

# The Impact of Quality Management Systems on Improving Logistics Customer Service in Distribution Processes

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**Abstract**—The main objective of the publication is to determine to what extent the implementation of the requirements of standardized quality management system supports the logistics customer service in the process of distribution. The research process was carried out in January 2017 in 21 organizations that have implemented and certified ISO 9001 quality management system for at least 5 years. The research organizations belong to medium-sized enterprises and operate in Poland. Based on the analysis of the results of the research, it can be concluded that the implementation of the requirements of the ISO 9001 standard has a significant positive influence on the improvement of logistic customer service. That confirms the indication of 76% of respondents.

**Keywords**— *ISO 9001, customer service, logistics, quality, management.*

## 1. Introduction

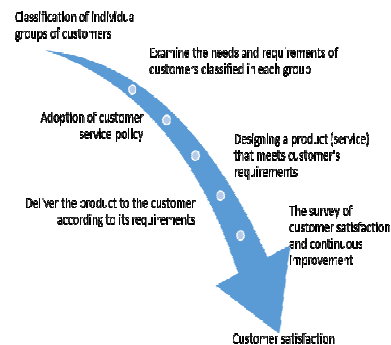
In terms of modern logistics and distribution, customer service occupies a prominent place among logistic issues. This is mainly due to From the changes taking place in the markets resulting from globalization, the implementation in modern enterprise customer service systems, the need to maintain a high level of logistics efficiency in customer service, as well as discrepancies between service levels and customer expectations [1].

Designing an effective distribution system requires finding the optimum between organizing the physical flow of products and developing effective customer service strategies. This activity will provide customers with an appropriate assortment of products and focus on eliminating time-space gaps between customers from the manufacturer. The starting point for developing a distribution

strategy is to identify the needs of specific customer groups, select the distribution format, and design distribution channels in line with the standards of customer service standards [2]. It should be emphasized that the customer of the organization is not only the final consumer of the product, but also the individual intermediaries in the distribution channel (wholesalers, retailers, purchasing groups, etc.) with different needs. Recognizing customer tastes and preferences is an overarching principle of quality management systems, taking into consideration that they can be a great support for designing customer service policies in the distribution system and building lasting relationships.

## 2. Literature Review

Logistic customer service in a distribution system supported by the requirements of modern quality management systems should include the following stages (Fig. 1.).



**Figure 1.** Stages of logistic customer service

Each of the stages presented in Fig. 1. has its own characteristics and requires the following actions:

**Classification of individual groups of customers.**

The customer in the management of the organization occupies a central place. In order to satisfy its customer, a number of logistical, marketing, qualitative and other solutions are put in place to ensure the company's customer's favor. It is from the ability of the company to attract new customers and take care of the needs of the present, its future depends on increasingly competitive markets [3]. It should be remembered, however, that the companies serve different customers and each of them can have different preferences, which should be considered. On this basis, it is important to identify the key customers with which the organization benefits most, and there is a real chance of long-term co-operation, in order to guarantee the end-user quality of service at the expected level. It should be emphasized that the behavior and needs of specific customer groups largely determine the planning process of the distribution system.

**Examine the needs and requirements of customers classified in each group.**

The goal of any organization that is seriously thinking about development should be to subordinate its operational strategy to customer service requirements. This situation forces the representatives of the management to take actions including within its scope the study of customer needs analysis and design processes to design, production and logistics, which would allow to produce a product having characteristics consistent with the wishes of the customer. It is worth noting that in the process of distribution, customer service is carried out in three phases: pre-sale, sale and after-sales. Each of them has a slightly different specificity and to meet the different needs and requirements of the customer is targeted.

**Adoption of customer service policy.** Choosing the form of customer service is fundamental importance for the further construction of activities related to the implementation of logistic and quality processes in the organization. From the point of view of sciences only the highest customer service provide guarantees for building a strong position on the market. Unfortunately, the need to maintain high standards of customer service requires the use of costly monitoring and logistic control systems.

However, the discrepancy between the organization's customer service level and its expectations can have catastrophic consequences for the company. On the other hand, too high a level of customer service inadequate to the needs of the market can generate too high costs that will not be accepted by the customer. Therefore, choosing a specific form of customer service should be preceded by a study of its needs and requirements and segmentation of individual customer groups.

**Designing a product (service) that meets customer's requirements.**

Designing a product in line with customer requirements requires constant market research and careful analysis of the information obtained. At the present time, when customer requirements are becoming increasingly complex, it is difficult to properly interpret them. At this stage it is beneficial to incorporate the requirements of quality management systems and the use of quality management tools (QFD, FMEA etc.) in the process of building an effective customer service strategy. Implementing the requirements of the ISO 9001 standard obliges the organization to establish effective forms of communication with the client necessary to obtain information about his needs and requirements and satisfaction resulting from using the product.

**Deliver the product to the customer according to its requirements.**

The mismatching of qualitative differences between ready-made products offered by competing companies requires the organization to develop more and better customer service. Logistics makes products available to the buyer, while at the same time offering him a number of additional convenience and benefits associated with the delivery of goods that consist of logistic customer service. One of the most important tasks of logistics is to support the process of building customer loyalty by providing them with an adequate level of logistics service [4]. Pacana and co-authors [5] risks arguing that the importance of logistic customer service and distribution can be even greater than the product itself. This justifies the statement that a product can not be accepted by the consumer without its proper allocation [6, 7]. What is the benefit of having a high quality product priced and promoted by the manufacturer, if customers are having trouble getting to it? Therefore, the logistics customer service should occupy a high place in the strategy of the organization.

On the basis of the foregoing considerations, it can be assumed that the position of an organization on the market is undoubtedly conditioned by the level of satisfaction of the customer's requirements, which in essence is the ultimate judge in the quality of products and services. Customers consciously seek the products that best meet their needs. As a result, companies contributing to the supply chain are continuously seeking solutions to streamline the customer service process [8]. According to the author, one of the recommended solutions in this context may be the implementation of the requirements of the ISO 9001 standard, although in the literature of the subject more and more often this standard becomes subject to criticism [9], [10], [11], [12].

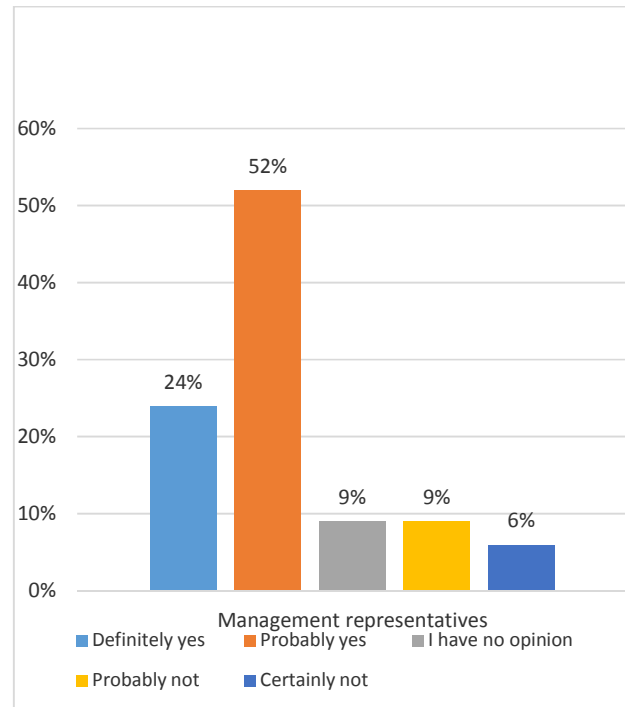
### 3. Methodology of the research

The main objective of the publication is to determine to what extent the implementation of the requirements of standardized quality management system supports the logistics customer service in the process of distribution. The research process was carried out in January 2017 in 21 organizations that have implemented and certified ISO 9001 quality management system for at least 5 years. The research organizations belong to medium-sized enterprises and operate in Poland. 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 requirements of standardized quality management systems significantly improve the process of logistic customer service,
- It is assumed that the most important strengths of the ISO 9001 standard will include the design of a service that meets the requirements of the customer.

### 4. Analysis of the results of research

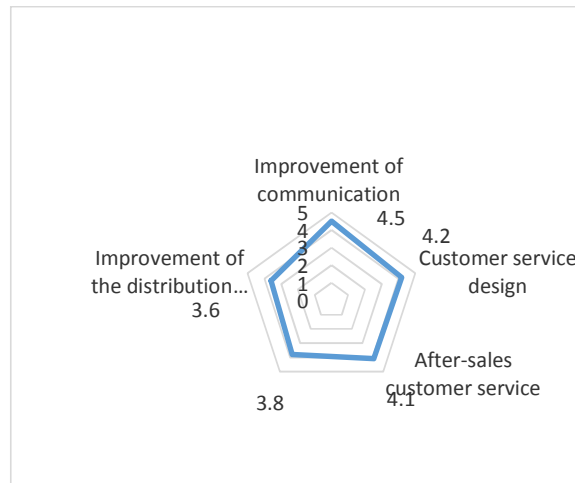
The first question asked respondents to make an overall assessment of the impact of a standardized ISO 9001 quality management system on streamlining customer service logistics in the distribution process. Answers are presented on Fig. 2.



**Figure 2.** Does the ISO 9001 increase the effectiveness of the logistics customer service in the process of distribution?

By analyzing the distribution of the responses presented in Figure 2, it can be concluded that respondents in the vast majority (76%) notice the positive impact of implementing system requirements on improving logistic customer service. On this basis it can be argued that the main assumption of the authors of ISO 9001 which was to improve customer relations works in practice. ISO 9001 standard that is focused on the requirements of the implementation of activities leading to the definition of customer requirements for the product or service of their review and the improvement of forms of communication [13]. The positive impact of ISO 9001 on logistic customer service is confirmed by the fact that only 15% of the surveyed organizations fail to notice the connection between the implementation of system requirements and the improvement of logistic customer service.

In the next question, respondents were asked to identify the impact of a standardized quality management system on improving individual customer logistics processes (Fig. 3).



**Figure 3.** Impact of a standardized quality management system on improving individual customer logistics processes.

Analysis of the distribution of responses shows that the implementation of the requirements of the ISO 9001 standard has the greatest impact on the improvement of communication (4.5), customer service design (4.2) and after-sales customer service (4.1). This may be due to the fact that the implementation of the requirements of ISO 9001 requires the organization to establish effective communication with the customer that is necessary to obtain information on its needs and requirements and satisfaction resulting from the use of the product. Implementing the requirements of the ISO 9001 standard also positively affects the quality of the product and the service, the improvement of the relations with the internal customers and the increase in the timeliness of deliveries, and also reduces the risk:

- The organization's technical requirements, delivery conditions and post-sales service are not identified by the organization [14],
- Non-compliance of product parameters with customer requirements [15],
- ineffective communication with the customer [16],
- Errors in forecasting of a demand,
- Introducing unsuitable products to the market [17].

Quite a substantial impact on the reported development of effective customer service (4.0), which is very important as choosing the right form of customer service is fundamental importante for the further construction activities related to the implementation of logistics processes and quality in the organization. From the point of view of quality sciences only the highest customer service provide guarantees for building a strong position on the market. Unfortunately, the need to maintain high

standards of customer service requires the use of costly monitoring and control system of logistics undertakings. However, the discrepancy between the organization's customer service level and its expectations can have catastrophic consequences for the company. On the other hand, too high level of customer service adequate to the needs of the market, can generate too high costs that will not be accepted by the customer.

The smallest but also a relatively significant impact standardized quality management systems have had on the improvement of the distribution processes. This is due to the fact that the role of quality management systems in this area is limited only to the development of procedures and adequate safeguards for the product in the movement process [18]. Presumably, therefore, the respondents did not recognize the degree of impact as particularly significant.

## 5. Conclusions

Effective customer service goes far beyond the area of interest and logistics in order to increase its effectiveness should be supported with modern management concepts. Adoption of this thesis gives rise to the integration of logistics with modern concepts of quality management. These ideas in fact, serve to improve internal processes in the organization and in the center of its' interest in putting the client's needs. Thus, the combination of these teachings and transmission developed in this way, the concept of land for business can be a significant boost to the competitiveness leading organizations. Muñuzuri and co-authors agree with this view [19], recognizing that the development of logistics increasingly emphasizes its relationship to quality management. It is the result of merging of the two disciplines, as well as continually growing importance and scope of these management areas. Quality should be considered as a very important determinant of the effectiveness of each logistics service. Furthermore, ensuring an adequate standard of quality logistics services is on the one hand the importance of purely formal and on the other economic regulators. According to Piao and co-authors [20] implementation of quality management systems plays a key role in improving logistics processes. They empower companies to identify and document best practices in moving, storing, packaging and distributing products, monitoring orders and corrective actions. [21].

The research process seems to confirm the above considerations. Based on the analysis of the results of the research, it can be concluded that the implementation of the requirements of the ISO 9001 standard has a significant positive influence on the improvement of logistic customer service.

That confirms the indication of 76% of respondents (on this basis the first hypothesis can be considered as true). The second hypothesis proved to be not entirely true as the respondents were most influenced by ISO 9001 standards to improve communication with customers. However, this process is directly related to the design of services and products that fully meet customer requirements.

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