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OUTSOURCING OF LOGISTIC SERVICES IN POLISH E-COMMERCE STORES

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Purpose: The aim of the article is to present the issues of outsourcing logistic services in Internet commerce companies.
Design/methodology/approach: The article is based on an analysis of the literature on the subject and reports, as well as the presentation of the author's own questionnaire research.
Findings: Own research has shown that the outsourcing of logistics activities in Polish online stores is still not very popular. For several years, the percentage of companies using the services of external companies as part of logistics has been at the level of 10%.
Research limitations/implications: The issues require further research, mainly in order to define the reasons why companies decide to carry out activities in the area of logistics on their own. It would be advisable to analyze and compare the costs of logistics activities in detail in the case of outsourcing and in the case of carrying out these activities on their own.
Practical implications: From the practical point of view, the presented analyzes can be used by companies offering their services as part of logistics for electronic stores, so that their offer is better suited to the specificity of e-stores.
Originality/value: The article is addressed to academics and students, but also to entities operating in the logistics industry - mainly companies offering fulfillment. The work presents the current results of original research and compares them with data from previous years, which allowed to indicate the trend in the development of logistics services outsourcing in the e-commerce industry.

Keywords: logistics outsourcing, fulfilment, logistics services, e-commerce.

Category of the paper: Research paper.

1. Introduction

In the era of globalization, many companies face challenges. To stay in business and be competitive, companies are forced to adapt to the changes taking place on the market, as well as to the requirements of new generation customers. In response to these challenges, many companies are beginning to outsource more of their business functions, including logistics.

Logistics outsourcing has become a common practice of many companies in various industries, operating both on local and international markets, both small and large.

The aim of the article is to analyze and assess the impact of logistics outsourcing on the functioning of stores in electric trade on the example of Polish companies. the article is theoretical and empirical in nature. The first part describes the development and forecasts for the e-commerce market as well as the theoretical aspects of logistics outsourcing.

In the second part, an attempt was made to analyze and assess the impact of logistics outsourcing on the process of improving the efficiency of e-shops.

The study used secondary data, but most of all information collected during own research conducted in 2017, 2019 and 2021 on a group of 121, 139 and 141 e-commerce companies. The survey was conducted using CAWI (Computer-Assisted Web Interview) surveys on the web panel, and survey invitations were sent out via e-mail. Due to the possibility of sending a certain number of messages by e-mail, a quota selection was decided according to the provincial criterion, and the sample size was set at 25% of the population.

2. The essence and development of outsourcing logistics services

"If there is something we cannot do more efficiently, cheaper and better than our competitors, it makes no sense for us to do it. We should hire someone to do the job better." These words of H. Ford, spoken at the beginning of the twentieth century, gained meaning much later, when enterprises more and more often only perform their most important (income-generating) activities, delegating more and more other tasks to external companies. The term "outsourcing" is an acronym for outside-resource-using, which is simply the use of external resources. It is a management strategy of separating from organizational structure of specific auxiliary functions (non-core) and entrusting their implementation to specialized, external organizations in order to increase your efficiency activities (Gonzalez et al., 2015, p. 1067). Enterprises should not only strive to ensure proper customer service and the lowest possible cost, but also to reduce the impact of disruptions in logistics processes (König, Spinler, 2016, pp. 122-134).

Today there is a renewed interest for the Logistics services field. The main reasons for this situation are the steady growth of the logistics services market and the vital importance of Logistics services providers in the supply chain. But before detailing this concept, it proves important to start, first, with a brief overview of the notion of "service". A service, in general, can be defined as an action performed to satisfy a requirement or to fulfill a demand. It is about incorporeal products such as accounting, insurance, consultancy, expertise or transportation. And as reported by Parasuraman et al. (1985, p. 41), a service is different from a good from the fact that it is: intangible (because it is a performance rather than an object and no transfer of

possession or ownership takes place when it is sold), inseparable (because its production and its consumption take place simultaneously. In other words, a service is consumed during its production and that's what we call the"servuction"), heterogeneous (because its performance often varies from supplier to supplier, from customer to customer and from day to day) and perishable (because it cannot be stored). All these characteristics remain valid for logistics services which are numerous and which cover all the supply chain's links. Therewith, it is important to classify logistics services for outsourcing research. In fact, in recent years, logistics services have attracted much attention from research teams and various classifications have been presented in the literaturę (Fadile et al., 2018, p. 59).

Hsiao et al. (2011, pp. 550-576) for example, have classified logistics services into four levels, making the distinction between execution and planning and control services in operationsmanagement:

- Level 1: it refers to transportation and warehousing services.
- Level 2: it refers to value-added services like packaging and labeling.
- Level 3: it refers to planning and control services, such as inventory management and transportation management.
- Level 4: it refers to distribution network management services.

According to the authors the most common logistics services that can be outsourced are transportation, packaging, transportation management, inventory management, and physical distribution.

Outsourcing is becoming more and more popular all over the world, most of the work is still outsourced. Research conducted by Deloitte in 2016 found that 56% of respondents said the reason they outsourced is to reduce or control costs. And it is not surprising. An hour of work on software development in Poland can be up to five times cheaper than the same work done in the USA (Kamiński, 2020).

As can be seen in the Figure 1. the global outsourcing market in 2019 was worth USD 92.5 billion, USD 6.9 billion more than in 2018. The highest value of the global outsourcing market was observed in 2014. It reached an astonishing 104.6 billion USD.

This massive use of logistics services outsourcing has led to the emergence of a new actor, the logistics services provider which now occupies a central place in the supply chain and has begun to diversify his offers, ranging from conducting operations to piloting the whole supply chain.The term logistics services provider is applied as a synonym for similar terms such as outsourcer, carrier, forwarding firm, transport firm, Logistics services firm and third-party logistics provider (Forslund, 2012, pp. 296-311). In fact, the logistics services provider should not be considered as an additional intermediary but he needs to be treated as a separate industry (Berglung et al., 1999, pp. 59-70).

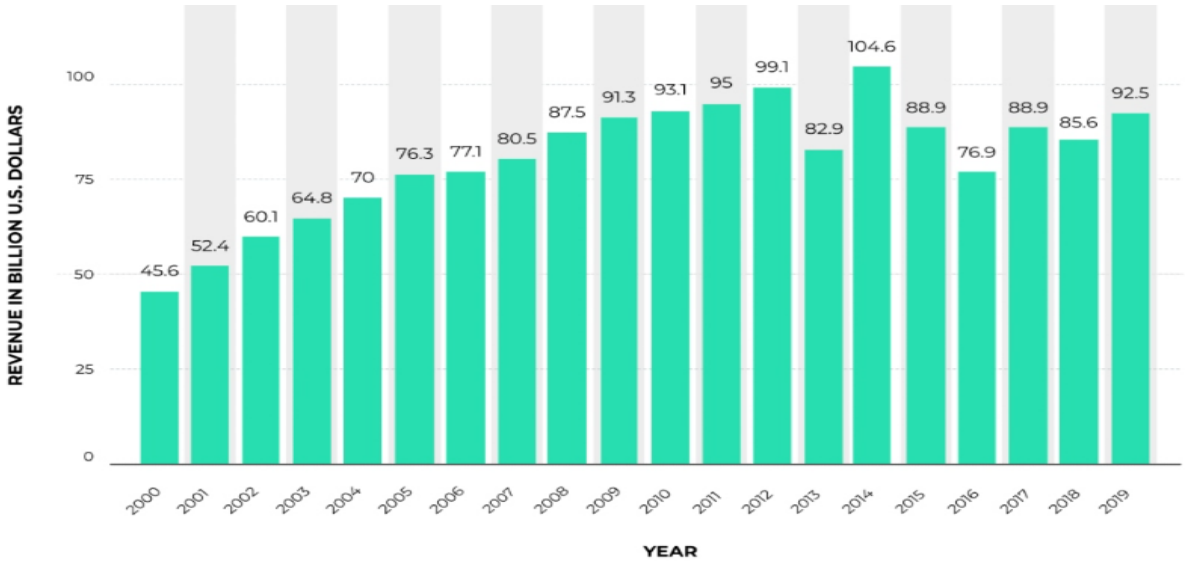

Figure 1. The value of global outsourcing in 2000-2019.

Source: Applover.

Although a number of specialist companies present on the market give us a chance to delegate almost every activity of the company, each entrepreneur should exercise moderation and define key activities that will remain fully dependent on him. And so - a company dealing in creating websites should not outsource the creation of its own website to someone else, and a store whose unique selling proposition are handamde products - should decide to mass production in one of the friendly plants.

Choosing a proven outsourcing company that has good opinions will allow the company to maintain a high level of customer service at every stage of the contract. At the same time, the costs of activities carried out by the company and their quality should be constantly monitored. In some cases, it may turn out that outsourcing will cease to pay off and, for example, instead of fulfilling fulfillment, it will be more advantageous to store goods on your own.

3. Development of e-commerce

According to eMarketer data, e-commerce turnover in the world from year to year they increase by about 20%. In 2019 their the value exceeded $ 3.5 trillion. It accounted for it is around 14.1% of total retail sales. In 2020 a year is expected to reach 4.2 trillion (an increase of 19%), and in 2023 year is expected to reach $ 6.4 trillion, which will be 22% of total trade (Lipsman, 2019) (see Figure 2). This share will be possibly bigger due to violent interest in online shopping by newcomers customers caused by the coronavirus pandemic.

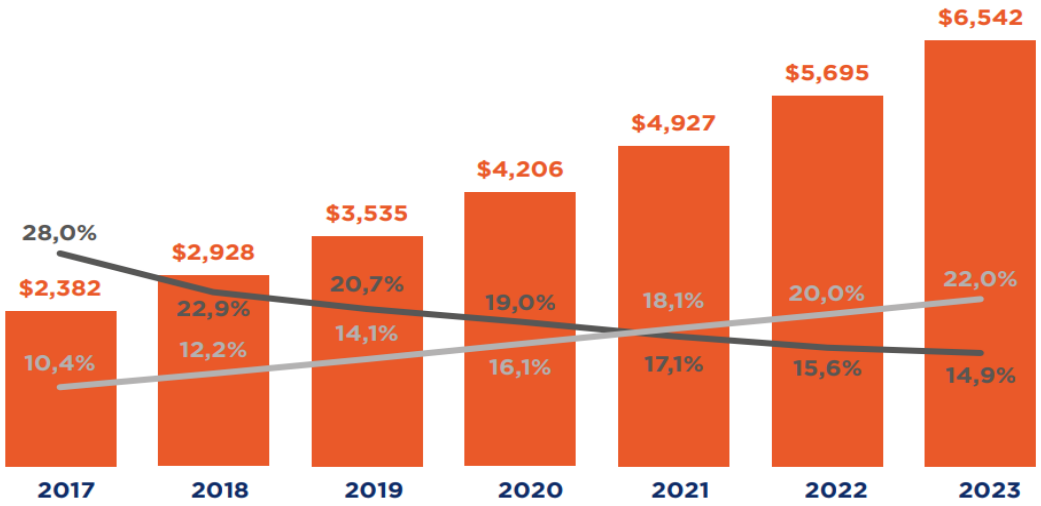

Figure 2. E-commerce in the world in 2017-2023 (million USD).

Source: Kawa, 2017. Fulfillment service in e-commerce logistics. *LogForum, 13(4),* 429-438.

Electronic commerce in Poland is treated as one of the most dynamic and important sectors economy as well as one of the major factors leading to greater competitiveness. His development is stimulated by rapidly increasing access to the Internet, but also by mobility and popularity mobile devices through which customers order goods and services in a convenient place and time. With their help, they buy not only larger things values, but more and more everyday products, they want to have very quick access to.

In 2018-2021, the increase was mainly due to customers switching between sales channels. The pace of this change significantly accelerated in the years 2020 - 2021. This was mainly due to the closure of brick-and-mortar stores. In the years 2022-2023, the role of the main engine of market growth is taken over by the increase in product prices with the weakening consumer demand. It is mitigated to some extent by the influx of more than 2 million refugees from Ukraine. From 2024, a return to the long-term growth trajectory and stabilization of macroeconomic conditions is assumed. By 2027(figure 3), the value of the e-commerce market in Poland will increase by over PLN 94 billion to PLN 187 billion (Perspektywy rozwoju rynku e-commercew Polsce 2018-2027, 2022).

Experts point out four extremely important aspects for companies that are already selling or intend to sell online. The first is omnichannel, i.e. ensuring consistency between various sales channels. The second is customer experience - building positive customer experiences. As many as 42% of Polish consumers are able to give up a given brand after just one bad experience. The third aspect is the activation and loyalty of customers, incl. by selecting the appropriate pricing strategies or loyalty programs. The fourth is logistics and ensuring the continuity of supply chains - especially important in the not fully predictable reality, as demonstrated by the ongoing pandemic in recent months.

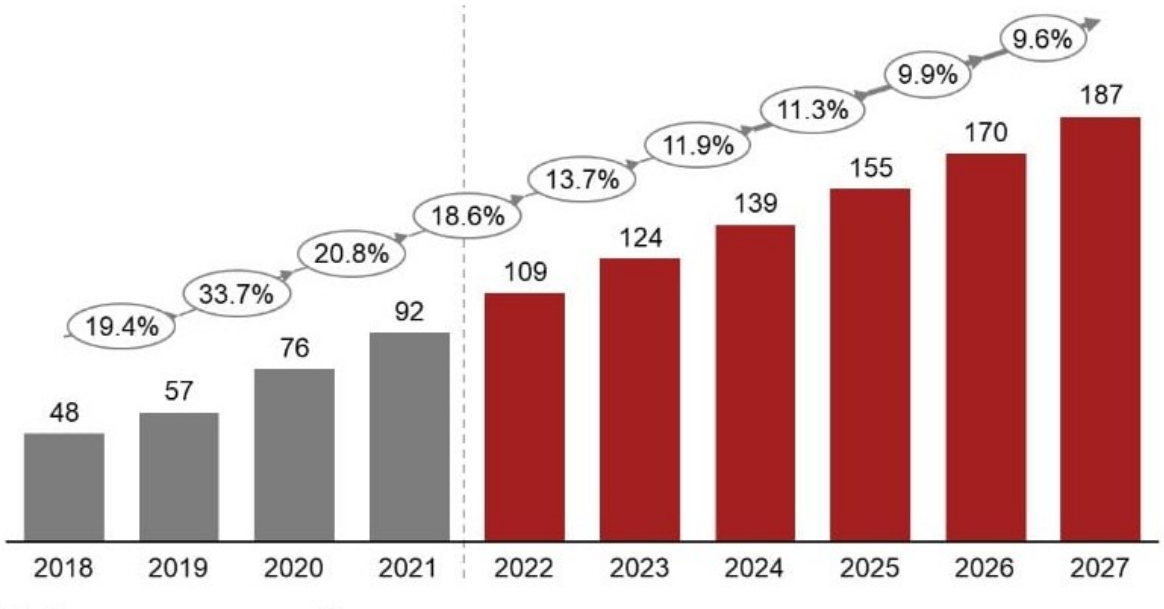

Figure 3. Value of the Polish e-commerce market in 2018-2021 and forecast until 2027 (billlion PLN). Source: https://www.strategyand.pwc.com/pl/pl/publikacje/2022/perspektywy-rozwoju-rynku-e-commerce-w-polsce-2018-2027.html, 15.09.2022.

New ones are created along with the dynamic development the needs of companies trading via the Internet. One of tchem is the separation of logistics processes outside and transferring them to external operators. E-commerce companies increasingly prefer to focus on their key competences, i.e. marketing, sales, procurement.

4. Outsourcing of logistics functions in e-commerce

4.1. Logistics organization forms in e-commerce

There are three basic forms in e-commerce logistics organizations that indicate the scope of the processes carried out by an online retailer: own logistics, dropshipping and fulfillment.

Own logistics (independent execution of processes logistics) is the most popular among micro and small businesses, the scale of which is still too small for the use of external companies logistics was profitable. Some also use it the largest companies that use the effect scale or prefer to have everything under control.

Dropshipping, on the other hand, is about shipping goods directly from the warehouse of an external entity (e.g. manufacturer, distributor) to the customer, no need using the seller's warehouse. Thanks to this e-sellers don't have to take risks freeze your assets in the warehouse. Finally - fulfillment comes down to handover logistics processes to an external supplier.

Dropshipping is a method of selling products in which the seller does not physically store them. This method usually generates more profit per unit sold due to the cost savings that occur when retailers out-source the warehousing and distribution process. In a regular supply chain,

the retailer buys the products from the wholesaler and stores them in their warehouse, then ships them to the buyer. When dropshipping is used, the products are stored in the supplier's (dropshipper) warehouse, which reduces the cost of ship-ping and cost of storage. And when the retailer gets an order on his online store, he then pays his supplier and the supplier ships the product directly from his warehouse to the buyer's address. This way, the prod-uct is not sent and stored at the retailer, which saves money and allows a decrease in product price and a higher profit to be made (Froyk, 2012).

In fact, where dropshipping is concerned, you are actually acting as the middleman for the product that your customer receives and the manufacturer who produces it. This particular type of system is extremely beneficial to both small retail shops, as well as internet based stores, or those people who use mailing catalogs in order to generate sales for their companies. In fact, many customers who purchase their prod-ucts in this way seem not to be too bothered that there is a delay between the time when the products are ordered and when they actually have them arrived (James, 2011). The biggest problem that is addressed by dropshipping is that retailers no longer have to worry about controlling their inventory, as this is done for them by the wholesaler instead.

Even though there are more and more companies providing services logistics for e-commerce and logistics operators complement their offer for this customer segment, it is still quite a niche service in Poland. Not however, this means that there is no significant potential. Looking at Western markets (e.g. Germany, France, Benelux countries), Poland is currently at the beginning of a very dynamic development fulfillment services.

4.2. Fulfillment models in e-commerce

The business services outsourcing market is growing rapidly all over the world. Its development is the result of economic entities building the most effective business models that allow them to use external resources. It is the concept of outsourcing and then offshoring that has brought companies a reduction in costs and an increase in efficiency. The effectiveness of the new solutions, confirmed by positive effects, influenced the development of the market of outsourcing and offshoring service providers.

The fact that outsourcing in e-commerce is doing well is demonstrated by the increasing number of duties entrusted to external companies. Not only large enterprises, but also small online stores have convinced themselves to delegate some tasks to specialists, which, thanks to the delegation of responsibilities, can quickly enter the demanding market. Thanks to this, small stores using outsourcing can offer customers the highest quality of services in many areas, despite the fact that they do not have their own departments dealing with this area of the company's operation, and large stores can fully focus on key areas of activity and not bother with e.g. advanced accounting that would consume a significant amount of company resources.

The logistics of the online store is one of the most important issues, because the availability of individual goods and the time in which the order will reach the customer will depend on it. The solution that is more and more appreciated by online stores is fulfillment.

The first research towards defining order fulfillment strategies was published by Hans Wortmann (1983) and was continued by Hal Mather (1988). The principle of operation of the service is simple and, in the narrow sense of logistics, it is based on entrusting warehouse management to an external company. In a broader sense fulfillment is in the most general sense the complete process from point of sales inquiry to delivery of a product to the customer (Croxton, 2003, pp. 19-32). These processes most often include taking, storing, picking, packing and shipping products and handling their returns. Exists yet the concept of One Stop E-commerce that is fulfillment extension with additional services. Assumes it supports not only in the field of logistics (such as fulfillment), but also end customer service, marketing activities, IT solutions and finance and accounting by one company. For example, it can be run on behalf of a client multi-lingual call center where it is performer handling inquiries, complaints, etc.

Goods ordered by the online shop from suppliers are sent to such an operator's warehouse, and are then unloaded, inspected, stored, picked and shipped (Isac, 2014). On behalf of the client, the operators manage the warehouse, check the inventory, take orders from final customers, package shipments, prepare sales documents (e.g. invoices, receipts) and shipping ones (e.g. waybills), attach manuals, help in customs clearance, handle returned goods, co-operate with transport companies. This solution is very flexible because a specialist fulfillment operator is able to adapt to the variability of the demand of their client depending on his/her needs, e.g. by increasing or decreasing the storage area or the number of employees. The operator prepares reports on their activities for the client regarding the sales volume, numer of returns, complaints. Some companies even undertake repairs, refreshing and disposal of returned products (Kawa, 2017). The needs in e-commerce and the specifics of individual stores vary significantly.

The business models of fulfillment are shaped by two factors: customer preferences (home delivery, store pick up), and supply sources (warehouse, stores, 3rd party, consolidators). As shown in table 1, home delivery can be fulfilled from all the four sources of supply, whereas, store pick up would rule out the warehouse and the 3rd party service provider. The supplier structures the fulfillment system by creating a new logistics infrastructure, or by adapting the existing processes.

Table 1.
E- Fulfillment models

		Customer	
		Home Delivery	Pick up at the Store
Supplier	Warehouse	X	
	Store	X	X
	Use 3rd Party	X	
	Consolidate from Multiple Sources	X	X

Source: Chakravarty Amiya K., Supply Chain Transformation: Evolving with Emerging Business Paradigms (PDF), 2014, p. 159.

The trend for order fulfillment among most online e-grocers is to establish large, automated distribution centers for home delivery in each major market they serve, while some brick-andmortar chains have employed only in-store order fulfillment (Chakravarty, 2014, p. 159).

Direct home delivery can be completed by the supplier, a 3rd party service provider, or a consolidator (Lang, 2010, pp. 1-25). Before initiating the fulfillment, products have to be picked, packed, and labeled, which can be done either in a central warehouse, a distribution center, or in a store, or in some combination thereof.

Direct Delivery from a Store- picking and packing of orders can be done inside a physical store out of the shelves. In this case, operators pick the products into a specific order preparation cart from the shelves and then pack and send the completed order to the customer (Chakravarty, 2014, p. 159).

In the next model, the ordered products are not available in one facility, they must be picked up from another location. They are then consolidated into one place where they are packed into the system.

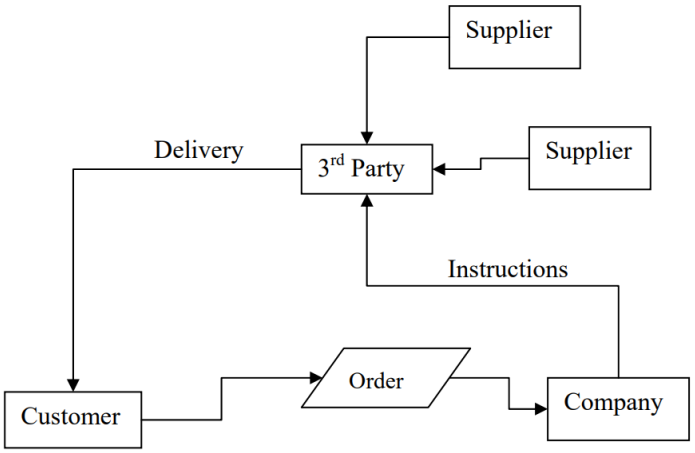

Figure 4. Fulfillment Through a 3rd Party.

Source: Chakravarty Amiya K., Supply Chain Transformation: Evolving with Emerging Business Paradigms (PDF), 2014, p. 161.

With increased demand uncertainty, companies are increasingly using 3rd party fulfillment centers, which can be thought of as virtual warehouses (not owned by the company). There are multiple ways a 3rd party service can be utilized, as shown in Figure 4. For example, they can be logistics companies, who pick up the products from different suppliers, provide finishing operations (packing, labeling etc), and ship them to customers. They could also be assemblers who procure components from suppliers, assemble the products, and ship them. Third party fulfillment facilitates inventory reduction at the company's warehouses, but it may also lead to ceding direct control of fulfillment operations.

Customers ordering online may choose to pick up the products in one of the retailer's stores. In such a case, products must be picked, packed, and kept ready for pick-up in the store. Direct in-store Order Preparation If all the products of the customer's order are available in the store chosen by the customer to pick-up, the picking, preparation and packing of the order can be done immediately in the store. If some of the products of the customer's order are not available in the store chosen by the customer, the unavailable items must be ordered from different locations to complete the order. The preparation and packing of the order can be done only after consolidation of all items in the store.

Fulfillment services should be constantly developed according to the needs of the market. A decisive factor building a competitive advantage in the near future will be value-added services such as the delivery of parcels on the same day, cheap and fast shipping to foreign countries etc (Kawa, 2017).

5. Outsourcing in polish online stores- own research results

One of the biggest challenges for online stores is logistics. Online shopping, unlike traditional trade, are inextricably linked with delivery to the final customer, that is, with the process that is the most complex and costly along the entire supply chain. In addition, warehousing of goods is a problem. The vast majority online stores in Poland, it organizes its own logistics processes range- according to our own research, fulfillment in recent years has been used by approximately 7% of Polish e-stores on average, and this trend is constant (figure 5). Since 2017, the interest in dropshipping has been declining - in 2021, only 2% of respondents declared that they use such a solution. This may be mainly due to the covid-19 pandemic, which has limited imports of goods from China.

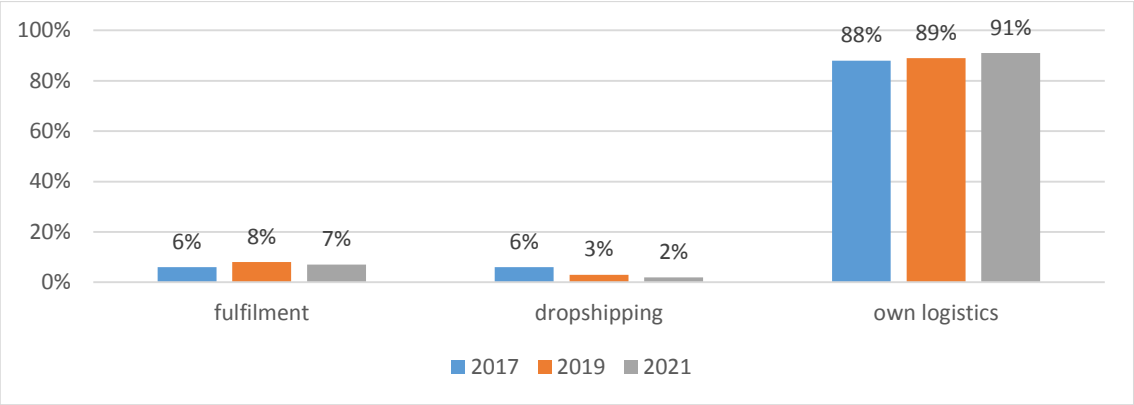

Figure 5. Forms of logistics in Polish e-stores in 2017, 2019 and 2021.

Source: own research.

mportantly, Polish online stores are increasingly resigning from having their own warehouse space - in 2017 it was 13% of respondents, in 2019 - 26%, and in 2021 - 27% of the respondents. Most often, stores that handle more than 100 orders per month decide to resign from their own warehouse (figure 6).

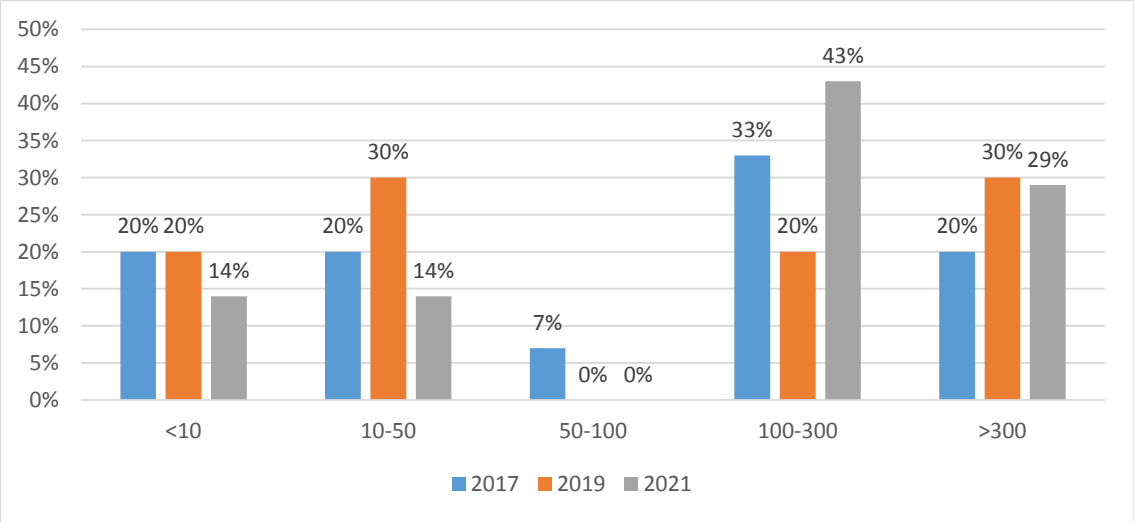

Figure 6. The percentage of e-stores resigning from their own warehouse space depending on the sales volume.

Source: own research.

As can be seen, there is a discrepancy between the number of stores without a warehouse and those using dropshipping or fulfillment, respectively: 1% in 2017, 15% in 2019 and 18% in 2021. In this case, the store collects orders from customers and then purchases the goods from the manufacturer/distributor and sends it itself. From the point of view of the store, it is an ideal solution, as it does not generate the costs of storing inventory, but from the customer's point of view, such a solution may result in a long waiting time for the purchased product.

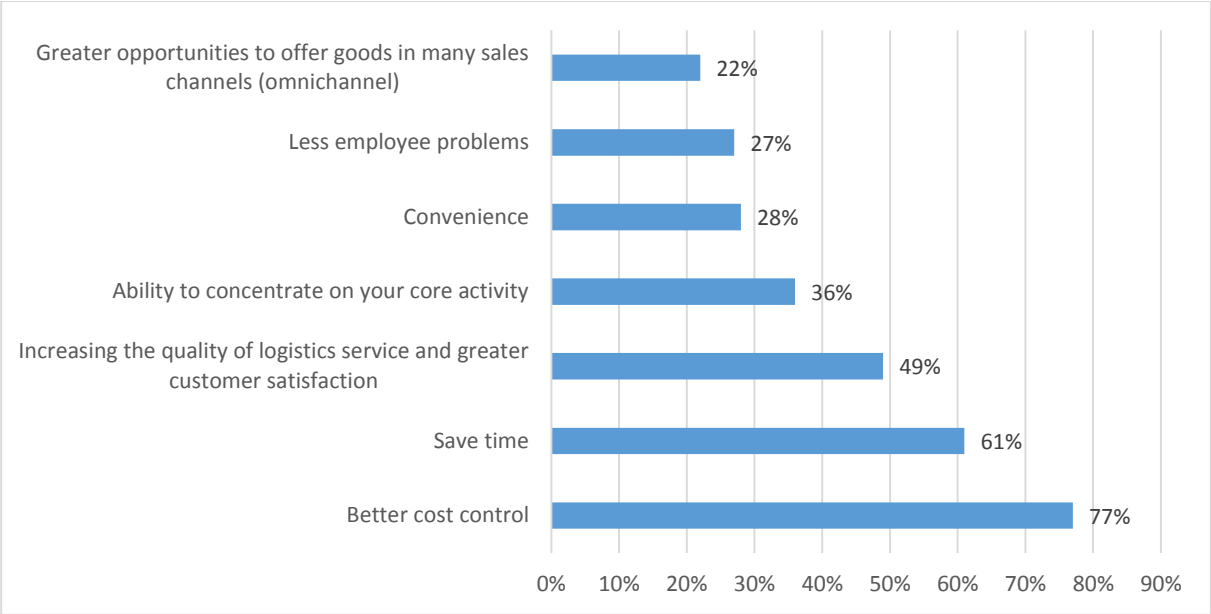

Figure 7. Benefits of using fullfilment.

Source: own research.

Among the advantages of fulfilment and outsourcing warehouse services, the most frequently mentioned were: Better cost control, Time saving and Increasing the quality of logistics services, which translates into greater customer satisfaction (figure 7).

On the opposite side, the arguments of stores that do not benefit from fulfillment were: Fear of losing control over processes and inventory (78%), low level of logistics services (59%), e.g. damaged parcels and too high costs of outsourcing services to an external company (52%).

Despite the high potential of process automation warehouses are still a large part of companies (even those largest) does most of the work with the use of human labor. It happened slowly though changes because the fulfillment operators more and more are considering investing in automation. Caused this is mainly rising labor costs and quite high warehouse lease costs. An additional the stimulus now will certainly be instability processes using human labor, caused coronavirus pandemic or similar challenges.

A certain direction of development for fulfillment operators is extending services for its customers, e.g. repair or renewal of returned products, financial and accounting services, contact center, program suport loyalty cards, discount coupons, and so moving to the one stop strategy described earlier -commerce. An additional scope of activities may also be matching the offered products to preferences of specific customers in local markets - an example is attaching operating instructions, leaflets in the selected language.

Industry experts also pay attention to advice on choosing the right model business, in particular indicating areas activities that can be optimized. Is it is possible thanks to the extensive experience of the operators fulfillment, their respective resources and know-how supported by many years of activity in shaping e-commerce trends.

6. Summary

The major drivers of a logistics system include products, customer preferences, technology innovation, globalization, sustainability, infrastructure, and cost. A logistics service, whether internal or outsourced, can carve out a competitive niche in terms of how it responds to these key drivers.

The Polish market is very similar to the western one - perhaps less technologically advanced, more fragmented and operating on a smaller scale, but the direction of development is consistent. The growing awareness of customers of the existence of such services and the cost pressure in Western Europe is an additional fuel for the e-commerce industry, which will catch up with or overtake its Western counterparts in the next few years.

It is said that the fulfillment services market in Poland is adjusted it is specific to our e-commerce, because it is characteristic is its considerable fragmentation. The fact that the majority of Polish online stores are micro or small stores means that these enterprises, due to the small number of customers served, carry out logistics activities on their own.

Logistics operators take a special place in the supply chain electronic commerce. They are an entity that integrates processes logistics between the seller and the buyer and shipping suppliers. Apart from process coordination can act as a wizard new solutions in the field of logistic service customer, e.g. by offering new services or an improved process customer service. Due to their close relationship with various entities need standardization of work, procedures, flow of goods and information.

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