
Conditions for the Growth of Cross-Border E-commerce in Poland

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Abstract:

Purpose: The primary objective of this study is to determine the developmental potential of Polish cross-border e-commerce. Through these considerations, the authors have endeavored to identify and analyze the most significant challenges and barriers currently faced by companies operating in the Polish cross-border electronic commerce sector.

Design/Methodology/Approach: The study used secondary sources of information, primarily the available subject literature, statistical data from industry reports, and databases from the Central Statistical Office (GUS). The descriptive statistics method was employed, mainly employing tabular, graphical, and parametric descriptions of the statistical population

Findings: The analysis indicates that cross-border e-commerce in Poland is developing dynamically, and its future prospects are promising. However, there are areas for improvement, namely key elements that need to be refined.

Practical Implications: The main challenges include local payment methods, as well as costs associated with marketing and distribution. Polish e-commerce businesses predominantly seek their customers in Europe, especially within EU countries.

Originality/Value: It is essential to focus not only on improving the efficiency of core business processes but also on other activities, such as integrating the so-called silver economy into e-commerce or investing in e-innovations. A crucial area for enhancement emerges, namely, logistics organization.

Keywords: Electronic commerce, cross-border, sales, internet, barriers to growth.

JEL Classification: B27, F10, L81.

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1. Introduction

People have traded in goods and services across the globe since times immemorial (Puślecki, 2021). Commerce looked radically different several hundred years ago, given available tools and methods typical of those times. Over the years, commercial exchange processes have evolved and have been intrinsically linked to new achievements in sciences (especially economics) but also in technology (Sołdaczuk and Misala, 2001). We may definitely argue that trade has crossed borders for many past decades, albeit with varying intensity.

One of these breakthroughs took place in mid-20th century, when concerted and concentrated activities and operations related to logistics and transport to a single area were becoming widespread (Szymonik and Nowak, 2017). Previously, these operations were delegated to other departments in the same company, e.g., marketing or accounting, leading to a multitude of poor decisions. This systematisation of logistics operations (Skowronek and Sarjusz-Wolski, 2020) allowed businesses to streamline trade processes, especially in terms of speed, timeliness and reliability of delivery (Skowronek and Sarjusz-Wolski, 2020).

A genuine revolution in commerce, however, came slightly later – at the turn of the 21st century (Kotler and Stigliano 2023). Technological progress, particularly the rapid expansion of the Internet, created new and (as it turned out) conducive conditions for the so-called digital economy (Dębicka, 2011). Not only did the use of a global network serve IT-related purposes but it increasingly performed transactional, distributional or marketing functions (Talar, 2017).

Electronic commerce (*e-commerce*) is an important part of the digital economy; its unique qualities which set it apart from traditional commerce have enabled customers to order goods to their doorsteps from nearly anywhere in the world. Currently, more goods are being purchased from foreign sellers than at any point in human history, both globally and domestically (Grottel, 2018).

In light of the above, the aim of this article is to characterise the growth potential of cross-border e-commerce³ in Poland, as well as to identify basic issues facing this sector. Due to the broad scope of e-commerce and absence of reliable data, the recommerce market has been omitted from this study⁴.

This study uses secondary information sources, and the considerations and queries were made on the basis of a broad review of literature, reports and statistics from

³In this study, the term “e-commerce” is used interchangeably with the concept of “electronic commerce” and “on-line commerce”.

⁴Recommerce (reverse commerce) refers to all activities related to the sale of used products. By 2030, the value of this market is forecast to reach over 80 billion dollars, twice the value of the fast fashion market.

Poland's Central Statistical Office (GUS). The authors analysed and critiqued publications by employing the descriptive method, as well analysing data using the descriptive statistical method.

2. Key Concepts

Electronic commerce (e-commerce) comprises all procedures being part of commercial transactions performed with the use of electronic devices and their software. Online commerce on the World Wide Web (WWW) is the most common e-commerce method (Dobosz, 2012). Another definition of e-commerce refers to a category which encompasses all exchanges of goods and services between an organisation and any party which partakes in the exchange by electronic means (Chmielarz, 2007).

Electronic commerce can be defined as a method for doing business in a virtual IT space (Kare-Silver, 2002). In terms of participating entities, online trade transactions can be classified as follows:

- B2B (Business to Business), which involves commercial exchange between businesses;
- B2C (Business to Customer), which involves commercial exchange between a business and a consumer;
- C2B (Customer to Business), which involves commercial exchange between a consumer and a business;
- C2C (Customer to Customer), which involves commercial exchange between consumers (Niedźwiedziński, 2004).

At this point, the authors would like to refine the meaning of the adjective "cross-border" so that a complete set of key terms used in this study is available. Cambridge Dictionary defines this term as "between different countries, or involving people from different countries"

(<https://dictionary.cambridge.org/dictionary/english/cross-border>).

Cross-border trade takes place whenever:

- goods offered by the seller reach a foreign market;
- both the seller and the purchaser are located in different countries, use different currencies and different languages;
- the parties are governed by different laws.

Cross-border e-commerce involves the sale or purchase of products or services from online stores based in other countries (<https://www.fakturaxl.pl/co-to-jest-handel-transgraniczny>).

Overall, we may conclude that cross-border e-commerce happens whenever a customer buys goods or services online from an entrepreneur in another country or another jurisdiction (Pluta-Zaremba, 2017).

3. Conditions and Outlook for the Development of Cross-Border E-Commerce in Poland

Cross-border e-commerce has a number of strengths which determine its quick growth, as we shall see later on. First of all, it facilitates access to products from anywhere in the world, with no limits as to the time and place of the transaction, regardless of the seller's location. This enables customers to purchase products unavailable on local, regional or even domestic markets, to buy rare goods or purchase products at a lower price or of a higher quality (Pluta-Zaremba, 2016).

The entire e-commerce sector is thriving, fuelled by growing Internet and smartphone penetration, as well as by permanent changes in consumer behaviour by caused by the pandemic (PayU, 2022). In 2023, revenue on the e-commerce market (B2C) is predicted to rise to USD 3.58 trillion. Given the 2021 value of USD 3.23 trillion, we notice a high growth ratio (110.83) for the revenue over the past two years.

Subsequently, the revenue is expected grow at the annual rate of 11.19%, which will translate to a forecast market value of USD 5.47 trillion by 2027, and even USD 7.5 trillion by 2030. In addition, in 2027 the number of users at the e-commerce market will reach 5.29 billion, and their penetration ratio will be 57.2% in 2023, with a predicted 66.6% by 2027. Mean income per user will amount to USD 813.00 (<https://www.statista.com/outlook/dmo/ecommerce/worldwide>).

Therefore, the fact that entrepreneurs are drawn to this global growth potential should come as no surprise. More and more businesses are deciding to enter foreign markets to boost profits and gain competitive edge (<https://www.ideo.pl/e-commerce/wiedza/transgraniczny-e-commerce,113.html>).

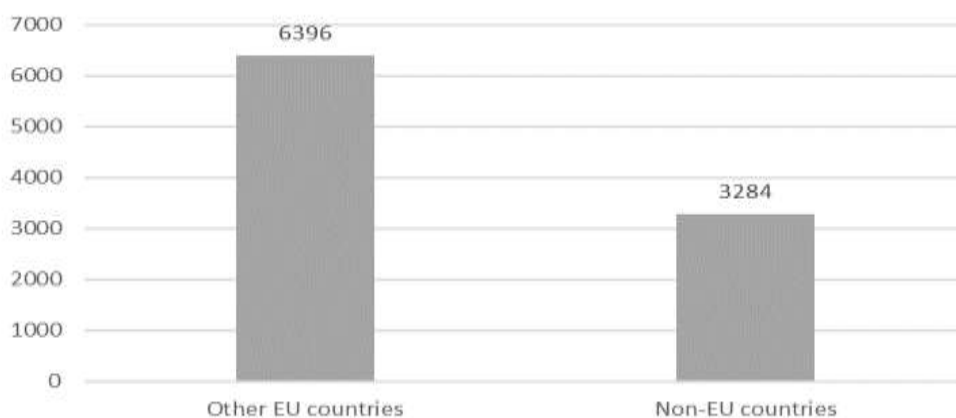
The Polish e-commerce sector is constantly developing and its value is rising year by year. It has already crossed the PLN 100 billion mark, and will reach over PLN 162 billion by 2026 (PwC, 2021). A different report suggests that 75% Internet users buy online from Polish stores, whereas 32% make their purchases on foreign websites. Thus, it seems that not only consumers but also online retailers are opening to new, international markets (Gemius, 2021).

Looking at data on cross-border e-commerce, one may undoubtedly argue that it is a growing phenomenon. The market is developing remarkably fast and is an important component of international trade even as of today. In 2021, its global value was USD 719 billion (Cinkciarz, 2023). By current estimates, in the years to come the market will grow at an annual rate of 25% (GVR, 2022).

In 2021, Polish cross-border e-commerce was already valued at PLN 61.47 billion, which made for more than 19% of the entire e-commerce market in Poland (Cinkciarz, 2023). Detailed analyses of the condition and prospects for the growth of cross-border e-commerce in Poland are presented below.

It is worth mentioning that Polish e-stores mostly choose to expand to West- and Central European markets. They occasionally cooperate with Asia, the United States or the Middle East, although the trend is also slowly changing (<https://www.ideo.pl/e-commerce/wiedza/transgraniczny-e-commerce,113.html>).

Figure 1. Total number of businesses selling online in 2021



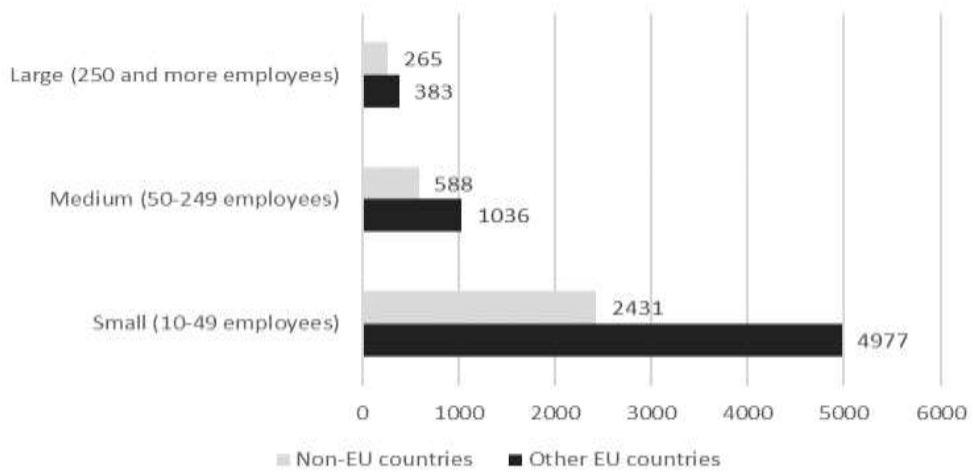
Source: Authors' own work based on data from GUS.

Businesses selling online on their own websites, applications, retail platforms, marketplace websites to customers based in other EU countries constitute 39.2% of all businesses in the e-commerce industry (16,304). Significantly fewer, i.e., 20.1% businesses, process orders from customers residing outside the EU. In 2019, total number of e-commerce businesses in Poland was reported at 16,008, an increase of 1.8 pp. over the space of two years.

Most Polish electronic commerce businesses operate in *trade and repairs* (7397, of which 46.2% in cross-border e-commerce) and in *industrial processing* (3756, of which 57.9% in cross-border e-commerce). In contrast, the lowest numbers are reported for the following types of economic activity: *water supply, sewage and waste* (87, of which 16% in cross-border e-commerce) and *electrical power, gas, heat* (7, with none in the cross-border e-commerce sector).

An analysis of the number of enterprises from the cross-border e-commerce sector according to NUTS 1 reveals that the majority of these entities are located in Mazowieckie Province (1961) and in the South Macroregion (1938).

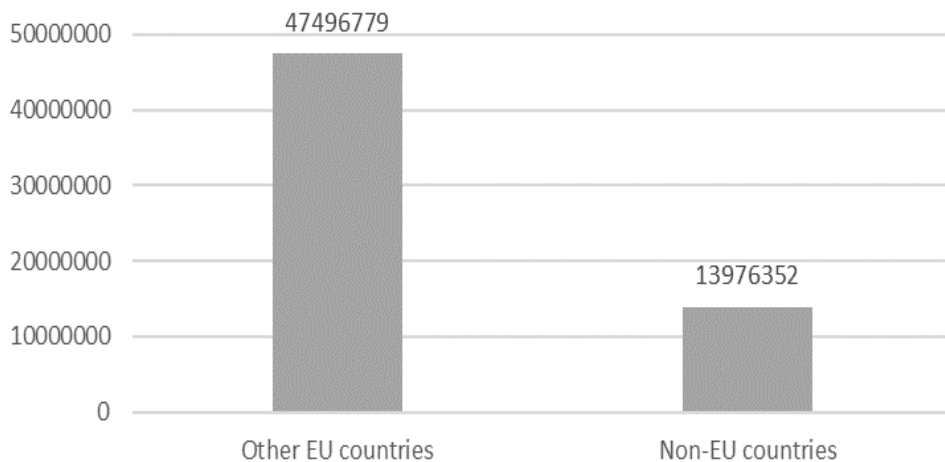
Figure 2. E-commerce businesses selling online in 2021 by business size



Source: Authors' own work based on data from GUS.

Businesses selling online on their own websites, applications, retail platforms, marketplace websites to customers residing in other EU countries account for a higher percentage than those selling to customers based in non-EU countries in all business types. Still, we may notice an interesting pattern. For small businesses the percentage is 39.4% (EU countries) compared to 19.3% (non-EU countries). Corresponding values are 38.2% and 21.7% for medium-sized enterprises and 39,3% and 27,2% for large businesses. Therefore, sales to customers from non-EU countries grows as the size of enterprise increases and the percentage of customers from EU countries remains on a similar level.

Figure 3. Total online sales revenue in 2021 (in thousand PLN)



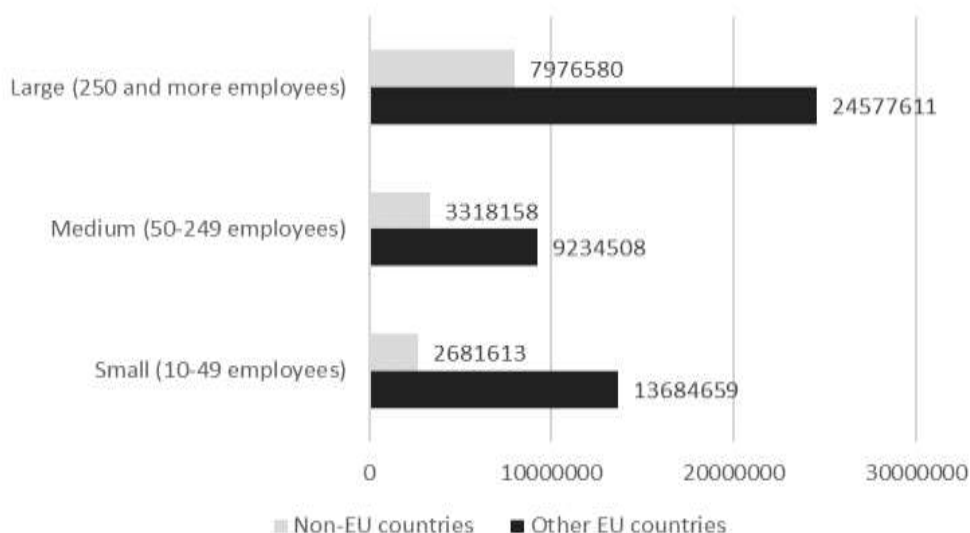
Source: Authors' own work based on data from GUS.

Net revenue from sales on own websites, applications, retail platforms, marketplace websites to customers based in other EU countries amounts to 14.80% of all net revenue in the e-commerce industry (PLN 320.86 billion). Much less (4.36%) revenue comes from online sales to customers outside the EU. In 2019, net revenue from total sales by e-commerce businesses in Poland was reported at a level of PLN 276.11 billion, which constituted an increase of 6.2 pp. over the space of two years.

The highest revenue from online sales was reported for *trade and repairs* (PLN 157.41 billion, of which 18.4% in cross-border e-commerce) and *industrial processing* businesses (PLN 86.62 billion of which 18% in cross-border e-commerce). In contrast, revenue was the lowest for *real property services* (PLN 402.97 million, of which 38.26% in cross-border e-commerce).

Analysing net cross-border e-commerce revenues according to NUTS 1, the authors found that the highest revenue was generated by enterprises from Mazowieckie Province (PLN 16.22 billion) and the South Macroregion (PLN 14.75 billion).

Figure 4. Total online sales revenue in 2021 by business size (in thousand PLN)



Source: Authors' own work based on data from GUS.

Net revenue from sales on own websites, applications, online sales platforms, marketplace websites to customers in other EU countries made for higher percentage than to customers in non-EU countries for all types of businesses.

For small businesses the percentage is 20.8% (EU countries) compared to 4.1% (non-EU countries). Corresponding values are 16.2% and 5.8% for medium-sized and 12.4% and 4.0% for large-sized businesses.

4. Challenges and Barriers to the Growth of Cross-Border E-Commerce in Poland

The Polish e-commerce sector clearly sees the potential in the development of cross-border transactions, as confirmed by many studies with relatively unanimous conclusions.

One of them was carried out by ARC Rynek i Opinia, a market research institute. From 31 August to 7 September 2022, ARC interviewed 1050 Polish adults aged 18-75 and found that last year 46% consumers in Poland purchased products and services abroad and 19% made their purchases abroad at least once a month within the past 12 months. The study also revealed a number of barriers to cross-border e-commerce.

As many as 39% respondents stated that were able to obtain all they needed from sellers based in their country. A further 35% claimed that the delivery time was too long. Of key importance to customers was also the trust for the brand of the payment service provider (88%), as well as the option to pay quickly by bank transfer (44%). With regard to purchases abroad, products most commonly bought by consumers included shoes, clothes, electronics and toys (PayU, 2022).

From April to June 2019, Internet Retailer and Global E-Commerce Leaders Forum conducted a study of 111 retail brands. It transpires that sellers refrain from operating on international scale, since they are afraid of failure to comply with product safety regulations, which vary across jurisdictions.

Moreover, online stores which do not follow the localisation principle in their implementation of international expansion strategies may (in some cases) lose access to over 80% of the market should they restrict their offered payment methods to credit cards issued by global payment providers (IGE, 2020).

Another study, conducted by Cinkciarz.pl in November to December 2022 on a sample of 372 business owners, identified most popular directions of foreign expansion. Specifically, it was found that Polish sellers most often sold to the European Union, especially Germany, France, Spain and other European countries outside the EU. Beyond Europe, a substantial proportion of those surveyed focused on overseas countries, mainly Canada and the United States.

Reasons for entering international markets included mainly the desire to boost income (43.1%) and the chance to tap greater demand abroad (31.4%). Cross-border expansion is also connected with the necessity to study the distinctive features of the market, meet additional requirement accept the higher costs of long-term presence on a foreign market. Of significance were also suitable (local) payment methods (18.5%), attractive prices (16.7%), as well as marketing activities (14.8%) (Cinkciarz, 2023).

In August 2022, a questionnaire survey was run in over forty Polish businesses which sell online, with questions concerning their experience with cross-border electronic-commerce. A certain pattern was observed, whereby those who had experience in opening new markets and cross-border sales chose to build on that strategy. Those without such experience did not risk growth in the past few months.

In addition, as many as 55% sold online to 5-9 countries outside Poland. Only 10% of the sellers operated only in their country. Logistics creates a considerable difficulty, mentioned by as many as 59% surveyed, followed by insufficient business knowledge of the market (36.4%). Other factors which inhibit growth on international markets include implementation issues with IT/e-commerce (36.4%), as well as problems with obtaining funds (Strix, 2022).

Data from the Central Statistical Office referred to problems with cross-border e-commerce only to a limited extent, i.e., to non-EU countries. Therefore, this section omits other, non-EU countries. Still, as shown in previous analyses, it is EU countries which are the main focus of Polish cross-border e-commerce, a finding that corroborates further considerations in this study.

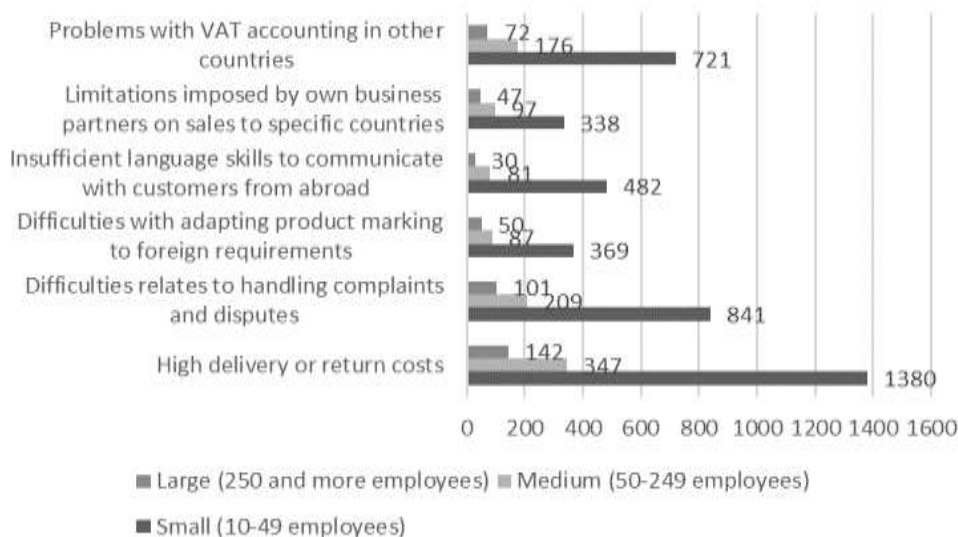
Figure 5. Total number of businesses encountering difficulties selling online to other EU countries in 2021



Source: Authors' own work based on data from GUS.

An analysis of the above data allows us to conclude that as many as 11.47% organisations (of all e-commerce businesses) mentioned high delivery or return costs as the most severe barrier. Limitations imposed by own business partners on sales to specific EU countries proved the least significant challenge and were brought up only by 2.95% respondents.

Figure 6. Businesses encountering difficulties selling online to other EU countries in 2021 by business size



Source: Authors' own work based on data from GUS.

The above data allows us to conclude that high delivery or return costs were the biggest challenge related to selling online to other EU countries for all businesses. Limitations imposed by own business partners on sales to specific EU countries were the least important obstacle (2.07%); in both the medium-sized and the large enterprise group, the least significant difficulty was lack of sufficient foreign language skills to communicate with customers from other countries (respectively 0.50% and 0.18%).

An analysis of difficulties related to online sales to other EU countries in 2021 by type of economic activity provides us with some relevant conclusions for the future. In *industrial processing*, the most problematic aspects included high delivery or return costs, as well as handling complaints and disputes. No significant barriers were reported in this area for *construction* and *real property services*. In *transport and warehousing*, lack of sufficient foreign language skills to communicate with customers from other countries was seen as the main barrier to cross-border e-commerce.

An analysis of difficulties in the cross-border e-commerce according to NUTS 1 enabled us to conclude that high delivery and return costs were perceived as the most severe impediment in all seven macroregions. Meanwhile, challenges related to product marking adaptation to the requirements of other EU countries was the least significant obstacle in the East, Central and Northwest Macroregion. The same could be said of restrictions imposed by their own business partners on sales to specific EU countries in East, Central and Northwest Macroregion.

5. Conclusions

Electronic commerce has been developing for many years in tandem with the rapid expansion of the Internet and its basic applications among a growing proportion of population. Entering the international market is increasingly seen as a sign of success. The ever-growing number of Internet users, generational changes, everyday comfort and convenience as more and more desirable values, as well as some entrepreneurs' innovative approach to running business, looking for new distribution channels to increase market share are only some factors stimulating cross-border e-commerce.

The COVID-19 pandemic with its series of lockdowns proved a breakthrough period for online retail. Many entrepreneurs accelerated the digital transformation by supporting the development of new retail channels, thereby anticipating their customers' expectations. This process took place in many countries worldwide, including Poland.

According to latest studies and reports, the percentage of online customers has doubled (i.e., changed from 45% to 87%), more than 58% Poles prefer online shopping as the optimum way of buying goods and services, and the number of Internet stores has risen by a factor of 2.5 – all of this within the past decade.

Other phenomena observed in the Polish e-commerce sector include the importance of trust and habits as criteria for selecting a specific retailer, an increase in the role of social media as a retail channel, the decreasing significance of price as the decisive factor in purchase decisions, growing salience of a clear complaint and return handling policy as key requirements, as well as the obligatory presence of solutions allowing purchasers to track the status of their order and shipment (e-Izba, 2023).

Polish cross-border e-commerce businesses most often direct their retail streams to EU countries, as confirmed by the analysis of net revenue from online sales. For large organisations, we notice a tendency to expand commercial transactions with countries outside the EU or even from other continents, e.g., the US, China or Canada. Still, Polish businesses should not sell only to customers in those jurisdictions, as countries such as India, Brazil, Nigeria or Turkey currently appear to be attractive and very promising e-commerce markets.

Our analysis indicates that the e-commerce sector offers multiple growth opportunities, especially in the trade and repairs category and the industrial processing category. Prospects for international on-line commerce are auspicious. Nevertheless, players in the sector must follow some essential principles.

First of all, they need to study the market and consumer habits. Equipped with the appropriate business knowledge on the distinctive features of a specific market and

consumer preferences, e-retailers will be able to select sales tools and technology better suited to their potential customers.

The most significant challenges for cross-border e-commerce include high delivery and return costs, as well as difficulties handling complaints and disputes. This, we notice a key area for improvement, i.e. logistics organisation. Ensuring effective and optimum supply chains combined with access to local payment methods and the use of artificial intelligence tools are the most important challenges in the nearest future.

In addition, focus on other activities, such as the inclusion of the so-called “silver economy” in e-commerce, investment in e-innovation or the general approach based on *customer experience* should enable businesses to win over hearts and wallets of 5 billion Internet users worldwide.

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