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Use of the Distribution Center in the Ukrainian Distribution System

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Abstract

With the increase of companies' sustainable turnover, most companies are thinking about creating a distribution center. The consumers should obtain the necessary quality and quantity level of the goods at the right time in the right place, etc., from a reliable supplier, with a sufficient level of service and a minimum level of total costs. Failure to comply with any of these requirements can lead to loss of customers or market share.

The research study of the Ukrainian distribution system was made on the example of one of the national companies which sells building materials.

The article defines irregularity in functioning of existing distribution channels. At the same time, the authors determine inefficiency of various distribution channels used by the participants of the retailers' network in one region. To solve this problem, combining several material flows has been proposed. Serving clients together allows avoiding seasonality and makes goods volumes more sustainable. In this case, the use of the distribution center is rational. Applying a DC in customers consolidation areas allows increasing productivity and efficiency of the distribution system and improving logistics indicators.

Obtained results are based on: scientific and practical analysis of irregular services of material flows; integrated and system approaches to data processing; an experimental method for implementing the distribution center in the distribution system; methods of project analysis evaluating the distribution system effectiveness.

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1. Introduction

Expansion of retail networks inevitably raises the question of uninterrupted supply of commodities. The easiest solution for retailers is an option where vendors bring their goods to stores; put them on shelves and monitor current balances themselves. But, unfortunately, the majority of suppliers are not able to provide such services, or their price is too high. The analysis shows that maximum 40% of modern store suppliers are in compliance with full obligations due to their contract when delivering goods (Johnson and Johnson, 1999). Only a few of them, in addition to the delivery, can do extra services. All the others – are small wholesale brokers, who can't provide stable supply of products to the market in right time, place, quantity, etc. So, their unclaimed reserve will automatically increase the costs. This situation forced retailers to search direct links with producers and organize their own supply department.

On the other hand, due to the falling purchase power of customers, retailers start to reduce their own number of orders and their size. In such conditions each of distribution channels is unstable or episodic. Influence of these factors provides negative impact on logistics systems functioning.

Many specialists and scientists agree with the idea to centralize flows that use distribution center (DC) or central warehouse, which can accumulate stock in a short time spent, is necessary for supply chain. Using of DC ensures that the customers receive the exactly ordered range of goods of the corresponding quality and clients are not burdened with the "logistics problems" (Hadjinsky, 2013). However, these actions will have effect on the final price of the finished products (Shapiro, 2006) in distribution channel.

Based on the existing analysis of the up-to-date functioning of the logistics system (instability and periodicity), the influence of its external participants, and rising requirements for environmental protection, it has been assumed that there is a possibility of rational organization of the distribution channel scheme which would ensure DC channels effective functioning.

This article is aimed at finding efficient ways for making stable flows from irregular orders at separate distribution channels in the current economic situation in Ukraine, on the one hand, and evaluates the efficiency of such decision for logistics system, on the other.

The best project solutions serve as indicators of effectiveness of functioning of the logistics channel. Every company has its own indicators that can demonstrate the quality and quantity of their work. For example, for online shop this can be an indicator of "Average time of order processing" or "order processing time". If a certain value of efficiency indicator can be defined, it is possible to analyze, set the index values for the next period and strive to implement them. Proper goal setting can provide up to 50% success rate (Hadjinsky, 2013). At the same time the efficiency of distribution system should be based on project analysis methods and indicators which are based on the long-term profit (Roslavtsev, 2010; Kuznetsov, 2012; Vorkut, 2002). In this paper, technological changes in distribution systems, which lead to economic and ecological efficiency shifts, have been considered. The results from the conducted experiments on the use of the distribution center have been evaluated.

2. Methods of distribution

Material Flow movement can be seen as a variety of sources – the source of raw materials, finished products, semi-finished products, return of containers, packaging, damaged goods. One of the main logistics problems and tasks is effective distribution of products. The solutions played the main role in design and management of logistics channels (distribution channels, sales channels) (Dybskaya etc, 2008). Organizational structure of logistics chains can be varied and depends on (Dybskaya etc, 2008, Larina, 2005; Hadjinsky, 2013; Galkin, 2015): 1) the size of enterprises; 2) the scope of their activities; 3) the concept of governance; 4) material consumption; 5) fields of industry, etc.

Historically, distribution channels represent an group of independent companies. Each of these companies seeks to maximize their profits, not worrying about the overall profits of the channel. These traditional channels of distribution have poor management and low efficiency of system functioning. Emerging channels with such conflicts have a devastating effect on all the system.

In the simplest case, when the logistics system is characterized as a system with direct links, logistics chain consists of suppliers and consumers. Forms of bringing the goods to the consumers are determined primarily by the nature of the goods, place and conditions of its production, consumption and transport capabilities. This form is used

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