

## **IMPORTANCE OF LOGISTICS SERVICES IN INDIRECT DISTRIBUTION CHANNEL WITH FOOD PRODUCTS**

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### **Abstract**

Distribution intermediaries have an indispensable role in food supply systems as links between food manufacturers and the retail network. When supplying products, manufacturers provide different logistics services to distribution intermediaries. The assessment of their importance can be influenced by the specific/mediating role of distributors in the supply chain. Therefore, primary quantitative research was conducted focusing on the importance of logistics services for distribution intermediaries. The importance of not only traditional services related to order, but also that of other pre-sales, sales and after-sales services was explored. The research results confirm that also for these entities the traditional services of perfect order as well as flexibility of supplier are the most important services. Electronic forms of ordering and delivery speed are also highly rated. Specific is a high importance of offering goods by sales representatives. Interesting is the relatively low importance of collaborative services. The results of the research expand the knowledge of both supply chain management and retail management, while allowing food product manufacturers to improve the supply of services to distribution intermediaries.

**Keywords:** Logistics services, distribution, distribution intermediaries, foods

### **1. INTRODUCTION**

In a highly competitive environment, one way to achieve a competitive advantage for producers is to establish mutually beneficial relationships with distributors. Therefore, more and more often, producers are establishing close links with their distributors to achieve strategic benefits, reduce risks and create value for end customers [1]. In order for suppliers to achieve these strategic goals, they must also systematically seek and use ways to create value with their distributors [2]. Customer service plays a crucial role in creating value by helping to differentiate company products from competitors, increase customer loyalty, and increase revenues and profits [3].

The aim of this paper is to determine which logistics services are important in selling food products to distribution intermediaries and how services are assessed in this context that indicate more advanced collaboration between producers and their distributors. The paper also aims to determine whether the importance assessment depends on the selected characteristics of the respondents.

To achieve the aim, primary quantitative research was conducted and its results analysed. The importance of pre-transaction, transaction and post-transaction services connected with the supply of food products to the distribution network was evaluated. The services under consideration included also services that are becoming more relevant to the collaboration in supply chains. The research results contribute to the knowledge of both supply chain management and retail management, while allowing food product producers to improve the supply of services to distribution intermediaries.

### **2. THEORETICAL BACKGROUND**

#### **2.1. Distribution intermediaries in the food supply chain**

The distribution network has a significant impact on the efficiency of each business. In FMGC, an important part of which is food products, the importance of an excellent distribution network is increasing. Businesses

need good distribution channels because these products must be distributed virtually every day [4]. Another reason for building an efficient distribution network is that FMCG products generate a small profit per unit [5]. Businesses therefore make a profit by selling large quantities of products through a large number of channels [6,7]. In the FMCG market, the rates of product and information flows between producers and customers are important while minimizing errors and discrepancies [8,9]. This is why effective distribution channels based on partnership principles and the use of innovative solutions to improve customer service play a crucial role in this market. [10].

Customer requirements vary. In order to meet various customer requirements, companies must provide a differentiated solution within the supply chain. This is usually achieved by combining different supply, production and distribution strategies to develop a range of service packages for different markets or customers [11].

With regard to research in this area, Zimon [12] examined the impact of QMS on the functionality of distribution channels in the FMGS markets. The results of the research show that distribution channels with implemented quality management systems in most cases have received better grades than other distribution channels [12]. Manders, Caniëls and Ghijzen [13] examined supply chain flexibility in a FMCG food supply chain. According to them, links at different places in the supply chain prioritize other flexibilities. There is no support for overall supply chain flexibility [13].

## **2.2. Logistics services in the food supply chain**

Given that there are many competitors presenting similar products of comparable quality in today's globalized market, the logistical capabilities of companies are increasingly crucial to the efficient management of the supply chain. The customer perceives logistics performance through logistics services [14]. Logistics services are the basic philosophy for the implementation of all activities of the supply chain [15]. These are individualized services provided to customers in connection with the supply of tangible products [16].

The supplier should be able to flexibly respond to customer requirements and offer what they expect [17]. Therefore, proper logistics services of appropriate quality must be provided. The following can be considered quality (level) criteria of logistics services (sorted according to customer preferences) - reliability of delivery, completeness of deliveries, short delivery times, provision of appropriate pre-transaction and post transaction services, quality of distribution, provision of information [14,18].

Gajewska and Grigoroudis dealt with the issue of logistics services evaluation in the food supply chains [19]. In their research, they focused on the quality of logistics services for the transport of frozen goods. According to them, there are 10 attributes that affect satisfaction with service quality. The most important attributes were promptness of deliveries and timeliness of deliveries, followed by completeness of deliveries and faultlessness of deliveries. Since the requirements may vary, research needs to be carried out with different chain links.

## **3. RESEARCH ON IMPORTANCE OF LOGISTIC SERVICES FOR DISTRIBUTION INTERMEDIARIES**

### **3.1. Research Methodology**

The aim of the primary research was to find out the attitudes of food manufacturing companies about the importance of logistics services provided to a selected group of customers - distribution intermediaries. A partial objective of the research was to identify attitudes towards services that indicate higher forms of collaboration and to identify possible differences in the assessment of their importance depending on selected characteristics of respondents.

To meet the targets, a quantitative research was conducted through an Internet-based structured questionnaire. The questionnaire was divided into 3 logical parts. The primary objective was to find out the



suppliers' view of the importance of logistics services for distribution intermediaries, and thus the distribution method was first explored. The principal part of the questionnaire was devoted to identifying the importance of logistics services that producers provide to their customers - distribution intermediaries. The respondents assessed the importance of 28 pre-transaction, transaction and post-transaction logistics services on the seven-point scale 1-7, where 1 = low importance and 7 = high importance. The qualitative research was carried out to identify them. The aim was, with the help of managers of manufacturing companies, to specify the portfolio of provided logistics services. In the last part of the questionnaire, the respondents were asked about other characteristics of the company (size of the company given by the number of employees, the predominant distribution method, and prevailing sales territory) and the identification data of the person who completed the questionnaire (respondent's years of experience).

The research took place from March 2018 to April 2018. IBM SPSS Data Collection Interviewer was used to collect data. Methods of descriptive and interference statistics in the environment of the IBM software of SPSS Statistics were used for data processing.

In order to select suitable respondents, the ARES administrative register of economic subjects was used in the first step. Filtered and randomly sorted were the enterprises that indicated CZ NACE 10XY - Manufacture of Food Products. Only enterprises specialized in NACE 10XY (i.e. CZ NACE 10XY indicated first) with 10 or more employees were included in the survey. Thus, 222 eligible companies were selected for research out of the first 1,900 companies. The questionnaire was completed by 42 food processing enterprises, 32 of which use distribution intermediaries in distributing their products. The structure of enterprises/respondents can be seen in **Table 1**.

**Table 1** Structure of enterprises/respondents [own study]

Attribute	Category	Responses (%)
Company size	10-49 employees	59
	50-249 employees	35
	250 employees and more	6
Prevailing method of distribution	Directly to retail	38
	Through a distribution intermediary	52
	Other	10
Prevailing sales territory	Czech Republic	66
	Europe	31
	World	3
Respondent's years of experience	Up to 5 years	22
	5 - 10 years	16
	More than 10 years	62

The research was dominated by small businesses selling in the Czech Republic, mainly through distribution intermediaries. A typical respondent was an experienced one with years of experience of over 10 years. For the purpose of analysing differences in the assessment of individual services, less numerous categories were then grouped together in order to improve the balance of the groups.

### 3.2. Results and Discussion

The respondents assessed the importance of 28 logistics services. **Table 2** lists logistics services and their statistics. The services are sorted according to mean.



**Table 2** The importance of logistics services [own study]

Service	Importance <sup>1)</sup>	
	Mean	Median
Delivery of the right goods (type and quantity)	6.0	7
Delivery of goods right on time	5.8	6
Delivery of goods with error-free supportive documentation	5.7	7
Supplier flexibility - request for delivery date modification	5.3	6
Supplier flexibility - request for order size modification	5.3	6
Ordering of goods using EDI or other standardised forms	5.1	6
Offering of goods by sales representatives	5.1	6
Ordering of goods via e-mail	5.1	6
Short delivery times	5.1	6
Possibility to agree on fixed period ordering	5.0	5
Expeditious handling of complaints	5.0	5
The possibility to test the products sold	4.8	5
Adapting pack types and sizes to meet customer requirements	4.7	5
The possibility to agree on fixed quantity ordering	4.6	5
Recovery of packaging in which the goods were transported	4.6	5
Supplier-arranged transport of goods	4.3	5
Provision of promotion materials relating to the products on sale	4.3	4
Collaboration in planning and replenishment	4.3	4
Choice of payment terms and conditions	4.1	4
Ordering of goods via telephone	4.0	5
Automatic replenishment	3.9	4
Provision of information on stock availability	3.9	4
Collaboration in demand forecasting	3.9	4
Provision of training oriented at a knowledge of the products sold	3.8	4
Consultations over supplier plans concerning delivery innovations	3.7	3
The possibility to return unsalable goods by reason of incorrect demand estimate	3.6	4
Provision of order status information	3.5	4
The possibility to return unsalable goods by reason of expired shelf life	3.4	3

<sup>1)</sup> Used scale from 1 = the lowest importance to 7 = the highest importance

It can be seen from the table that the most important logistics services for distributors are, as mentioned by food manufacturing businesses, traditional services related to delivery, i.e. delivery of the right goods, right on time, with error-free supportive documentation. Delivering the right goods (type and quantity) and delivery of goods with error-free supportive documentation is considered by at least 50 percent of the respondents to be the most important service for their distributors. Other very important services are related to the producer's flexibility. According to the manufacturing companies, it is important for distributors to have flexibility in the need to change the terms of delivery and the quantity delivered. Interesting is the relatively high assessment of the importance of offering products by the producer's sales representatives.

Among the least important for distributors, in the opinion of food enterprises, there are services that are carried out as part of the product reverse flows, provision of order status information and consultations over supplier plans concerning delivery innovations.



The list of services evaluated also included services that are of relevance to partner collaboration. Collaboration in the field of material flows involves, in particular, collaboration in planning, replenishment and sharing information [e.g. 21]. Of the above mentioned services, it is collaboration in demand forecasting, collaboration in planning and replenishment, automatic replenishment, provision of information on stock availability, and provision of order status information. All of these services are in the table, ranked according to the assessed importance from the most important to the least important, in the lower half with a median of four.

In **Table 3**, the means of importance are shown for these services according to the classification variables in the merged groups - the size of the enterprise given by the number of employees (small and medium (S+M), large (L)), the prevailing distribution method (distribution intermediaries (DI), others (O)), the predominant sales territory (Czech Republic (CR), abroad (A)), and respondent's years' of experience (up to 10 years ( $\leq 10$ ), more than 10 years ( $> 10$ )). For these variables, an analysis was made of the differences in the assessment of the logistics services importance. The statistical significance of the differences was verified by Kruskal-Wallis test at the 0.05 level of significance.

**Table 3** Assessment of importance depending on the enterprise's/respondent's variables [own study]

Service	Mean							
	Size		Distribution		Territory		Experience	
	S+M	L	DI	O	CR	A	$\leq 10$	$> 10$
Collaboration in demand forecasting	3.9	3.9	4.1	3.5	3.9	3.9	4.0	3.8
Collaboration in planning and replenishment	4.4	4.1	4.2	4.3	4.4	4.1	4.3	4.2
Automatic replenishment	3.9	4.0	4.0	3.7	3.9	4.0	4.5	3.7
Provision of information on stock availability	4.1	3.7	3.6	4.7	4.1	3.7	4.4	3.7
Provision of order status information	3.4	3.6	3.0	4.7	3.4	3.6	4.3	3.0

The table shows relatively large differences in the assessment of importance depending on the prevailing distribution method and the experience of the respondent, especially for the last two services. However, the difference in importance was only significant in a single service - provision of order status information. Enterprises that use mainly distribution intermediaries consider this service to be less important than companies using predominantly other forms of distribution ( $\chi^2 = 5.806$ ; sig. = 0.016). For other services, the differences in attitudes to their importance among the groups were not significant in view of the small range of analysed set.

The research has shown that food producers, based on their experience, need to focus on providing basic logistics services, but also the flexibility and individual approach to distributors through sales representatives are important. Highly advanced services, which require closer collaboration and a mature relationship between the producer and the distributor, still have a low priority. With an exception, the expected differences in the assessment of their importance among the groups of respondents were not significant.

#### 4. CONCLUSION

Services are an important element of supply differentiation and an important factor in value creation. The results of the research show that, as far as the distribution of food is concerned, the producers consider traditional services of perfect order to be the most important. The assessment of the importance of services requiring collaboration shows that business relationships between these links of the chain are likely to be on a lower level and there is still considerable room for collaboration development. The impact of classifying variables (size, prevailing distribution, and prevailing sales territory) on the assessment of the importance of these services has not been proven.



However, in order to determine clearly which logistical services are actually important, it is necessary to carry out the same research with customers, i.e. distribution intermediaries. Only then is it possible to assess whether food enterprises are able to provide their customers with the services that distributors actually require. However, the research results are valuable to the respondents themselves. They attest to their experience in relation to this market segment.

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