

Supply Chain Management in Delivery of Goods to Increase Customer Loyalty in Electronic Commerce

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Abstract— Delivery performance provides an indication of how successful the supply chain is at providing products and services to the customer. In modern conditions, electronic commerce of supply chain is developing very dynamically. The significant increase in the level of competition in this sector due to this leads to the need to find new ways to attract and retain customers in supply chain system. In this regard, the relevance of the study related to finding criteria for the competitiveness of online stores is not in doubt. The paper discusses aspects concerning the formation of competitive advantages of online stores to gain customer loyalty and improve the quality of service. Such advantages are primarily associated with increased comfort for buyers along the entire path of making a purchase, starting with the search and accumulation of information about products and purchase conditions and ending with the receipt of goods. The authors have studied factors significant for customers to choose online stores, as well as the reasons for refusing online purchases. Buyers in the Internet commerce segment note among the main reasons for refusing a purchase the difficulties in returning goods purchased on the network and in solving problems arising during the purchase and delivery of an order; they also express concern about the quality of the goods, and also note problems with the delivery of goods. As a result of the study, it was found that the factors of convenience of making an order, as well as the convenience of receiving a purchase, are priority, while the price factor has somewhat lost its significance. When choosing an online store, a significant number of buyers study the conditions for the delivery of goods and make purchase decisions based on supply chain process. At the same time, it becomes essential for buyers to customize the delivery parameters to suit their needs.

Keywords— *supply chain management, goods delivery, Customer Loyalty, Electronic Commerce.*

1. Introduction

Electronic supply chain in Russia is showing steady growth in the context of active globalization and digitalization of the economy, as well as taking into account the coronavirus pandemic. As the Internet audience grows and penetrates into the regions, an increasing number of buyers appreciate the benefits of making purchases using the Internet. The possibility of introducing Internet technologies into the activities of trading organizations allowed large companies to get an additional sales channel, and small trading businesses to enter new markets and increase their competitiveness. Today, e-commerce technology is an integral part of the activities of most trading organizations. Digitalization of the economy affects all areas of business development [1-6].

It should also be noted the enormous social role of modern trade [7]. At the same time, taking into account quarantine restrictions, one should note a high growth in the importance of the Internet in organizing the daily life of the population, both in the development of a wide variety of electronic services [8] and in the retail sector. The development of the Internet of things defines new approaches to the formation of assortment policy [9]. In modern conditions, the Internet is an important channel for online transactions and services [10]. The work by [11] also noted the feasibility of linking stores to health authorities in a pandemic. Changes in the demand structure, especially the formation of supply chains are shown in the work by D. E. O'Leary [12]. In [13] shows that perception of risk by consumers affects their intention to shop online. In this regard, the forced experience of making online purchases in the face of restrictions has a favorable effect on the pace of development of electronic commerce.

The active development of electronic commerce, along with its clear advantages, increases competition in this environment. This factor for online stores has a negative meaning, because it requires intensive work to attract and maintain customer loyalty in order to maintain and increase the organization's profit. At the

same time, standard mechanisms for attracting customers, such as promoting an online store website, developing promotional activities, and advertising, are gradually reducing their effectiveness. Although the price factor remains one of the significant factors when choosing an online store, it cannot provide the trading company with strategic advantages, since lowering the price leads to a decrease in the margin of trading activity. The importance of researching customer traffic parameters is presented in the work by [14]. Currently, the role of social networks is increasing in e-commerce [15], which also leads to the need to analyze consumer preferences.

In this regard, there is a need to find other ways to attract and retain customers. One of these areas may be the formation of unique criteria for customer service that best meet the needs and requirements of the target audience. The formation of optimal delivery conditions, as well as convenience from the position of canceling the order and the possibility of free return of goods purchased in the online store, can become the basis not only for attracting customers, but primarily for their retention and the formation of a contingent of regular customers loyal to the online store.

Modern e-commerce is characterized by the high role of mobile applications [11]. At the same time, the use of this method of communication with end customers reduces the potential of both price competition and means of promoting a site on the Internet.

These aspects form the need to conduct a study of the needs of customers from the standpoint of the quality of trade services in the online store.

2. Research methods

In an integrated supply chain, coordination of logistical activities is effectively extended to encompass source, make and deliver processes in collaboration with channel partners and suppliers. The growth of e-commerce turnover in Russia is proceeding at a rather high pace, outstripping the growth rate of the entire country's retail trade turnover. Moreover, against the background of a decrease in the growth rate of retail trade in general, the e-commerce segment shows a contrary positive trend. Thus, the average annual growth rate of the Russian retail trade turnover for the period from 2010 to 2019 was only about 8.5%, while the electronic commerce turnover increased on average by 26% per year.

The reasons for this situation are quite a few. One of them is related to the fact that electronic

commerce in the country has a greater development potential. According to various sources, the share of electronic commerce in the total retail turnover of Russia in 2019 was from 2 to 6 percent. However, this share is growing steadily, and it can be predicted that this growth will maintain its dynamics. This indicates that electronic commerce in the country is at a stage of active development, and the growth of electronic commerce turnover will continue to grow steadily as Internet coverage of the population increases, especially in the regions, as well as improvement of models for organizing trade using the Internet.

The crisis situation at the beginning of 2020 associated with the coronavirus pandemic increased the influx of customers into the Internet trading sector, while a significant number of trading organizations also transferred their activities partially or fully to the Internet. The lifting of restrictions associated with the pandemic may lead to the return of Internet shopper traffic to the level of the end of 2019, and trading organizations on the network will find themselves in conditions of significant increased competition.

The study of ways to increase the efficiency of online stores in the face of increasing competition requires studying the characteristics of consumer behavior on the Internet and analyzing those factors that have more influence on the decision-making process at purchasing. Such a study must be carried out on the basis of the application of observation, questionnaire, survey, analysis, and generalization of the results.

3. Research results

The methodology used in analysis is a step towards developing mathematical models for delivery performance measurement in an integrated supply chain practice. When researching the development factors of e-commerce, it is necessary to consider the reasons leading to the rejection of purchases. A study of these factors will help to identify those components that impede the development of Internet commerce. Analysis of these factors will also become the basis for the formation of those priority areas of the online store that can provide a high level of competitiveness.

According to buyers in supply chain process, such reasons often include the lack of the opportunity to directly examine the goods before purchase, the difficulties with returning goods purchased online and solving problems that arise during the purchase and delivery of the order; they also concern about the quality of the goods, and also note problems with the delivery of goods in the supply chain process (Figure 1).

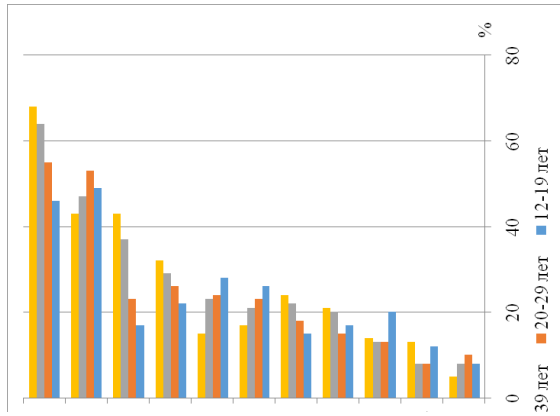


Figure 1. Reasons for refusing purchases on the Internet

In our opinion, a significant problem is solving difficulties both at the stage of ordering and receiving the goods, and, if necessary, to carry out their return. The law “On the Protection of Consumer Rights” and “Rules for the sale of goods remotely” oblige sellers on the Internet to provide all the necessary information and even return goods

of good quality within a certain period. Despite this, in practice, buyers often cannot achieve the realization of their legitimate right. And some buyers are not aware of their rights due to the fact that sellers do not inform buyers in an appropriate manner. These factors significantly increase consumer distrust in online shopping.

The solution to this problem may be the creation a special body responsible for observing consumer rights in the implementation of electronic commerce, for example, within the framework of the Federal Service for Supervision of Consumer Rights Protection and Human Well-Being. It is also advisable to introduce a registry of dishonest sellers on the Internet. In addition, it is necessary to increase the legal literacy of the population, actively informing citizens about their rights in the media.

Factors related to the delivery of goods are also noted. In this case, the priority for buyers is not the cost of delivery, but the conditions for its implementation (figure 2).

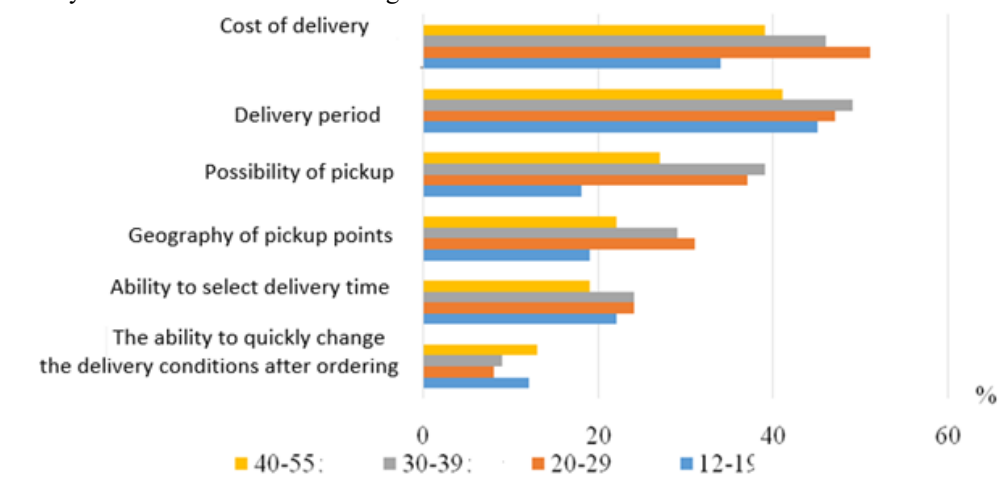


Figure 2. Significance of various delivery conditions for buyers of online stores

Examining the importance for buyers of various aspects of the goods delivery in online stores, it can be noted that the cost of delivery is not a priority; buyers take into account much more those aspects of delivery that maximize the comfort of receiving an order. So, customers note the high importance of the possibility of choosing a delivery time. At the same time, not many online stores offer customers this opportunity at the moment. Most often, delivery is carried out on a certain day without specifying a time interval. At the same time, when making an order, the buyer often does not even have the opportunity to choose a delivery day, and the delivery day is agreed upon directly when the order is processed by an online store employee. However, in modern conditions, customers are increasingly

appreciating their time, and providing the ability to control the delivery parameters of goods at the time of order can become an important criterion for competitiveness for the online store.

At the same time, it becomes possible for the online store to differentiate the cost of delivery, taking into account the delivery parameters that the buyer chooses. As a rule, when choosing a shorter delivery time interval, the buyer will agree to a higher shipping cost. Also, the possibility of prompt refusal of the order or the transfer of the date and time of delivery can be attributed to the adjustable parameters.

4. Discussion

Companies may use this as a measure to benchmark their performance as well as the performances expected from their counterparts for successful supply chain management in terms of delivery performance. The analysis helps in providing benchmark values for expected performance levels of each entity in a supply chain to achieve desired overall delivery performance. The results obtained by the authors show that at present, the vector of development of electronic commerce is largely shifting towards improving the quality of customer service. So, delivery parameters come first in the conditions of relative equality of prices and advertising campaign. These findings are largely confirmed by the research of [16], in which there is noted a high uneven development of the trading network in the Russian Federation, which characterizes the advisability of expanding the zone of delivery of goods. In this regard, the integration of various sales channels in the field of trade is relevant [17].

The work of [17] also noted the high role of reviews on the Internet, which also allows us to conclude about the importance of a positive impression of an end customer. On the other hand, the work [18] noted that the formation of customer satisfaction should be compared with the costs incurred by the retailer to increase it. In [19] also shows the high role of “word of mouth” in shaping customer loyalty. In [20] also notes that the transition to alternative methods of service and multi-channel allows the buyer to be more demanding and critical to the choice of seller. Buyers also make demands on goods delivery services [21]

In [22] analyses the importance of most key factors, in particular delivery, to consumer perceptions. The work also noted the importance of such an analysis for making managerial decisions in Internet trading. By the example of Mongolia, the work by [23] shows that approximately three quarters of seller companies currently have their own delivery service [2]. This improves the quality of customer service in electronic commerce. In [24] showed that seller's entry into the supply chain at a higher level entails lower costs for sorting for the seller, but higher delivery costs and longer delivery times. The high role of logistics in the e-commerce system is also shown in the works by [25]. As is shown by [5], a company can offer differentiated services, increasing customer satisfaction and lowering costs associated with failed delivery attempts. For this, routes should be designed

in such a way that the visit time should be convenient for customers. An increase in the level of satisfaction leads to the willingness of buyers to pay more [4], which leads to an increase in the effectiveness of Internet commerce.

5. Conclusion

As a result of the study, we can distinguish several areas of attracting and retaining customers in Internet commerce, which show maximum efficiency through SCM in the face of increased competition in the electronic commerce market. One of these areas is the maximum simplification for a buyer of the procedure on ordering, receiving and returning goods. At the same time, problems solved by customers on the network are often informational in their nature: this is a comparison of goods and prices, the study of reviews and information about goods, and receipt of information about delivery. To increase the effectiveness of their activities, online stores should work first on improving the information component of the site, helping customers to make a choice. However, this work should not be associated only with an increase in the amount of information: the main task is to present the required information in a form convenient for the buyer.

In addition, delivery through the SCM increases the degree of customer comfort in the process of receiving an order become a significant factor. It is advisable for online stores to work on managing delivery parameters giving customers the choice of terms and conditions of delivery

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