

**บทบาทของผู้ให้บริการโลจิสติกส์ในกิจการพาณิชย์อิเล็กทรอนิกส์: กรณีศึกษา
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Received: June 1, 2020

Revised: July 12, 2020

Accepted: August 24, 2020

บทคัดย่อ

อินเทอร์เน็ตกลายเป็นองค์ประกอบสำคัญของชีวิตมนุษย์ยุคใหม่ เนื่องจากอินเทอร์เน็ตถูกนำมาสร้างความเป็นไปได้ใหม่ ๆ ในการติดต่อสื่อสาร การสร้างนวัตกรรมดิจิทัล แล้ว อินเทอร์เน็ตยังช่วยลดอุปสรรคทางการค้าและสร้างโอกาสให้กับโลกธุรกิจ และอำนวยความสะดวกแก่ลูกค้าอีกด้วย อินเทอร์เน็ตนอกจากก่อให้เกิดร้านค้าออนไลน์แล้วยังเป็นเครื่องมือพื้นฐาน ในการสร้างการค้ารูปแบบใหม่ซึ่งถูกเรียกว่า โดยพัฒนาการนี้นอกจากสร้างโอกาสการค้า "การพาณิชย์อิเล็กทรอนิกส์" ใหม่ ๆ ในการขยายธุรกิจแล้วยังช่วยพัฒนาประสิทธิภาพการดำเนินงานอีกด้วย แม้พัฒนาการดังกล่าวจะมีข้อดีมากมายแต่ธุรกิจก็ต้องตระหนักว่าการทำธุรกรรมในระบบอินเทอร์เน็ตมีความเสี่ยงต่อภัยคุกคามทางไซเบอร์เช่นกัน เพื่อสนับสนุนพัฒนาการพาณิชย์อิเล็กทรอนิกส์ ธุรกิจจำเป็นต้องพัฒนาระบบการขนส่งเดิมไปสู่การจัดการด้านโลจิสติกส์เพื่อสนับสนุน ธุรกรรมออนไลน์ โดยธุรกิจต้องตระหนักว่าความเหมาะสมของระบบจัดการด้านโลจิสติกส์จัดเป็นหนึ่งในกุญแจสำคัญสู่ความสำเร็จขององค์กรสมัยใหม่ บทความนี้เน้นการนำเสนอรูปแบบการให้บริการโลจิสติกส์สำหรับพาณิชย์อิเล็กทรอนิกส์ โดยแนะนำให้แยกและจัดจ้างภาระงานด้านโลจิสติกส์ของร้านค้าออนไลน์ และหลักการให้บริการโลจิสติกส์ของร้านค้า ออนไลน์โดยผู้ประกอบการโลจิสติกส์ โดยบทความนี้คาดว่าจะให้ผู้อ่านคุ้นเคยกับการดำเนินงานในอุตสาหกรรม 3PL และ สามารถประยุกต์ใช้กระบวนการดังกล่าวให้กระบวนการพาณิชย์อิเล็กทรอนิกส์มีประสิทธิภาพดังความคาดหวังของธุรกิจที่ดีที่สุด

คำสำคัญ: พาณิชย์อิเล็กทรอนิกส์ ผู้ให้บริการโลจิสติกส์ การทำสัญญาจ้างบุคคลจากภายนอก

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Roles of logistics service provider in e-commerce: an example of Raben company

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Received: June 1, 2020

Revised: July 12, 2020

Accepted: August 24, 2020

Abstract

The Internet became an important element of life, creating completely new possibilities and beginning the era of ubiquitous digitization. Thanks to the Internet, many barriers in various areas of trade have been overcome. Operation of online stores has led to the introduction of retail to another level. E-commerce has created new opportunities for the expansion and development of business operations, constituting great chance, but at the same time carrying numerous threats. Adequate management of the logistics side of a company's online sales business is one of the keys to success. This work presents a scheme of logistics service for e-commerce based on the separation and outsourcing of logistics functions of an online store and their implementation by a logistics service provider. The purpose of this work is to introduce activities performed by the 3PL industry and illustrate an online order fulfillment process on the demanding e-commerce market.

Keywords: E-Commerce, Logistics Service Provider, Outsourcing

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Introduction

Effective and efficient supply chain management is critical to the success of firms engaging in e-commerce (Joong-Kun Cho et al., 2008). The theory of complementary assets can be applicable to the online sales market. It says that regardless of the competitive nature of a given product or service in the marketplace, it will ultimately fail if it is not supported by an array of required products or services (Teece, 1986). Logistics is that part of a firm's resources which allow to conceive of and implement strategies that improve productivity (Barney, 1991). The success of firms on the e-commerce market largely depends on the performance of their distribution networks. The effective and efficient movement of goods is critical in the online sales logistics supply chain (Huppertz, 1999; Foster, 1999; Harrington, 2000). E-commerce shipments require an entirely new distribution infrastructure to handle online business. Thus, with continued growth of e-commerce, the importance and need for logistics capability and outsourcing is likely to increase in this market (Joong-Kun Cho et al., 2008). In order to make online transactions work, companies must accurately perform orders, move goods from warehouses to customers, track changing inventory levels, capture payment information, and make sure customers' inquiries are handled appropriately. The studies of the role of logistics and outsourcing in e-commerce confirm that companies need strong logistics capability

to perform well on the online sales market. Firms with strong internal logistics still need the assistance of third parties for some functions, while firms with weak internal logistics capability should forgo the in-house provision of services and embrace third party support (Joong-Kun Cho et al., 2008). This article presents an example of a 3PL company with a practical description of the logistics service offered for the e-commerce market. The purpose of the work is to present a scheme of activities carried out by the logistics service provider for online stores based on the logistics functions outsourcing as a response to the growing market competition and continuous need for quality improvement and new services implementation increasing the level of final customer service.

E-commerce

E-commerce refers to all electronic means of doing business and e-procurement, a sub-set of this, refers to all technology based purchasing solutions to simplify transactions (Timmers, 1999; Van Weele, 2002). E-commerce allows a move away from the traditional trading model based on physical stores, as well as the direct exchange of goods and relocate commercial activities, and thus the process of buying and selling goods or services to the virtual world. The continuous progress in the world of e-commerce, which has taken place over several years, is caused by the rapid development of information technologies, the

increasing possibilities of their adaptation in various fields and the decreasing costs of its use (Barsauskas et al., 2008). One of the most common forms of e-commerce are B2C (Business to Consumer) online stores, which are the focus of this paper.

The biggest benefit of running an online store is considered to be a cost reduction. By transferring activities to the world of the Internet, companies save, for example, on the lack of the need to run traditional sales outlets, the rental of office space, the number of employees and on the reduction of the number of agents involved in the sales process (Chodak, 2010). For customers, one of the biggest benefits of online shopping is the reduced cost of products and services compared to traditional forms of sales and time saving. Moreover, thank to e-commerce, clients have complete and detailed information enabling them to evaluate the offers of each company. This leads to more discerning customers who have a very clear idea of what they want and how they want it (Melián-Alzola and Padrón-Robaina, 2007). E-commerce reduced the geographical barrier and significantly increased the scale of business, making products available to consumers from all around the world. A language and cultural barrier visible in traditional trade have also been largely removed. Better and faster contact with the buyer has been made possible by simplifying procedures and limiting paper documentation. Thanks to shopping preferences research, becomes possible to

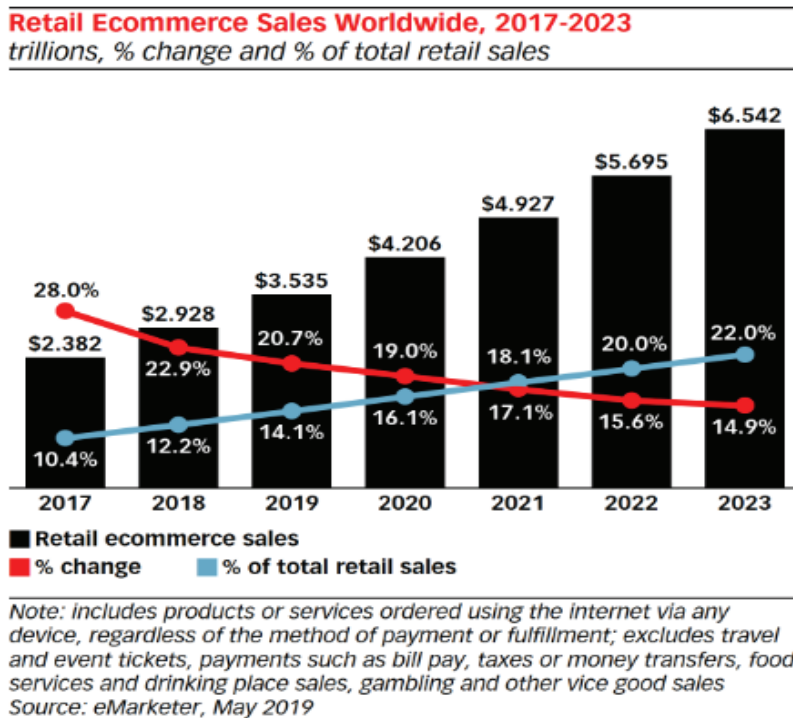
personalize the marketing approach, which can lead to sales volume increase. Besides, advertising and promotion costs on the Internet are generally lower than in traditional distribution channels. E-commerce enables the globalization of operations by opening local websites of one company, under one name in various countries of the world. As a result of running websites in different national languages, an impression of their local character is created, and thus a more friendly approach of potential customers (Chodak, 2010).

On the other hand, e-commerce has significant disadvantages, including an inability to physically view the commodity as well as costs associated with the delivery of the product, which can be crucial in making a purchase decision (Melián-Alzola and Padrón-Robaina, 2007). An additional cost may also become the customs fee superimposed on goods purchased from abroad. Separate difficulties pose oversize goods, fast-moving consumer goods and high-value commodities that cannot be transported by standard means of transport due to their specificity. The result is their limited availability in e-commerce.

In a relatively short time e-commerce has evolved from an alternative form of operation to the entire business model. It is no longer treated as only a marketing instrument. E-commerce became an important part of business performance that can generate significant additional value for company and other subjects in the value-added chain (Barsauskas et al., 2008).

A value of the e-commerce market, an online sales volume and the online sales share in the global sales of goods are increasing every year furthermore, according to the forecasts, this growth will persist for at least the next few years (chart below), therefore the competition on the e-commerce market is growing and it becomes much harder to be part of it.

The most commonly sold products via online are clothing, shoes, consumer electronics, books, movies, music and games, cosmetics and body care, bags and accessories, household appliances (Clement, 2020). Goods are being sold both on the companies private websites as well as on the trading platforms.



Source: Lipsman, A. (2019). Global Ecommerce 2019, Retail Ecommerce Sales Worldwide, 2017-2023. eMarketer, Retrieved from <https://www.emarketer.com/content/global-ecommerce-2019>, Access on March 1, 2020.

Illustration 1 Retail Ecommerce Sales Worldwide

Firms offering products on the Internet have to compete with each other increasingly, not only in the price but also in the product and service innovation and quality. The goal is to draw the attention of potential buyers and to keep loyal customers. Trust is crucial in the transactional relationships between customer and online seller because of the risk and uncertainty that are inherent in the online environment (Gotzamani and Tzavlopoulos, 2009). A large number of units operating on the e-commerce market causes that clients demand more and tolerate fewer mistakes (Melián-Alzola and Padrón-Robaina, 2007). Building and maintaining customer relationship is the key to success, which depends on effective customer service (Archer and Gabauer, 2000). High level of purchase satisfaction allows to keep regular clients and acquire new ones. Related literature reveals that loyal customers are predisposed to pay more for an offer than for changing supplier, bringing a significant benefit to a company (Melián-Alzola and Padrón-Robaina, 2007). Virtual stores must care for an unwavering reputation, mainly on the Internet, where many buyers derive knowledge. Ensuring this requires maintaining a high quality of the provided services and the ability to a quick response in case of any obstacles to the transaction. Transparency and product ordering ease is also very important because online store customers value time and convenience. Furthermore the method and cost of delivery have a significant impact, which

very often determines the purchase decision. If a company does not comply with the delivery of the product under set conditions, it is unable to stay in the market in the short-medium term (Melián-Alzola and Padrón-Robaina, 2007). Some firms that have moved their commercial operations to the virtual world failed in management principles of efficiency and customer focus. As a result, were not very successful or were even forced to terminate their activities (Pandya and Dholakia, 2007).

The use of outsourcing in business operations

The term outsourcing is an abbreviation for outside - resource - using. In general, outsourcing is a management method (concept) that comes down to narrowing the scope of tasks carried out directly by a given enterprise (referred to as a parent company) and entrusting them for a constant execution to another business entity (referred to as the service company) (Trocki, 2001). Outsourcing belongs to one of the management strategies and aims to make the most effective use of the company's capabilities, as a result of focusing on the main tasks related to the fundamental zone of activity, for the implementation of which the company has the appropriate knowledge, competence and resources (Jiang et al., 2007; Van Damme and Van Amstel, 1996). Other functions that are not in the core of the company's tasks, but which proper performance is necessary for further functioning are allocated to appropriately specialized units (Dess et al., 1995).

One of the most important outsourcing goals is to reduce the cost of business activity. By allocating tasks to specialized units, the company does not have to incur financial expenses for running its own departments supporting specific activities that are not in their centre of interest (Dabhilkar and Bengtsson, 2008; Salimath et al., 2008; Power et al., 2006). Moreover, outsourcing may allow to improve the quality of services, because each task is handled by specialists from a specific field (Quinn, 2000; Kakabadse and Kakabadse 2005; Slaughter and Ang, 1996). The number of available employees who previously performed tasks, which are now transferred to the outsourcing company, is also increased (Naspinski, 2007). Contemporary outsourcing has a very wide scope and is increasingly treated as a business strategy. Cooperation with the outsourcing company may increase the flexibility of operations (Jager et al., 2009; Lau and Zhang, 2006) and allow to expand into new markets (Razzaque and Sheng, 1998). On the other hand, outsourcing carries a number of threats such as loss of control over the company and ability to rapidly respond to the market changes (Dabhilkar and Bengtsson, 2008), disclosure of secret information to the competitors or other interested parties as well as complicated, long-lasting and expensive process of re-enabling previously separated departments (Van Damme and Van Amstel, 1996). Sometimes outsourcing can lead to completely different results than desired

such as dissatisfactions range from costs not getting lowered but actually rising or outsourcing contracts becoming ineffective in the face of evolving market realities causing damage to the customer service (Shi, 2007). Outsourcing by itself does not result in improved performance unless it's backed by a clear understanding and execution of the underlying strategies (Gilley and Rasheed, 2000). It is also very important to correctly identify the core areas of performance which constitute a competitive advantage and are crucial for the firm's functioning that should not be outsourced (Dess et al., 1995).

Outsourcing has gained considerable popularity on the consumer goods market, having a significant share in the world of e-commerce. According to research, companies in this sector using outsourcing mainly value the quality of provided services and then followed by their costs (Wilding and Juriado, 2004; Ho et al., 2010). For small and medium-sized e-commerce firms investments in such areas as own warehousing or distribution network are often too expensive to introduce, whereby they frequently decide to outsource these activities. Depending on the degree of logistics functions outsourcing (total, partial), it is necessary to mutually divide not only the benefits but also the risks and responsibilities. Both contract parties should equally care not only of the proper performance of their part of the tasks but also of the success of the undertaking as a whole, which is the key

to further cooperation. A prerequisite is a systematic exchange of information and trust in the partner (Matejun, 2015). A successful relationship between companies should result (depending on the purpose of outsourcing) in expanded profits, increasing quality and competitiveness of products or services, and joint development of business.

The current market situation has made the logistics functions outsourcing one of the basic and indispensable elements of cost cutting as well as quality and competitiveness improvement. As a result of globalization and the perpetual search for new markets for goods or services, companies are constantly undergoing increasing challenges. In such cases, logistics becomes a department which proper functioning can determine the firm's success on the market. Due to the emergence of the great demand for professional and specialized knowledge and logistics skills, many outsourcing companies have been established to provide comprehensive services in this field.

Logistics Service Provider

Logistics Service Provider (LSP) also known as 3PL or TPL (third party logistics operator) is an institutionally separated entity that provides comprehensive service of material goods based on outsourcing (Wisniewska, 2009). 3PL stands for relationships between interfaces in the supply chains and third-party logistics providers, where logistics services are offered, from basic to customized ones, in a

short or long-term relationship, with the aim of effectiveness and efficiency (Bask, 2001).

Increasing global competition, deregulation of the transportation industry, rising customers' logistics service expectations, growing focus of companies on core business competencies, increasing popularity of just-in-time, as well as revolution in computers and communication technology are indicated as the main reasons for 3PL sector explosive growth (Marasco, 2008). The most frequently offered 3PL services for the commercial sectors (including e-commerce) are transport, storage and distribution (Hamdan and Rogers, 2008), however almost any logistics activity can be outsourced with at least one 3PL company providing their services to fulfil a particular market need (Wilding and Juriado, 2004). According to the studies, a well-built relationship between firm and logistics service provider can lead to an improved level of service and final customer satisfaction, better access to technology, reduced fixed costs, increased flexibility and productivity, access to new markets and wider competencies (Marasco, 2008). Since the 3PL market is characterized by a huge variety of different players that differ in size, geographic coverage and service offerings (Prockl et al., 2012) difficulties with 3PL providers can be faced such as a lack of understanding of clients' supply chain needs, a lack of adequate expertise in specific products or markets, a lack of service innovations, a lack of logistics cost awareness, an inadequate description of services, a lack of understanding

of customers' business requirements and policies as well as price negotiation (Wilding and Juriado, 2004; Baki and Ar, 2009). That's why it is important to make an adequate decision regarding LSP selection and contract design. Sink and Langley (1997) provided a conceptual model of the 3PL buying process, consisting of: identification of the need to outsource logistics, development of feasible alternatives, evaluation and selection of supplier, service implementation, and ongoing performance assessment.

The services of 3PL are used by companies for which logistics is not the main field of activity, but it is necessary for the effective execution of orders and further functioning as well as company development. Without adequate technical facilities, such as means of transport, warehouse space or IT technology it is difficult for any e-commerce firm to expand on the market. Using the economies of scale, the logistics service provider is able to offer much more attractive conditions for carrying out orders than while self task performance (Hsiao et al., 2011). LSP to operate warehouse spaces, a fleet of vehicles and many customers, need specialized IT systems that ensure the coordination of a vast number of tasks performed simultaneously at the appropriate level, reduce their implementation time by simplifying and standardizing procedures, as well as significantly reducing costs. Advanced IT programs enabling real-time data exchange in the supply chain are one of the main

competitive advantages of the firm on the market (Wang et al., 2008).

An example of the use of logistics functions outsourcing on the e-commerce market

Contract logistics is one of the offers of 3PL industry which refers to a number of operations usually carried out on the warehouse space of LSP consisting in managing the consignor's shipments. One of the contract logistics variants is a fulfillment service. It is a conceptual, operational and executive help for e-commerce market. The fulfillment service is directed mainly to small and medium-sized online stores, for which logistic service of orders goes beyond own skills and abilities, however, its proper performance is a necessary condition for maintaining a competitive position on the market and providing adequate service to the final customer.

Currently, there are many LSPs on the market, providing fulfillment service. One of them is a Dutch company Raben, operating in 12 European countries (Czech Republic, Estonia, the Netherlands, Germany, Lithuania, Latvia, Italy, Poland, Slovakia, Ukraine, Hungary and Romania) (Raben Group). In the next part of this chapter, on the example of Raben company, a detailed description of the fulfillment service will be presented, based on the e-commerce logistics functions outsourcing and handing them over to the LSP in order to online order handling:

Warehousing - the entire inventory of the outsourced company intended for sale via the Internet is transferred to the appropriate

Raben branch. In case of own production, these goods can be transported from the existing warehouse (storage place) or directly from the supplier, manufacturer of products purchased and sold through the online store. Commodities before delivery to the appropriate warehouse of the LSP must be consolidated so that only the same type of products is in each cardboard box. To handle online stores in Raben's warehouses, special areas of space are designated only for e-commerce. Transported packages are unloaded from the vehicles, and afterwards their compliance with the documentation is checked. In case of consistency of the declared type and quantity of products with the actual state, the goods are transferred to the point of deconsolidation. If the product does not have a bar code, it is given the internal Raben code, assigned only to such a commodity. At the deconsolidation point, each product is scanned using a bar code reader, and then it goes to a container placed on a special cart. Using a cart pushed by a warehouse employee, the goods are transported to the storage area.

Products are stored in specially designed containers placed on multi-storey racks. Each container has a bar code corresponding to a specific type of product. After placing goods in the corresponding container, their bar code is scanned, so it is confirmed that the given product has gone to the right place. Thanks to MyRaben application, any online store using the fulfillment service can send orders

directly to the warehouse. The application also allows a continuous preview of reports, so the customer always has access to the information about what is happening with the product. In the warehouse, internal work optimization procedures have been implemented to minimize errors. The applied systems and owned resources allow for the increased flexibility of operations, thanks to which the company is prepared for fluctuations in demand, that is very important in case of e-commerce and especially visible in the pre-Christmas period. At that time online stores are most exposed to delays or errors in the execution of orders. LSP has big capabilities to modify used storage space as well as the number of employees carrying out orders in response to the rising demand. Thanks to the implementation of the RedPrairie warehouse system, Raben is prepared for annual, monthly and weekly changes taking place on the market. This system also provides the company's clients with continuous access to current information about inventory, the number of products and current orders. Additionally, LSP offers cross-docking, i.e. direct ordering from online store suppliers of missing products necessary to fulfill orders.

Shipment preparation - the online store's IT system is connected with the logistics service provider's system. After the purchase by the final customer through placing an order on the online store website, the entire

process of order execution begins. The order management centre is located in a separate Raben office space. The software generates a list of all orders that must be completed. Their execution is supervised by a team of system managers. It contains information about the type of delivery chosen by the customer (courier service, priority or ordinary shipping), order number and type, the system also generates a loading document, reference number, informs to which country the shipment is directed, shows whether the order is already carried out, in progress or waiting for its turn. Afterwards, a warehouse employee called a picker receives electronic form information regarding the pending order. Goods are picked from many locations at the same time according to the multi-order picking system, thanks to which the entire process is much shorter. Picker retrieves products using the same cart and code scanning system as in the case of the previously described system of placing goods in the warehouse. The next step is the consolidation of products taken from the warehouse, which takes place in the area called orders control. It is a surface consisting of many stands. One employee is assigned to each of them. On these stands, a specific pick to light system was used, which enables displaying on the screen of each employee accurate information about a particular order, such as order and shipment number, the type of cardboard that should be used to pack the product, the number of packages that must

be created in order to complete one order. By consolidating shipments, the employee re-scans the product's bar code. All scanned bar codes of the particular order are displayed on the screen, then the necessary documents for a given shipment are printed out, such as a document confirming the order execution in two copies, on which the employee places his signature and stamp (one copy remains at the workplace), receipt, invoice, transport documents (courier labels attached to the carton). Finally, the free space of the parcel is filled with soft sponges to protect during transport. The parcel, for the request of the online store, may be enriched with additional promotional materials, such as advertising inserts, discount coupons and other forms of promotion increasing sales. Raben offers also the creation of product sets, boxes and gift packaging as part of long-term and one-off campaigns. After completing all these activities, the order is ready to leave the storage area. Implementation of scanners and the pick to light system effectively eliminates the circulation of paper documents within the warehouse, thus significantly reducing the time of the entire process and practically excludes errors made in the picking process.

Products delivery to the final customer - takes place using courier services. As part of its own operations, Raben does not carry out general cargo transport. Due to a large number of orders, prices offered by the CEP

industry (Courier, Express and Parcel) for the logistics service provider are more favourable than prices for an online store carrying out several shipments per day.

Return service and product replacement - products that do not meet the customer's expectations can be returned without giving a reason within 14 days from delivery. Raben has developed its own returns and complaints management process for both domestic and foreign sales. An information system about the reasons for returns has been introduced (if provided by the customer). Returned products go to the warehouse where the employee checks their quality and quantity, verifies if they are suitable for resale. If the product can be sold again, its bar code is scanned, consequently, the commodity returns to the LSP's system and afterwards to the warehouse, according to the scheme described in the section 'warehousing'. The process of products exchange and complaint depends on the individual operating scheme previously agreed with the online store, because e-commerce firms approach these issues differently.

Payment management - Raben offers technology that allows making payments via the Internet in the Mass Payments model in cooperation with any bank operating on the European market. The final customer can pay for the product using an online transfer from an account or debiting the credit card account by entering its number in the online payment system. Thanks to company's partner-

ship with PayByNet, it is possible to directly transfer money from the final customer's online account to the e-commerce store account. After the payment is credited, the system of LSP automatically submits the order for execution. It is also possible to make a traditional transfer, e.g. in a bank or cash on delivery. The last mentioned payment model is implemented in cooperation with courier companies and forwarding service providers responsible for carrying commodities to the final customer.

Customer service - LSP has a separate Customer Care department responsible for e-commerce customer service. Contact is conducted by phone and email. This department takes care of both final customer service and consultancy for the online store. As part of the final customer service, information is provided about the company, seller and product itself. Employees have knowledge about the purchasing principles, shipment status, stage of the order, and the complaint process. They are most often trained by companies for which LSP's fulfillment service is provided. Within the service of e-commerce store, employees of the Customer Care department order products from manufacturers or suppliers and assist in the store's service from the technical side. LSP also offers support for units that have not set up an online store yet but consider such a possibility and seek help in this regard. Based on cooperation with entities from the e-commerce market, the logistics service provider offers consultancy in choosing one of the existing

system solutions, as well as the possibility to create dedicated software and support in its implementation.

IT systems - all the above-mentioned functions performed by Raben on behalf of the online store as part of the fulfillment service are carried out and coordinated based on the applied IT systems integrating the website's sales channel with the LSP. Due to the IT solutions used by the 3PL, it is possible to perform many tasks at the same moment, service a vast number of customers, a large fleet of vehicles and manage warehouse space. IT systems enable real-time data exchange, coordinate activities carried out in the company and significantly accelerate and simplify business operations. These systems include modules such as: relationship management, transport, warehouse, financially analytical and support.

Discussions and implications

According to Raben Logistics survey from 2018, 78% of their contract logistics customers are satisfied with the provided level of service. As a positive side of operations clients evaluated: good relation of quality to price, contact with a customer service department, professional employees, efficiency and timeliness. To be improved clients rated: too long response time to inquiries and shipment tracking as not always being precise (Raben Group). As presented in this paper logistics is one of the most important part of e-commerce

operations. The founder of Amazon, Jeff Bezos once said “The logistics and the customer service – the non-glamorous parts of the business – are the biggest problem with e-commerce. A lot of these companies that are coming online spend all their money and effort building a beautiful Web site and then they can't get the stuff to the customer” (US News & World Report, 1999).

Some e-commerce firms choose to keep in-house most of the physical flow handling to have better control and ensure service. Other companies choose to use LSPs for most of the e-fulfilment process, which is a low-risk approach since less capital investment is required (Xing et al., 2011). It is suggested that online sellers may go through three stages of evolution concerning outsourcing, especially in the area of warehousing. At the beginning of activity, they usually do their own warehousing and other services as the volume is very small and can be handled easily in-house. When the business develops to a stage where they can't longer manage the scale, they contract the job out to the LSP. As the business continues to expand, retailers may take warehousing and some other particular activities back in-house to get better control and to achieve economy of scale. They build their own warehouse and likely arrange their own delivery network (Rowlands, 2001). These findings confirm statement of this paper that fulfilment service is mostly dedicated to small and medium-sized online stores, for which

logistic service of orders goes beyond own skills and abilities. Presented description of the e-commerce logistics functions outsourcing brings retailers many benefits. By contracting out warehousing or deliveries, they may be able to obtain cost savings not attainable internally. They can avoid a very significant initial fixed cost and concentrate on marketing and other core business activities (Anderson et al., 2003). Fulfilment service enables e-commerce access to qualified employees and know-how that allows to provide system and process design as well as more integrated service. E-retailers who use the specialists can benefit from “one-stop shopping” and consequently more smooth operation. They obtain LSPs’ expertise which may take them years to develop (Xing et al., 2011). Problems may occur when the integration between e-commerce company and 3PL is not as smooth as expected. Control over outsourced activities can be crucial. During conducting logistical activities on behalf of online sellers, LSPs play a significant role in creating consumers’ perceptions of quality of service and indicates that poor service provided by 3PL company might reflect badly on the retailer’s brand and reputation (Xing et al., 2011). That’s why a decision about the level of outsourcing, choose of the logistics service provider, supervision of the outsourced activities and good relationship between online seller and LSP is essential on the e-commerce market.

One of the present challenges for e-commerce and 3PL industry with their fulfilment service is growing online market of FMCG (fast moving consumer goods). These segment until recently has not been able to offer more attractive prices than in stores, that’s why it developed later than non-food e-commerce market (Dablanc, 2019). FMCG requires different facilities and usually same-day delivery service, which means new operational strategies and delivery systems. Apart from this, e-firms and 3PL industry must face rising online consumers expectations such as higher freedom of choice in terms of delivery times and methods, smooth access to return system, fast service at all hours as well as growing need for same day and even instant delivery service. On the other hand, there is a need to solve the existing problems of the high rate of delivery failure due to “not-at-home” issue substantially affecting cost and efficiency of operations and increase in returns rate (e.g. customers tend to buy several products in different sizes to choose from). Additional problem constitute environmental concerns due to the high use of transportation means. E-commerce firms and 3PL industry will require more innovative ways to deliver goods ordered online (Dablanc, 2019).

Presented scheme of logistic operations performed by LSP for online sellers is intended to illustrate the entire logistic process of Internet order service, to show connections

occurring in the supply chain and to visualize the complexity of e-commerce order service. Currently, the logistics industry has a significant contribution to e-commerce and as a result of increasing market competition, it grows every year. Both e-firms and logistics service providers delivering their services for them are facing an increasing number of challenges of continuous quality improvement and new services implementation increasing the level of individual customer service. From a consumer's perspective, fulfillment is generally considered to be a crucial attribute affecting their judgment of service quality and satisfaction. (White and Daniel, 2004; Burt and Sparks, 2003; Chen and Chang, 2003). The description of the fulfillment service offered by LSP for e-commerce based on logistics functions outsourcing shows how online order organization may look like.

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