

ONLINE PAYMENTS IN POLISH E-COMMERCE SECTOR

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1. Introduction

Development and popularity of the Internet and modern telecommunications technologies have influenced the spread of e-commerce. The Internet increased the competitiveness of the e-commerce sector, enabling potential recipients to buy products in the most remote stores. A determinant of this rapid development is also a wide and easy access to information that favors making good purchasing decisions. The pace of e-commerce's development changes and it is slower than in the last few years. This slower pace is probably connected with the saturation of the market and a fewer number of new e-customers. The dynamic development of the Internet changes the roles and negotiating force of individual participants in contemporary distribution channels. Furthermore, it has a positive impact on the position of clients, as well as relationships with suppliers and contractors.

Researches carried out by eMarketer (a market analysis company) show that the value of the e-commerce market has exceeded one trillion dollars in 2012 (Emarketer). In Poland, it is estimated that the value of the e-commerce market in 2014 amounted to approx. 26.6 billion zlotys, which represented about 3.5% of the total retail trade (Mazurek, 2015, pp. 1273-1278). On the other hand, the turnover of the Polish e-commerce market in 2008 amounted to 11 billion PLN, and 13.4 billion PLN in 2009. Currently, the Polish e-commerce market is worth about 35 billion PLN, which means 8-10% growth per year, including 69% of e-shops generating a net profit. This positive trend should not be changed even by the recently discussed trade ban on Sundays, which is indirectly directed at e-shops, especially the delivery option (GUS, 2016). The high growth dynamics of the Polish e-commerce sector is also confirmed in the Internet Standard study (Internetstandard, 2016), where 18% of surveyed e-shops were established in the last year, and only 14% of these shops are on the market for more than 10 years. One of the most important determinants is the increased security of online transactions with a special payment area for clients.

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Increase of security and expanding the range of offered payment methods in online trading platforms can significantly affect the competitiveness of the entity. Customers have various requirements, habits and experiences at the e-payment level, so the analysis of these features should constitute an important element of the realized strategy. The research objective of this study is to identify popular forms and indicate further perspectives for the development of online payments in the Polish electronic market.

2. Development of the e-commerce sector in Poland

Electronic commerce, commonly known as e-commerce, includes all kinds of methods and techniques aimed at the finalization of a commercial transaction taking advantage of electronic means and devices, including the Internet, telephony and interactive TV. The most common widespread method of electronic commerce is internet commerce, so the term of e-commerce is increasingly used as a synonym of trade on the Internet. Also in this publication, the term of e-commerce will refer only to the activity that uses the Internet medium.

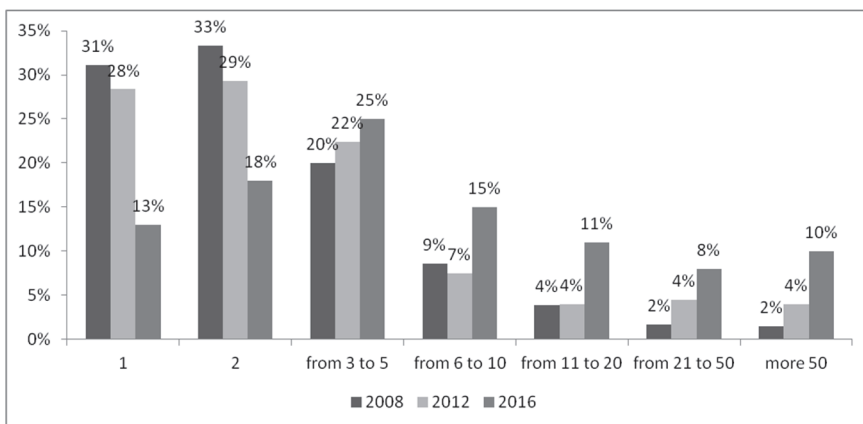


Figure 1. Number of people operating e-shops in the years 2008-2016

Source: own study on the basis of: **Internetstandard: Report 2016 E-commerce Standard**, 2008, 2012, 2016, www.internetstandard.pl/whitepaper/

According to the researches of the Polish Central Statistical Office (GUS) from 2016, 80.1% of households had at least one personal computer at home, and also Internet access (80.4%), including 75.5% of households with broadband internet. The main reason for not having access to the Internet, 70.6% of households indicated the no need to use it. Over 30% of people aged 16-74 took advantage of the e-government services. Children in the family have a significant impact on the possession of the Internet access, because 97.7% of households with children declare the possession of access to the Internet, where among childless

families this percentage is only 72%. Similar but less important is the area of residence – the difference in favor of households from large cities is almost 10 percentage in relation to rural areas. A significantly smaller difference has been identified among online shoppers – 32% of people from large cities, and 29% of people from rural areas use e-commerce. On the other hand, at the business level, companies that trade through the network more often (22 percentage points of difference) made purchases than sales. The percentage of companies making online orders was almost three times higher than companies that received these orders (GUS, 2016).

Over the past 8 years, the number of online shoppers also increased significantly. In 2008, every third entity was operated by one person, while in 2016 – only 13% of such e-shops were identified (Figure 1). The increasing number of buyers forces e-commerce managers and owners of e-commerce portals faster and more efficient service. This causes the increase in the number of employees needed to handle orders.

Initially, the development of e-commerce in Poland was limited by numerous barriers, low security level, fear of changes, lack of visible advantages and a small number of internet users. Nowadays, the increased interest in this form of shopping is driven by advantages and disadvantages, among which the most essential is no need to leave home. Moreover, the possibility to buy 24 hours a day, lower prices and easy of price comparison are important (Table 1). 55% of Polish online shoppers think that a rich offer of payment options is one of the key motivating factors. Probably this is related to the determinant in the form of convenient shopping without leaving the house. The wide payment offer in e-shop increases the trust of customers through the ability to choose the most famous and popular methods used by users. Furthermore, buyers in the online network are now more aware of existing threats, as well as rules and behaviors that increase safety. E-payments and purchases of products via the Internet are considered by the vast majority of users (88%) to be safer (Rudzewicz, 2016).

Table 1. Motivating factors for online shopping

Factor	Percentage of indications
Purchase opportunity – 24 h	84%
No need to leave home	79%
Lower prices	75%
Ease of comparing prices	68%
Ease of finding rare / specialized products	67%
Bigger assortment	66%
Various forms of payment are available	55%
Access to product information	48%

Source: own study on the basis of: Gemius: E-commerce in Poland 2015, Gemius for e-Commerce Poland, <https://www.gemius.pl/files/reports/E-commerce-w-Polsce-2015.pdf>

Creation and implementation of innovation is an important factor in the development of enterprises today, especially in the banking sector (Dzikowska et al., 2002). Also important is the analysis of customer expectations and increasing the number of forms of payment offered.

3. Essence and role of payment in e-commerce

Polish online shops offer really great opportunities of selecting a payment method (Figure 2). The most popular form is the bank transfer. From enterprise's point of view, this is the cheapest and the most reliable option, but much slower than fast e-transfers and more complicated for the customer. In the case of a fast internet transfer, the only user's task is to confirm the payment. There is no need to enter the required data, which are automatically added. 61% of Polish e-shops offer payment on receipt. This solution is probably a requirement, which increase satisfaction of customers, because it is one of the most complex and risky forms. Although credit cards are not a very popular payment tool in Poland (Szymański, 2016), over half of the surveyed e-shops offer this solution to their customers. Much less popular payments are more innovative forms: mobile applications and Bitcoins. The first purchase with the use of Bitcoins took place in May 2010. Laszlo Hanyecz, a computer programmer from Florida, wrote on the online forum that he will pay 10000 Bitcoins for two pizzas. The previous equivalent of two pizzas was approx. 41 dollars, but the dynamic rise in the popularity of this virtual currency caused that as early as July 2014, 10000 Bitcoins were worth 12 million \$ (Polasik et al., 2015), and currently (March 2017) more than 10 million dollars.

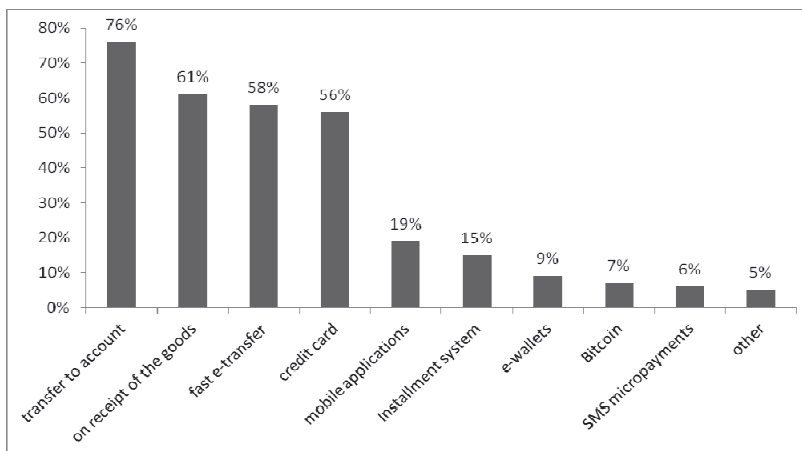


Figure 2. Payment methods available in online shops in Poland

Source: own study based on: *Internetstandard: Report 2016 E-commerce Standard*, 2016, www.internetstandard.pl/whitepaper, p. 33, (23.03.2016)

Bitcoins are one of many virtual currencies that, despite the fact that they are not very popular in Poland, have many advantages (Przyłuska-Schmitt, 2016). The installment payment system is applied only in 15% of Polish e-shops. Purchases with a greater value (mostly household equipment and computer equipment, less often – products from the travel industry) are mainly financed in this way. Online shops are able to spread out the purchase amount in installments thanks to the cooperation between banks and online payments operators. The advantage for a client is the ability to buy products, which are currently out of his reach or a single payment is too big for the client's budget.

Every fifth analyzed online shop allows clients to pay with mobile applications. According to the report of the Chamber of Electronic Commerce (Izba Gospodarki Elektronicznej, 2016) – in 2016, more than half of Internet users took advantage of dedicated mobile banking applications, and among mobile buyers – this percentage increases to 77%. Mobile payments are more commonly used by residents of large cities (over 500 thousands residents) – 58% than people living in rural areas (21%). Already at the beginning of the e-payment popularization, the most useful feature of all mobile payment methods turned out to be a traditional transfer performed via a mobile device (Chmielarz, 2009), which has now been replaced by the dedicated banking applications.

Table 2. Advantages and disadvantages of Bitcoins

Advantages	Disadvantages
The fact that financial institutions do not need to mediate in transactions	High price variability (high speculative risk)
Low maintenance costs of the Internet account	Risk of unsecured or accidental removal of own bitcoin portfolio
Higher cryptographic security in comparison to banking encryption	Risk connected with a hacker attack
Almost full anonymity of transactional parties	Ability to use in criminal activity
Speedy transactions	Too far-reaching supervision
Irrevocability of transactions	Lack of consistent international rules
Openness of the system for each network user	Anonymity of the system's creators
Global coverage	

Source: Przyłuska-Schmitt J., *Bitcoin – intrygująca innowacja*, *Bank i Kredyt* 47(2), 2016, p. 150.

Online wallets are not very common. There are provided in 9% of Polish e-shops. E-wallet is a type of a foreign currency account, where customers can deposit and manage money. In the case of this form, realization of transactions between the buyer and the seller is carried out without the bank, and funds are transferred between virtual accounts created by both parties at the payment's provider. By analyzing characteristics of e-wallets, they can be identified as mobile wallets, which (according to definition) may be defined as a set of services that allow the user to make payments in an electronic form from a mobile device.

The mobile wallet enables the use of different electronic instruments that are based on electronic money or non-cash money (Górka, 2013). An advantage (from the customer's point of view) is the ability to maintain anonymity when carrying out a transaction what significantly increases the security and reduces barriers and unwillingness to share any seller's data (Chinowski, 2013). Payment security and seller data sharing becomes a bigger in the case of online foreign purchases. The most popular foreign e-commerce website is eBay (Gemius, 2016), but the most dynamic development presents the Chinese online portal – Aliexpress. Every single month, this portal has more than 10 million visits from Poland. The vast majority of these visits are direct (39%), but almost every fourth visit is realized via Google (23%). Less popular intermediaries, which increase the number of visits in Aliexpress.pl, are Facebook (19%) and links on forums, chat rooms and other online portals (17%) (IRCenter.com, 2016). The dynamics of popularity is shown in diagram 3, where over the last 4 years, there has been a systematic increase in the number of queries in the Google search for the keyword „aliexpress” among Polish Internet users. If this trend will be maintained, Aliexpress will probably be the leader of foreign e-commerce services in Poland in the near future. The implementation of payment options – not only via credit card, but also in the form of e-wallet with the use of Przelewy24 (a famous service in the Polish community), may definitely increase the popularity of Aliexpress portal in Poland.

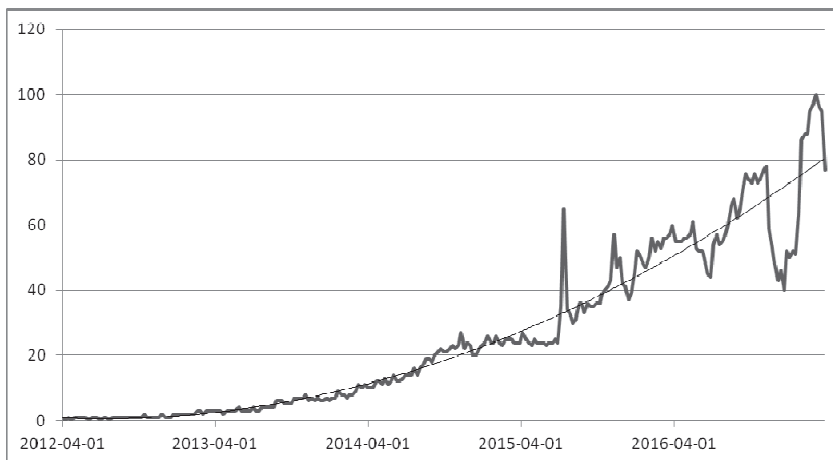


Figure 3. Number of searches for the keyword „aliexpress” among Polish Internet users in the Google search during the period April 2012 – March 2016

Source: own study based on:

trends.google.pl/trends/explore?geo=PL&q=aliexpress, (29.03.2017)

An extensive and interesting classification of payment methods from the point of view of the Internet shop was presented by Polasik and Kunkowski

(Kunkowski, Polasik, 2011) (Table 3), who made a division in terms of the moment of payment and type of intermediary. The basic intermediaries included: banks, non-bank institutions and non-financial channels. SMS micropayments, personal collection, coupons for online payments, payment networks for bills and cash on delivery payment belong to non-financial forms, where the seller does not directly use financial institutions. On the other hand, the transaction's settlement moment distinguishes three basic types, in which immediate moment is one of the most popular forms beneficial for both seller and buyer. From the buyer's point of view, a quick payment reduces the total time of purchase, and the advantage for the seller is an immediate payment, as well as access to money – this significantly improves the financial liquidity. The least convenient form for entrepreneurs is payment on receipt, because in the event of not receiving the ordered product by the client, all costs of delivery and execution of the order are covered by the seller. This form is used by buyers in order to increase the security, because the purchased product is delivered and the payment is made after this delivery. For this privilege, the recipient must pay more than in the case of instant payments. However, by offering a wide range of payment options, e-shop increases its competitiveness and the number of buyers. Lack of a favorite and checked form of payment often causes the abandonment of a shopping cart and transfer of a potential customer to another online shop. In accordance with researches of Triggered Messaging, 61% of buyers abandon a shopping cart in e-shop and they do not finalize purchases. Identification of causes and their levelling may definitely help to increase sales and profits.

Among the essential determinants, which cause the abandoning of shipping carts by Internet users, we can indicate (marketerplus), (ehandelmag):

- Need to login and create an account in order to make transactions;
- Too large order form;
- Disclosure of additional transactions costs, e.g. too expensive delivery costs, additional packing costs or shipment insurance costs;
- Lack of payment form expected by the customer;
- Unclear rules for e.g. delivery, payment or complain;
- Lack of phone number on the website;
- Confirmation of the order requires a multiple confirmation – e.g. via e-mail.

Analysis of causes concerning the abandoning of shopping carts is one of the most important methods to increase profits of the company from the e-commerce sector. The implementation of many types of payments will significantly limit one of the indicated features.

Table 3. Classification of payments methods from the point of view of the online shop's operations

Type of intermediary Moment of settlement	Non-financial channel	Non-bank payment institution	Bank
Immediate	Premium payment SMS/MMS	Online payment integrator ^{a)} Virtual payment service ^{b)} Mobile payment	e-transfer ^{c)} Payment card
Delayed	Personal collection, coupons for online payments, payment networks for bills		Bank transfer Installment credit/loan
After shipment	cash on delivery payment	Escrow type payment ^{d)}	

a) Online payment integrator – a company that mediates in many types of payments in favor of online shops. On the basis of a framework agreement, the intermediary provides an automated support for many payment channels in a manner, which does not involve a shop in this process.

b) Virtual payment service – a system that enables the transfer of payment to the recipient's e-mail address via virtual accounts. The funds, which are necessary to carry out payments, usually come from the charge of the payer's credit card. This method allows the acceptance of payments by individuals (P2P transactions). The most popular entity of this type is PayPal.

c) E-transfer (*pay-by-link*) – this solution is an online interface that automatically generates a bank transfer form authorized by the client in the online banking service of his or her bank. Therefore, it is a cover for traditional bank transfer, but high convenience of the customer and immediate notification of the online shop about the transaction creates a significant added value. A main disadvantage of e-transfers is their limitation to the national banking system (usually).

d) Escrow online account is a type of a trilateral agreement concluded between the buyer, the seller and the intermediary (in this case – a virtual payment service). Escrow account protects the seller from the risk of withdrawal from the transaction, insolvency or unreasonable refusal of payment by the buyer, and the buyer against the failure to deliver the purchased goods.

Source: Kunkowski J., Polasik M., *Wykorzystanie metod płatności w polskich sklepach internetowych*, „Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu. Informatyka Ekonomiczna”, 2011, No. 22, p. 99.

Aspects of payment are also an element subject to the Polish Consumer Rights Act (Dz.U.2014.0.827). This Act states that „the entrepreneur shall ensure that the consumer, at the time of placing the order, clearly confirm that he know that the order is connected with the obligation to pay. If the placement of the order is related to the use of a button or similar function, there must be clearly and legibly marked in words „order with obligation to pay” or „another equivalent unequivocal wording”. The customer should receive clear and readable information about limits concerning the delivery and accepted payment methods. Additionally, there is also an important guideline indicating that the entrepreneur should make a repayment in the event of the customer's withdrawal from the agreement, using the same method of payment, which was used by the consumer, or the consumer explicitly agreed to another method of return, which does not involve any costs for him. These requirements cause additional restrictions for the

seller, both in the context of the preparation of regulations, as well as design and online administration of the trading platform. However, expanding the offer in terms of payments may enable the acquisition of new clients and increase the satisfaction among current customers.

According to the latest report prepared by Gemius (Gemius, 2016), among the existing forms of payment that encourage to online purchases, the fast transfer via payment service (e-wallet) occupies the first place according to e-consumers (59%). In the second place, with a much smaller number of indications, there is a cash payment with receipt of goods at the courier (39%) and cash on delivery (36%). The last two forms (from the customer's point of view) are characterized by high security of the whole transaction, because client receives the purchased product at the same time he makes a payment. However, one in four respondents is motivated by the possibility of paying via a traditional transfer. In this option, the needs to fill in all transfer details and confirm its realization. Payment via credit card at the time of ordering and payment by cash in case of personal pickup in the shop were indicated by approx. 20% of respondents. Less attractive forms of payment included: SMS (7%), BliK (6%), installment payments (4%) and QR codes (3%). Important factors are socio-demographic characteristics and experiences of respondents. By analyzing Figure 4, which presents the most motivating two forms of payment (online shopping), it can be observed that the age of customers plays a huge role. Quick transfer through the payment service is much more motivating for people aged 24-35, i.e. persons, who have recently completed their education and are likely employed. On the other hand, the form of cash payment at the courier is much less attractive for this group in comparison to other groups.

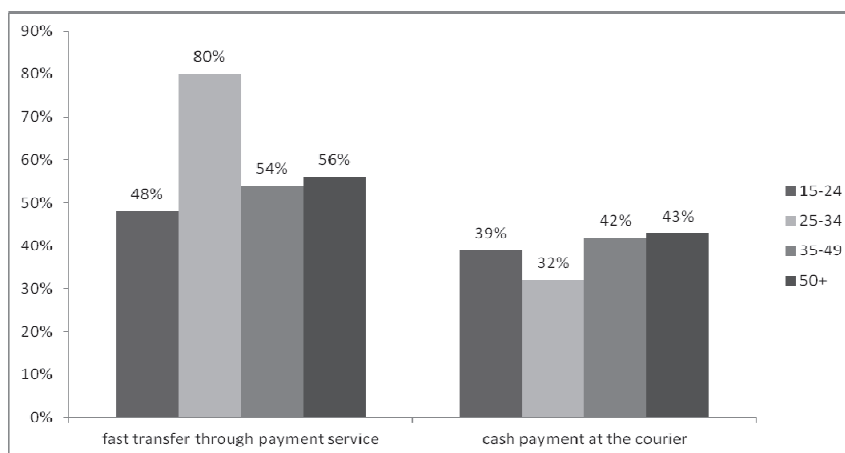


Figure 4. Selected form of payments motivating for Internet purchases according to age
 Source: own study based on: Gemius, *E-commerce in Poland 2016*, Gemius for e-Commerce Poland, https://ecommercepolska.pl/files/9414/6718/9485/E-commerce_w_polsce_2016.pdf, (27.03.2017)

Equally important disproportions were obtained in the distribution of respondents due to education (Figure 5). The vast majority of people with higher education (88%) are more motivated to online shopping by the ability to make quick payments than other groups. For people with lower education, a greater motivator is the cash payment when they pick up the purchased goods. Analysis of behaviors and opinions of customers in the context of correlation with their features should constitute the basic characteristics when defining the client's profile about the selection of a target group (undertaken marketing activities).

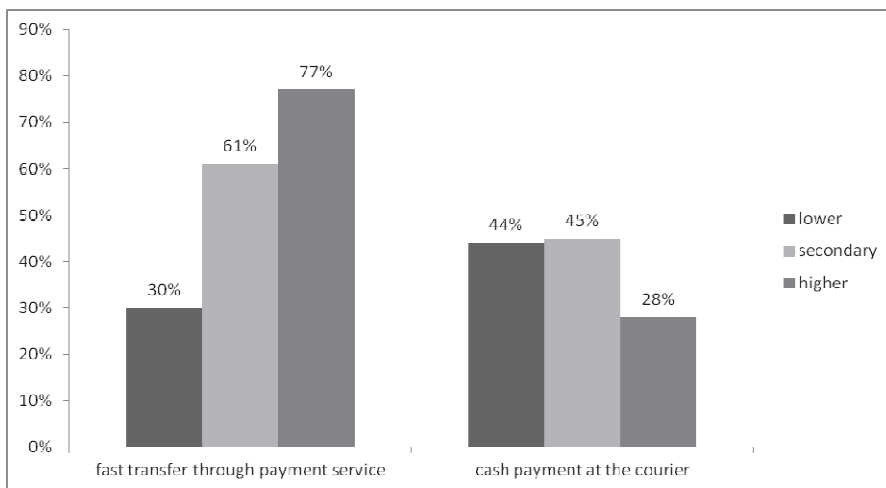


Figure 5. Selected forms of payment motivating for online purchase according to education
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The presented results show that not only general results, but also more specific characteristics of respondents should be taken into account during the analysis and behaviors and opinions of customers. Generalized results can only indicate tendencies or trends in the analyzed range, but for companies operating in the turbulent environment of e-commerce sector, detailed correlations can get a significant competitive advantage.

4. Conclusion

Nowadays, the conscious client (looking for products on the Internet) expects not only low prices, but he pays more and more attention to the ability to make quick and safe online payment. An additional requirement is also the ability to carry out the transaction in various currencies, using familiar tools and reputable entities specialized in the realization of online payments. Cash payments are

replaced by non-cash payments – both in Poland and in the entire world. There is no indication that this trend may change, and forecasts indicate that it will be escalated. The forms of payments analyzed in this chapter are considered at the B2C (Business to Consumer) level, i.e. a trade based on online shops designed for an individual customer. An interesting aspect was the analysis of popularity and expectations of buyer in B2B model, which in terms of the volume of turnover in the Polish e-commerce sector represent a larger share than B2C in the global value of the e-commerce market in Poland. In the near future, online B2B platforms will intend to improve the intuitive operation, allow independent management of the user's account, enable the personalization of prices and they will be taken advantage of automated shopping recommendation systems. Moreover, product availability flow and more accurate information about time of delivery will be improved (Malinowski, Senkus, 2015). Payments in the online e-commerce sector are moving towards the mobility (Bezhovski, 2016) and intelligent support systems. More and more solutions and tools will work „in the cloud” and use elements of Big Data (Pavithra et al., 2016) and business intelligence (Suchanek, 2010).

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