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An Influence Of Quality Management System For Improvement Of Logistics Supply

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An Influence Of Quality Management System For Improvement Of Logistics Supply

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Abstract

Research background: ISO 9001 with its requirements gives a company a guidance on the definition of the quality management system architecture, based on the process approach and the indications for its continuous improvement. Despite the general accentuation the benefits of implementation of ISO 9001 in the literature, there is still lacks of researches concerning the actual impact of quality management systems for improving specific logistics processes (especially in Polish organizations).

Purpose of the article: The aim of this publication was to examine the impact of the implementation of the requirements of ISO 9001 for process improvement supply logistics.

Methodology/methods: Empirical studies were carried out in September and October 2014 on a group of 17 companies with implemented and certified quality management system according to ISO 9001. The research tool was a questionnaire survey sent to management representatives (25 respondents) and workers (140 respondents). Surveys were enriched with direct interviews with employees of the companies. The impact of the quality management system for the improvement of procurement processes - presentation and analysis of the test results.

Findings: Based on the survey it can be stated that the quality management system according to ISO 9001 in a fairly large impact on improving procurement processes. This is particularly evident in areas including relationships with suppliers, quality control, workflow and communication, both internal and external. The positive aspects achieved through the implementation of quality management system due to the fact that the ISO 9001 standard in its commitments puts great emphasis on the organization of the procurement process. Good in that supplies the organization must meet specified purchase requirements including approval processes semi-finished products, qualifications and functioning of the quality management system provider.

Introduction

From the author observation results that many organizations realizing objectives related to logistics and efficient customer service supports itself by the guidelines of standardized quality management systems. The implementation of quality management systems in the context of improving the logistics process seems to have a deeper justification, since both logistics and quality are aimed at achieving common objectives aimed at increasing customer (Ho, 1997, pp. 275-283). Especially great interest in this context has a quality management system according to ISO 9001. According to many authors, implementing the requirements of ISO 9001 offers companies a number of benefits such as (Kafel & Sikora, 2014, pp. 650-663; Psomas et al., 2013, pp. 149-164; Sampaio et al., 2009, pp. 38-58):

- Access to new markets,
- Productivity improvements,
- Corporate image improvement,
- Product defect rate decreases,
- Market share improvement,
- Quality awareness improvements,
- ISO 9000 certification as a marketing tool,
- Definition of the personnel responsibilities and obligations,
- Customer relationship improvements,
- Delivery times improvements,
- Customer satisfaction,
- Internal organisation improvements.

In addition, the ISO 9001 with its requirements gives a company a guidance on the definition of the quality management system architecture, based on the process approach and the indications for its continuous improvement. The ISO 9001 with its guidelines governs such areas in a company as: the development of system documentation, management responsibility, employees' rights, methods of communication, maintenance management, acquisition and management, comprehensive implementation of the product or measurement, analysis and improvement (Czajkowska & Kadłubek, 2015, pp. 28-38; Zimon *et al.*, 2015, pp. 68-70).

Despite the general accentuation the benefits of implementation of ISO 9001 in the literature, there is still lacks of researches concerning the actual impact of quality management systems for improving specific logistics processes (especially in Polish organizations). There are studies of a general nature concerning the relationship between quality and functioning of the supply chain, which provide the basis for further research and analysis:

- Flynn and Flynn (2005, pp. 3421-3436) concluded that there is a relationship between quality management and SCM and organizations that pursue quality and supply chain goals simultaneously achieve a competitive advantage that is difficult to imitate,
- Casadesus and Castro (2005, pp. 345-357) stated that it is not possible to affirm that ISO 9000 implementation totally favors SCM strategies. However, they found areas like relationship with suppliers, customer satisfaction, and customer complaints, that have improved with ISO 9000 implementation
- Prajogo, Huo and Han (2012, pp. 306-322), empirically tested a model of different aspects of ISO 9000 implementation in terms of their relationships with three key supply chain management practices (internal processes, supplier relationships, and customer relationships).
- As for Supply Chain and Quality organization's managers there is a strong argument that for managers of Portuguese organizations with a Quality Management Systems ISO 9001 certification, Supply Chain Management is relevant to stakeholder satisfaction and for superior organizational performance (Fonseca, & Lima, 2015, pp. 32-54).
- The issue of the functioning of the supply chain is analyzed for many years, but still there is not so far developed clear systematics, when it comes to creating the conditions for supply chains, their performance goals or benefits from the implementation of the requirements of ISO 9001 standards (Kopecki et al., 2016, pp. 195-204; Aung & Chang, 2014, pp. 172-184).
- Muñuzuri et. al. (2013, pp. 479-495) claims that quality certifications help improve the management of logistics processes, but additional tools, possibly including a specific logistics management standard, are required.
- Bandyopadhyay i Spragu (2003, pp. 17-19) while analyzing the impact of quality systems on the functioning of the supply chain in the automotive industry, they noted its positive impact on the final quality of finished products. It is worth noting that the level of quality of our products has an impact on the competitive position.

According to the author on the basis of the presented results it seems appropriate to conduct studies on the effect of different quality management systems for the betterment of selected subsystems logistics. Therefore, in the article there will be presented studies concerning the impact of the quality management system for procurement logistics. Procurement logistics is a subsystem of the logistics involved in the first phase of the movement of

goods. This step involves the flow of raw materials, semi-finished products, components, and other means of property and proceeds from the supplier on the market for the acquisition of the magazine input in the company. The key role of logistics supply is mainly due to the fact that it determines the timely and rhythmic processes of production and the fact that the purchase of materials organization dedicating considerable financial resources. In addition, it is supported for the following subsystems logistics (Malindžák, 2012, pp. 345-348; Zizka *et al.*, 2016, pp. 60-62). Errors made at this stage will adversely affect the effectiveness and efficiency of production logistics and distribution. Therefore, the support subsystem supply seems to be an extremely important task for any company. When considering the impact of the quality management system to improve the logistics supply it can be stated that ISO 9001 will positively impact especially on the implementation of the processes associated with:

- Ensuring the expected quality of the purchased goods
- Selecting and maintaining beneficial relationships with suppliers
- An improvement of forms of quality control
- Conscious obtaining components most fully corresponding to the requirements of customers.

Research Methodology

The aim of this publication was to examine the impact of the implementation of the requirements of ISO 9001 for process improvement supply logistics. Selecting the operation was dictated by the following reasons:

- The ISO 9001 despite the fact that in recent years it has lost much of its popularity, it is still the most commonly-implemented quality management system in the world. This is due to the fact that the main goal of its creators was to develop a universal system addressed to any type of organization. Initially, the quality management systems in accordance with ISO 9001 standards were implemented in large industrial enterprises. Today, they are more popular in all types of organizations, including those that carry out any activity in logistics (Zimon, 2016, pp. 41-52).
- ISO 9001 International Standards can be an excellent start to TQM, if it is interpreted in a way that encourages the company to begin the process of continual improvement and aligns its entire people toward that goal.
- Logistics supply has a very large impact on subsequent subsystems logistics. Since its normal operations depends on the efficiency of

the entire supply chain and meet customer requirements (Zimon & Bednarova, 2016, pp. 465-470).

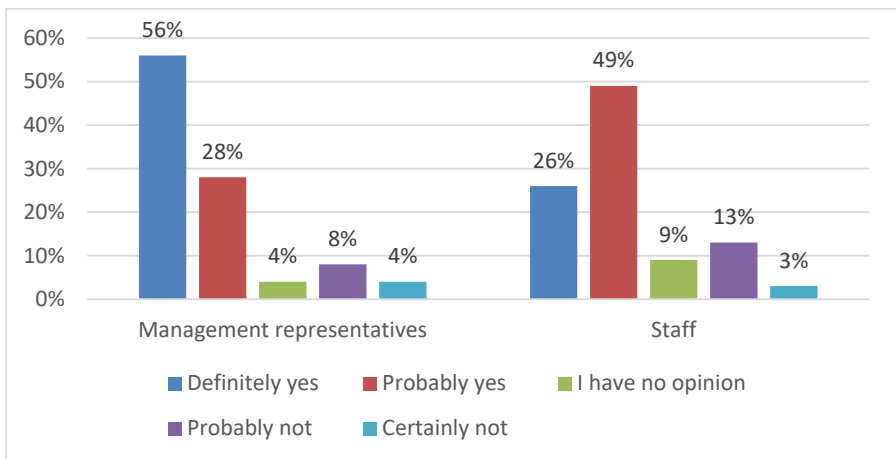
- Standardized quality management systems of the assumptions supporting activities that affect the quality of the acquired assets. The study aims to answer the question whether these assumptions work in practice?

Empirical studies were carried out in September and October 2014 on a group of 17 companies with implemented and certified quality management system according to ISO 9001. The research tool was a questionnaire survey sent to management representatives (25 respondents) and workers (140 respondents). Surveys were enriched with direct interviews with employees of the companies. The impact of the quality management system for the improvement of procurement processes - presentation and analysis of the test results.

Presentation and analysis of research results

The first question was of a general nature and addressed to both representatives of management and employees (Fig. 1.).

Figure 1. The impact of the quality management system to improve supply subsystem



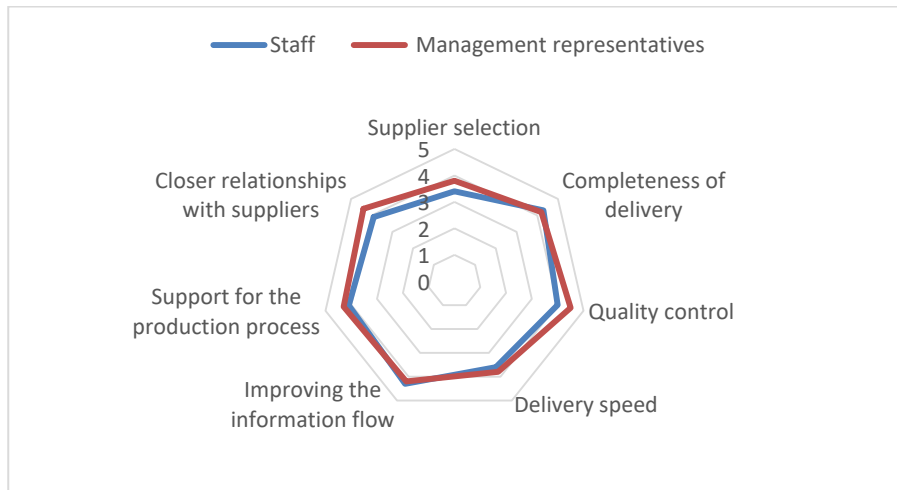
Source: own calculations

The distribution of responses shows that among the representatives of the two studied groups dominate the response indicating that the quality management systems contribute to improving the supply subsystem. Execu-

tives pointed out that since the implementation of ISO 9001 improved procedures related to the evaluation and selection of suppliers, narrowed and improved processes related to quality control, and by developing new procedures arranged in a large part of the procurement process. The study stressed that ISO 9001 in particular had a positive effect on the selection and monitoring of suppliers through the introduction of audits at suppliers, a common approach to addressing the financial, technological, qualitative improvement of information channels, and continuous improvement of mutual relations. In turn, employees frequently suggested that, through a clear division of tasks and responsibilities gained a better comfort, also noted that the leadership decided to streamline and modernize infrastructure. Only 12% of management representatives and 16% of employees do not notice the relationship between the implementation of the requirements of ISO 9001 and the improvement of procurement processes.

In order to deepen the research process asked respondents to determine the influence exerted by a standardized quality management system for individual supply processes (Fig. 2).

Figure 2. The impact of the quality management system to improve the individual processes



Source: own calculations

According to representatives of management quality management system received the highest marks in the area of quality control, strengthen rela-

tionships with suppliers and further improve logistics subsystems. Their choice justified as follows:

- Ownership of standardized quality management systems by both suppliers which customers allows for certain restrictions to control the initial sourced components, the diversion of responsibility for the quality of supplies to suppliers, which affects sue for closer relations,
- Implementation of standardized quality management systems in the supply chain facilitates the creation of a common strategy, and directs the organization to implement a similar purpose. Moreover, ISO 9001 stimulates the development of long-term cooperation between organizations and also foster the development of new organizational and technical solutions to improve flows in the supply chain. In addition, the implementation of ISO 9001 runs some mechanisms that specify how carrying out the tasks in the supply chain and define the manner in which the cells in specific manufacturing processes of products or provision of services.
- System requirements also include other subsystems logistics to improve their integration and proper conduct.
- ISO 9001 standard requires from both producers and suppliers to identify, plan, supervise and optimize their processes directly affecting the quality of the finished products. Compliance with the requirements of standardized quality management system will force: the development of procedures, improve infrastructure, determine the criteria for the proper implementation of sub-processes. In addition, compliance with the requirements of the system will ensure repeatability of action and will contribute to increase the reliability of the product.

Conclusions

Based on the survey it can be stated that the quality management system according to ISO 9001 in a fairly large impact on improving procurement processes. This is particularly evident in areas including relationships with suppliers, quality control, workflow and communication, both internal and external. The positive aspects achieved through the implementation of quality management system due to the fact that the ISO 9001 standard in its commitments puts great emphasis on the organization of the procurement process. Good in that supplies the organization must meet specified purchase requirements including approval processes semi-finished products,

qualifications and functioning of the quality management system provider. It is necessary therefore to carry out the evaluation and selection of suppliers, to measure the quality of purchased components by trained personnel using appropriate control systems.

It should, however, indicate that a small proportion of respondents (oscillating in the range of about 10-15%) spoke very critically on the implementation of ISO 9001 in the context of improvement of logistics processes. The main charges have been formulated may include:

- The relatively high costs in relation to the benefits achieved,
- To introduce the documentation, which is not always needed
- Formalized systems limit the speed and flexibility of action,
- ISO 9001 is no longer an argument that attracts customers,
- Some employees stressed that the leadership of positive comments on the standardized quality management system, and does not show sufficient commitment to maintain and improve the system.

In conclusion it is worth noting that only recently (September 2015) released a new standard ISO 9001: 2015 to be less prescriptive and more focused on the management of the entire supply chain, requires a greater commitment of the management is also less bureaucratic and more friendly to the organization. If, in practice, this standard will actually be in line with the announcements it may be that most of the criticisms presented above will cease to be justified.

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