationships with suppliers, which include, among others:

- development of reliable criteria for evaluation and classification of suppliers,
- defining the forms of control over the acquired components (Talib et al. 2010),
- determining the scope of supervision of providers (Wolniak, 2013),
- emphasis on mutual beneficial relationships with suppliers.

It should be indicate that 22% of organizations surveyed were unable to answer the question as formulated. It can be explained by the fact that the effects of the implementation of the quality management system are not immediately apparent and their impact is very broad and difficult to precisely define.

Conclusions

Supply chain integration and lasting partnership with suppliers bring many potential benefits to both suppliers and consumers. Broad-based collaboration brings benefits to customers, primarily by reducing their uncertainty related to the quality and cost of components purchased, delivery times, and response rates. The collaboration also minimizes vendors' doubts about market analysis, understanding customer needs, and product specifications.

Unfortunately, the integration process is quite complex and time-consuming and not always feasible for small and medium-sized organizations, because its effectiveness is determined by such factors as:

- the maturity of the management of individual organizations to put the good of the whole over the good of an individual enterprise (Janošová et al. 2016),
- the ability to formulate objectives that benefit all participants in the supply chain,
- having an appropriate infrastructure and resources by the different supply chain,
- develop an optimal strategy,
- willingness to share information and knowledge.

As a result, small and medium-sized organizations are looking for solutions that can support key management processes. The publication focuses on the impact of ISO 9001 on tightening relationships with suppliers in the supply chain. Based on the results of research and literature analysis of the subject matter, it can be stated that the implementation of the standardized quality management system has a positive influence on the cooperation with suppliers. Similar findings can be found in the

work of such authors as Fotopoulos et al. (2010) or Malindžák et al. (2017). The research process also allowed to validate accepted research hypotheses. Both accepted hypotheses proved true because:

- 71% of surveyed organizations indicate that smaller organizations have difficulty in establishing long-term relationships with their partners because of the limited resources they have. It should also be stressed that management of small and medium-sized organizations struggling every day with many challenges and obstacles to the smooth functioning of the organization. These barriers are rooted both in the same conditions of the system, as well as the specifics of small and medium-sized organizations. Generally speaking, to system conditions we can include the institutional constraints and regulations (Santos et al., 2013). Whereas technological limitations, lack of innovative solutions, low efficiency of internal processes within the organization and a lack of professional knowledge are the main shortcomings resulting from the nature of small and medium-sized organizations.
- 61% of respondents considered that the implementation of the quality management system emphasizes the ordering of basic procurement processes, which translates into improved cooperation with suppliers and initiates integration processes.

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