ANALYSIS OF A SELECTED LOGISTIC MODEL
ONLINE STORE

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Summary: Nowadays, in the era of dynamically developing IT services, online shopping is becoming more and more popular all over the world. Owners of online stores, wanting to focus their activities on customer service aspects, are increasingly deciding to use logistics outsourcing to entrust many processes to specialists. This premise has become the reason for undertaking research in the area of analysis of one of the logistic models used in online stores – dropshipping. The article presents the results of the SWOT analysis and Business Model Canvas for the dropshipping logistics model. The publication also contains the results of surveys conducted among respondents running an online store using pure and partial dropshipping. The test results were processed using cardinality analyses. The summary indicates the key success factors for using this model in an online store.

Keywords: dropshipping, logistics model, e-commerce, online store

JEL Classification: D22, L21

Streszczenie: W obecnych czasach, w dobie dynamicznie rozwijających się usług informatycznych, zakupy internetowe cieszą się na całym świecie coraz większą popularnością. Właściciele sklepów internetowych, chcąc skupić swoją działalność na aspektach dotyczących obsługi klienta, coraz częściej decydują się skorzystać z outsourcingu logistycznego, aby wiele procesów oddać w ręce specjalistów. Przesłanka ta stała się przyczyną podjęcia badań w obszarze analizy jednego z modeli logistycznych stosowanych w sklepach internetowych – dropshippingu. W artykule przedstawiono wyniki analizy SWOT oraz Business Model Canvas dla modelu logistycznego dropshipping. W publikacji zawarto również wyniki badań ankietowych przeprowadzonych wśród respondentów prowadzących sklep internetowy wykorzystujący dropshipping czysty i częściowy. Wyniki badań poddano obróbcę za pomocą analiz liczebności. W podsumowaniu wskazano kluczowe czynniki sukcesu dla stosowania tego modelu w sklepie internetowym.

Słowa kluczowe: dropshipping, model logistyczny sklepu internetowego, e-handel.
1. Introduction

Nowadays, in the era of dynamically developing IT services, online shopping is becoming more and more popular all over the world. The basic difference between traditional and online trade is the need to deliver the ordered goods to the place designated by the customer. In addition, online store operations are based on a number of processes, such as supply and storage. This means that in addition to marketing, logistics is a fundamental element affecting the competitiveness of an e-store.

Online store owners, wanting to focus their activities on customer service aspects, are increasingly deciding to use logistics outsourcing to hand over many processes to specialists. This outsourcing mostly concerns processes related to storage and order processing. The demand for outsourcing services in e-commerce has developed several logistic models used by the owners of e-shops. One of these models is dropshipping.

The article presents the general characteristics of logistic models used in online stores. Particular attention has been devoted to dropshipping, which is currently gaining increasing popularity, the business model which was underestimated a few years ago is currently experiencing dynamic development. The article presents a diagnosis of the logistics model, which is dropshipping, regarding the store’s business profile, its characteristics and the industry in which this logistics model is justified.

2. Logistic models used in online stores

The online store is an e-commerce platform that can act as a B2C, B2B or mixed platform. An online store can be called a platform selling one product, but it is mainly assumed that a wider range of products is sold there, and less often, services (Majewski, 2008, p. 21). The most important element of an online store is the customer’s ability to place an order and make a purchase (Feldy, 2012, p. 21). Therefore a traditional online store contains a product catalogue and a shopping cart. The basket is a function responsible for remembering the products selected by the customer and guiding the customer through the ordering process (Majewski, 2008, p. 21). Moreover, in the e-store, the customer should be able to pay for the selected good or service in electronic form (Feldy, 2012, p. 21).

Logistic activities that are used when completing the order in the online store include storage, packaging and completion and transport to the recipient. When planning a logistics service for e-commerce, issues related to the logistics of returns of previously delivered goods are considered. This is extremely important because the buyer often did not see, evaluate or try on the purchased goods before the decision (Dobczyński, 2012, pp. 6-8).

The logistic models for online stores include, among others (Grochowski, 2012, pp. 18-25): own warehouse, pseudo Just-In-Time (long tail model), dropshipping, extended shopping, goods brokering, and fulfillment.
Despite significant costs, currently the vast majority of online stores declare having their own warehouse – as much as 75% of online stores use this model of operation (Chodak and Ropuszyńska-Surma, 2008, p. 9). Using one’s own warehouse is often associated with the need to specify the goods that should be available in it at all times, as well as the size of their stock in the warehouse. Having too many goods in the warehouse means that capital is unnecessarily frozen. However, on the other hand, too narrow a range in stock is associated with a longer delivery time, which may contribute to the customer’s refraining from placing the order (Chodak, Latus, and Prałat, 2010, p. 5).

The pseudo Just-In-Time model consists in presenting the supplier’s full product range in the online store, with a small amount of stock kept in the warehouse. Sellers order goods from a supplier only when an order from a customer occurs (Grochowski, 2012, p. 19). Using this logistic model is an alternative to stores with their own warehouse, whose product offer is very wide. “Long tail” is a large number of product items offered by the online store, which complements the bestseller list. According to this concept, a very wide range can result in higher revenues generated on individual, low-rotating positions than on the most popular, mass-sold goods (Chodak, 2014, p. 54). The long tail concept is connected to the Pareto rule.

Dropshipping is a form of logistics outsourcing in which the order processing process is shifted from the online store to the supplier. The supplier may be e.g. a manufacturer or a wholesaler. There are two classes of entities in dropshipping. One entity is an online store that acts as an intermediary between the product supplier and the end customer. He/she deals with promotional activities, sales, customer service, collecting orders and sending them to a second entity. The other entity is an enterprise carrying out at least the process of packaging, packaging and dispatch (Chodak, 2014, p. 39; Smużniak and Starzykiewicz, 2016, p. 550). In some respects this model is similar to the pseudo Just-In-Time, with the following difference that the supplier does not send the goods to the online store, but directly to the customer. This means that this model has the same advantages as the pseudo Just-In-Time, and the shortcomings of the implementation time are eliminated (Grochowski, 2012, p. 20).

When opening an online store based on the dropshipping model, it should certainly be taken into account that there are not yet many suppliers able to tailor the service exactly to the needs of the store. However, the number of these suppliers has been increasing in recent years (Grochowski, 2012, p. 20).

3. Methods and analyses used

The purpose of the article is to present aspects of the smooth functioning of a dropshipping store in a logistics context. The following research methods and analyses were used to answer this problem:

- SWOT analysis – indicating strengths and weaknesses as well as opportunities and threats for the dropshipping logistics model (Gierszewska and Romanowska, 2009, p. 190),
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- Business Model Canvas – describes the “premise behind the way in which an organization creates value and ensures and derives profits from this generated value” (Osterwalder and Pigneur, 2012, p. 18),
- surveys using the CAWI (Computer-Assisted Web Interview) research technique – an interview conducted by receiving a survey via the Internet and completing it online, cardinality analysis.

The first two analyses were made by the authors of the article based on secondary data and verification by experts. The survey using the questionnaire was directed to stores operating on the Internet based on pure dropshipping.

Analyzing the results of research carried out by G. Chodak, it can be seen that 42.5% of the surveyed online stores have their own warehouse where they store all (24.5%) or almost all (18%) goods. At the same time, only 16.67% of stores declared the use of external companies when handling orders (not related to the use of courier services). Almost half of these e-stores (49.13%) described the form of outsourcing used as dropshipping (Chodak, 2014). Referring this data to the number of online stores in Poland (approximately 20,000), the pure dropshipping model uses approximately 1,600. This is the size of the initial research population. The problem was reaching those specific respondents. They were found using platforms integrating dropshipping entrepreneurs with wholesalers. On many websites of individual platforms there is a tab “Our customers” leading to a list of online stores using the services of the site (e.g. BigBuy, n. d.; Sky-Shop, n. d.; Redcart, n. d.). This allowed to create a base of respondents.

The questionnaire was sent electronically. The message attached to the sent survey included, among others, short characteristics of the model, which is dropshipping. Finally, responses were received from 25 respondents – online stores operating in the dropshipping model (pure and partial).

4. Research results

4.1. SWOT Analysis

The SWOT analysis for the dropshipping logistics model was made in a descriptive form. The article presents only the positive areas of this analysis. All identified strengths and weaknesses as well as opportunities and threats are presented in Table 1.

The strong point of the dropshipping e-store is the ability to offer customers a very wide range. This is due to the fact that the responsibility for storing products does not rest with the owner of the e-store. He/she has the option of signing a contract with many suppliers, which means that the number of product items available on the sales platform can be very large. The fact of cooperating with wholesalers on whom the storage and shipping of goods rests, does not only determine the possibility of having a wide range. The strength of the dropshipping based e-store is also the flexibility of product selection. Store operators can easily establish cooperation with
a wholesaler offering products in a different category than those sold so far. Thanks to such flexibility, an entrepreneur running a dropshipping store can try to sell original, niche products, without incurring the consequences in the event of failure. The introduction of rarely available products to the offered range increases competitiveness. However, if the sale of a given assortment item turns out to be too small, the store will not bear the risk that it will have a reserve in stock. Another strength is the ability to focus forces and resources on strategic and marketing activities. Nowadays, marketing is one of the most important issues to be taken care of in an enterprise so as not to get lost in the maze of other offers and be noticed by the customer, especially if it is an Internet company. Building relationships with customers through social media activity, writing a blog or email marketing are just a few ways to promote your own brand that can compete in the market. Focusing on acquiring, maintaining and servicing customers may be decisive for achieving a significant competitive advantage. The issue of costs is extremely important for an online store. The strength of the dropshipping solution is the lack of necessity to freeze a large amount in the goods.

Dropshipping is a big opportunity for the development of small enterprises that do not have too much capital to start. The specificity of this solution is associated with the lack of the need to invest in warehouse stocks, and thus, the lack of the need to freeze capital. All that is needed to open this type of business is a laptop with internet access. The dynamic development of IT services and e-commerce meant
that more and more wholesalers declare their willingness to cooperate with online stores operating on the principle of dropshipping. Cooperation works for the benefit of both parties: the owner of the store does not have to focus on storage, and wholesalers – worry about the market and marketing. In the last few years the number of such warehouses has increased significantly. Thanks to this, online stores operating in the dropshipping model have the opportunity to choose the optimal wholesaler, and thus, the chance to improve the quality of services provided. Recently the creation of many platforms integrating wholesalers with online stores, which also offer the design of a ready-made online store and technical support related to the functioning of the store favours development of dropshipping. Certainly the opportunity that the owner of a dropshipping shop can use is to test new products without incurring a loss. This is associated with the aforementioned strong point regarding a wide range and product flexibility. When running an online store based on the dropshipping model, it is worth taking advantage of this and test niche products in order to gain a competitive advantage on the market.

4.2. Business Model Canvas

The overall results of the analysis based on the Business Model Canvas template are presented below. The analysis allowed to determine the most important, from the point of view of dropshipping, key success factors presented below.

Customer segments – the customers of the store are all the people who use the Internet and who tend to shop electronically. The specific customer segment will depend on what the store owner plans to offer in its assortment. In the case of dropshipping, the target customer can be more precisely defined, which is due to the fact that they can offer niche products.

Value proposition – the aforementioned niche products can be successfully selected by the dropshipping shop operators as an assortment on offer. This is due to the lack of the need to incur costs associated with the storage of these goods. The same applies to goods with a short best-before date, e.g. gardening products such as flowers and plants, etc., as well as bulky goods. The value proposition in the dropshipping model can be very broad, and the decision regarding the selection of the offered range does not entail as many consequences as in the case of own warehouse.

The channel used by the dropshipping company is certainly the Internet, because it is used to contact the customer, another is the one through which the goods reach the customer. Unlike a store that uses its own warehouse, this type of channel is indirect in the case of dropshipping. This is due to the fact that a significant intermediary, who is the supplier of the goods, functions in the sales process. The supplier is responsible for the storage and dispatch of goods, so he/she is the physical “owner” of the goods until they are sold.

Customer relations constitute one of the most important factors that should be taken care of when running an online store in the dropshipping model. Transferring
the order processing process to the supplier and the associated time savings are conducive to focusing on marketing and promotion. In fact, the only thing that rests on the shoulders of the owner of such a store is effective customer acquisition and retention. The success of the store and earning revenue from business depends on it. The recommended type of customer relationship is, among others, automated service. It combines self-service with the automation process, which involves the customer gaining access to a personalized offer. It is therefore possible to recognize the customer and his/her characteristics in order to provide information related to e.g. products recommended for him/her. When engaging in marketing activities, it is also worth considering communities (discussion forums, fanpages, and websites associating brand fans), and when shaping customer relationships, the possibility of contributing to the online store platform, encouraging customers to post product reviews and store reviews.

Revenue streams are generated by servicing individual market segments. In order for a company based on dropshipping to generate sales revenues, the prices of items intended for sale should include a sufficiently high margin. Profit from the sold article the e-store shares with the supplier, because it is the supplier who is responsible for the storage of the goods and their shipment to the customer. Prices, however, cannot be too high, because then customers will not be interested in placing an order in such a store. It may often turn out that the prices of some products are lower than those of competitors with their own warehouse. This is due not to freezing cash in the goods and the lack of costs incurred in connection with the operation of the warehouse.

The key resources in the dropshipping enterprise are the e-store Internet platform integrated with the supplier’s warehouse, which is the basis without which the model will not function properly, and another human resources, due to the fact that by focusing on marketing and customer service one can demonstrate extraordinary creativity and knowledge.

Key actions in dropshipping are closely linked to customer relationships. This is due to the fact that taking care of good relationships with customers is the key activity. In addition, it is important to focus on the promotion in order to attract the largest number of customers and promote the brand. Another activity that an e-store should deal with is the operation of the internet platform and control of its synchronization with the supplier’s warehouse. In addition, people running an online store in this model should focus on monitoring demand and market trends, as well as looking for suitable wholesalers able to offer the right range.

Key partners are an important factor in a company’s success. It is the partners, in this case the suppliers responsible for the storage and execution of orders, on whom the implementation of most processes related to handling the shipment of goods to the customer depends. The order processing process is reflected in the customer’s opinion about the store. This process includes such aspects as: qualitative condition of the goods (no damage, compliance of the goods with the description, good shelf
life), quantitative status of the goods (quantity in accordance with the order), shipping time and speed of delivery. In addition, the partner in the dropshipping model is the company responsible for creating the website and the company responsible for integrating the store with the wholesaler. There are currently many online platforms combining these two aspects. These platforms are responsible for webmastering the online store and for integrating the description and quantity of the product with the store. There is an increasing number of integrating platforms on the market, containing a broad base of wholesalers ready to cooperate with an online store.

Cost structure – in dropshipping the costs of doing business are relatively small. The ones related to the rental of storage space, warehouse service and wages for warehouse workers drop out, but above all - cash is not frozen in the goods. The main costs are incurred for the use of integrating platforms, for suppliers (sometimes suppliers need access to their product offer), as well as for promotion and marketing.

4.3. Research results

In the research population, the majority of respondents have been in the market for over 1 year (1-3 years – 20%, from 3-5 years – 36%, over 5 years – 28%). Most (40%) online stores have between 2 and 4 employees. In 36% of stores 5 to 15 employees are employed, and in 16% even more than 15. The most popular industries among the shops surveyed were fashion / accessories and electronics, followed by kitchen / food, sports/hobbies, and health and beauty. Next on the list is the sale of children’s articles and toys, gifts and other products. The annual number of orders for the 36% is in the range 1001-5000. This means that statistically the store accepts from 3 to 13 orders per day. Less than 3 orders per day are declared by 28% of respondents (less than 1000 orders per year), and 20% of respondents accept 5001-10000 orders per year. Over 10,000 orders annually are declared by 16% of respondents.

Analyzing the relationship between the age of the store and the store’s own warehouse, it can be seen that the market experience to some extent affects the choice of the logistics model. Shops existing for less than a year use only the services of dropshipping wholesalers. In turn, stores operating over 3 years, more often, in addition to conducting dropshipping, also have their own warehouse (Table 2).

<table>
<thead>
<tr>
<th>Shop age</th>
<th>Having your own warehouse</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No – using only warehouse services</td>
<td>Yes – own warehouse and warehouse services</td>
</tr>
<tr>
<td>Below a year</td>
<td>16%</td>
<td>0%</td>
</tr>
<tr>
<td>1-3 years</td>
<td>16%</td>
<td>4%</td>
</tr>
<tr>
<td>3-5 years</td>
<td>8%</td>
<td>28%</td>
</tr>
<tr>
<td>Over 5 years</td>
<td>4%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Source: own study.
The first substantive question concerned the online store’s own warehouse. About half of the stores declare, in addition to conducting dropshipping, owning their own warehouse, 44% of stores run clean dropshipping – they use only the services of the supplier.

The next question concerned the number of suppliers (wholesalers, distributors, manufacturers) with whom the online store cooperates. Almost half work with two, three or four suppliers.

The next question was an open question about the basic aspects of the contractual relationship with the supplier. The answers are as follows:

- order processing time – 64%,
- delivery method to the customer – 56%,
- shipping costs to the customer – 40%,
- invoice payment terms – 36%,
- packing method – 28%,
- rights and obligations of the parties – 24%,
- store advertising method – 16%,
- supplier fees – 12%,
- complaints and returns, personal data protection, business secrets, dropshipping definition, terms of contract termination – less than 10%.

The next question concerned the reasons why store owners decided to run a store based on a dropshipping model, where one could select more than one answer. The results are shown in Figure 1. Among the “Other” responses were the following: “We use the services of wholesalers for rarely ordered products”, “You do not need to store low-rotation goods”, “We have bestsellers in stock, and the warehouse only sends goods to the customer rarely ordered”, “It doesn’t pay to be stocked – goods break quickly”.

![Fig. 1. The reason for choosing the dropshipping model](image)

Source: own study.
Another question was related to the frequency of complaints due to the fault of the supplier. This includes issues such as items not as described, incorrect quantities, damaged goods, and the like. Over half of respondents said that this situation applies to 1-5% of all shipments. For 20% of stores it is less than 1% of shipments or not at all. This situation occurs in the case of 5-10% of parcels in 16% of respondents, and 8% of respondents indicate that as much as 10% of parcels or more.

The survey also raised a question related to the problem of answering inquisitive customer questions. The question was: “How often does a customer ask for specific product features (exact colour, dimension), and do you ask the supplier (wholesaler/distributor/manufacturer)?” Most respondents (44%) said that this situation happened several times, in 40% of stores – never; 16% of the time, customers often have questions.

The next question was about suppliers’ behaviour not in accordance with the contract, e.g. not labeling shipments with the store logo, ‘smuggling in’ their ads, sending the shipment in a manner inconsistent with the contract, etc. As many as 40% of respondents declare that such situations do not occur. In 32% of stores this situation happened several times, in 24% – store owners do not know because they have no control over it.

The next question concerned the premise followed by the store’s operator when choosing a supplier. It was a question in which it was possible to give more than one answer (Figure 2).

![Fig. 2. Premise for choosing a supplier](source)

Source: own study.

The last question was related to the shop owners considering changing the current logistics model. The vast majority (91%) want to stay with the current dropshipping solution (pure or mixed).
Most of the surveyed stores use their own warehouses, but this is not a significant advantage over pure dropshipping stores (56% to 44%). Interestingly, studies have shown that stores that have been in the market for longer have their own warehouse. Stores existing for less than a year and from one to three years, mostly only use pure dropshipping, which confirms that this logistic model is a good “to start” because of not incurring large costs associated with starting a business. The vast majority of stores have two to four suppliers. This solution may suggest that the majority of stores surveyed have a fairly large selection of items among their product groups. The question about the reason for dropshipping provided some valuable information. First of all, many respondents said that they decided to carry out dropshipping in order to be able to sell low-rotating goods. This means that the so-called “Bestsellers” and dropshipping partners support the so-called “Long tail”. The industries in which this answer appeared most often were electronics/IT, fashion/accessories, gifts, as well as sports/hobby.

5. Conclusion

To sum up, one of the most important elements to focus on when running a business based on dropshipping is the selection of appropriate business partners. The ability to succeed in the market depends on key partners. The wholesaler, responsible for the entire process of storage, packaging and shipment of goods to the customer, somehow takes responsibility for the customer’s perception of the store. This involves the packaging method, quantity and quality compliance with the order, as well as the delivery time. When determining the terms of cooperation with the supplier, it is worth paying attention to the way of marking and packaging of packages sent to the customer. Placement of supplier data may weaken the relationship between the seller and the customer he/she acquired. The exception is the case when the supplier is a manufacturer with a known brand – then the advantage is to emphasize that the product is in the original packaging offered by the manufacturer. It is worth ensuring that the supplier undertakes to also place the store logo on the packages sent. When agreeing on the terms of the contract with the supplier, remember also about clear return and complaint procedures. This is often a standard option included in the regulations and the contract with the wholesaler. However, it happens that the provider does not offer this option, so the return from the customer must be organized on their own.

Another key success factor for dropshipping e-stores is the element referred to in Business Model Canvas as customer relationships, understood as a concentration of forces on acquiring and retaining customers by focusing on marketing and promotion of the store. One can build customer relationships through social media activity, blog writing, fanpage and email marketing. It is popular in recent times to recommend products through automated service, consisting in recognizing the customer and providing him/her with information related to the products recommended for him/her.
The conducted analyzes helped to identify the premise for applying dropshipping in the enterprise. Conclusions regarding the range of products offered, selected during the SWOT analysis and Business Model Canvas, were confirmed in the survey. First of all, dropshipping is recommended when selling products characterized by:

- uncertainty of demand,
- generating a high cost of storage and transport, e.g. due to the size,
- fresh, perishable products,
- niche products, unique.

Dropshipping is certainly a huge opportunity for newly created, small companies with little initial capital. It gives the opportunity to expand their business without incurring large financial outlays. This logistic model can also be used by Internet sales specialists who do not want to deal with warehouse services and related processes. In addition, people running e.g. hobby blogs, themed video channels (e.g. on the popular YouTube.com website) or administering discussion groups may also be interested in this model. Such people can expand their business by adding a commercial part without investing large funds.

Acknowledgments

This research was funded by the Poznań University of Technology, Faculty of Engineering Management [project number: 11/145/SBAD/2953].

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