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The Modern Postal Market in the Light of the Distribution of Postal Services by Sea Freight

Keywords: Postal market, distribution, e-commerce, sea freight

Introduction

The purpose of the article is to present trends in the market for postal services and to indicate the efforts being made to distribute them with a particular focus on sea freight. The article will present data from market reports and updated information from industry leaders. The expertise of the author of this article was also utilised.

Mass transportation of goods is of great importance and influence on the global development of e-commerce. Hence, it is the driving force behind many of the world's economies but also the postal services carried out mainly by the CEP stream. The article poses the following research hypothesis: The growth of global e-commerce has a direct impact on the increasing demand for maritime transport. With reference to the stated goal and the hypothesis adopted in the article, the following research question was posed. What tools and methods have been adopted by the postal and transport industry to flexibly shape distribution and transport processes? In an attempt to answer this question, the article presents the characteristics of the Polish postal market, synthetically presents the principles and methods of distribution of postal services, and the essence of sea freight for this market.

Characteristics of the Polish postal market

The postal market in the 3rd decade of the 21st century is constantly undergoing significant and strong changes through external (market) factors primarily such as e-substitution or e-commerce and internal factors such as the adaptation of management processes to new tasks and new service formats. Together, these factors set trends for postal operators' operating strategies and determine the day-to-day operational activities carried out as part of their tasks. The new generation of retailing using stationary and online sales requires an integrated logistics network (omnichannel logistics) tailored to the needs of each individual channel while dynamically managing delivery and providing efficient customer service.[1]

In the literature, Aleksander Panasiuk defines the postal market as a process in which postal operators (entities that sell postal services) and buyers of these services (individual and mass customers) set the rules and scope of the services provided. Panasiuk also notes the important role of the state in shaping the market and the rules of its operation, which are expressed, among other things, by guaranteeing the universality of postal services. This is an issue that has a fundamental impact on the market behaviour and responsibilities of the designated operator in Poland.[2]

Andrzej Siniakiewicz, on the other hand, defines the postal market as the sphere of trading in postal services, where potential sellers and buyers exert mutual influence on each other, creating the level of demand and supply, and thus shape the price of these services.[3] The postal market can also be viewed as the totality of relationships between postal service providers (postal operators) and service recipients (customers). These relations are based on market rules, which must include, however, on the part of the state, a guarantee of the availability of these services for the entire population.[4]

Thus, the analysis of the postal market in Poland allows us to distinguish several groups of entities that make up the structure of the market. These include:

1 Anna Drab-Kurowska and Michał Kuściński, "Postal market solutions in the context of digital economy and megatrends. Example of the Polish market," in: *Innovation Management and Information Technology Impact on Global Economy in the Era of Pandemic: Proceedings of the 37th International Business Information Management Association Conference (IBIMA)* 37, ed. Khalid S. Soliman (Granada: International Business Information Management Association, 2021), 8613.

2 Aleksander Panasiuk, *Elementy marketingu usług pocztowych* (Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, 2000), 29.

3 Andrzej Siniakiewicz, "Poczta w warunkach gospodarki narodowej," *Technika i Eksploatacja poczty* 1 (1991): 9–10.

4 Grażyna Wolska, *Zmiany strukturalne rynku usług pocztowych w Polsce* (Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, 2005), 30–33.

- Individual customers as well as enterprises and institutions that are purchasers of postal services,
- State-owned and private postal service providers,
- Companies and enterprises from other business areas that support the activities of postal operators,
- Regulatory institutions (Office of Electronic Communications – Urząd Komunikacji Elektronicznej, UKE),
- The state, which shapes the principles of operation of the market, outlines its economic and legal framework, obliges designated enterprises to perform public tasks, not infrequently also deciding on investment projects in the area of postal infrastructure development; it should be added that the state is also, in many countries, the superior of public postal operators in the sense of owner supervision.[5]

Roman Czaplewski also distinguishes three basic segments of activity in the postal market such as:

a. Communication: movement and delivery of addressed mail, advertising, and newspapers.
b. Logistics: movement and delivery of parcels, courier shipments, bulky cargo.
c. Retail: a network of establishments providing postal services, financial services and the sale of goods.[6]

In the context of this article, all three of these elements determine the essence of postal service distribution. The functioning of the European postal market is also strongly influenced by the process of globalisation. It amends the rules of cooperation, leading to the expansion of the scope of entities operating in the Community postal sector to postal markets in other regions of the world. Such a process follows certain defined principles, including: the acquisition of postal networks already operating in other markets - postal networks, the creation of its own non-European network by buying out national or regional postal operators, courier companies, as well as the creation of organisations and agreements with global reach.[7] This is caused by the fact that not only the economy or the postal market is subjected to globalisation, but the problems that arise in this market, often also have a global character and need global solutions.[8]

5 Wolska, *Zmiany strukturalne*, 38.

6 Cf. Konrad Michalski, "Rynek pocztowy – przyczynek do badań z perspektywy zarządzania," *Ekonomiczne Problemy Usług* 130 (2018), 1: 90, DOI: 10.18276/epu.2018.130-09.

7 Anna Stolarczyk, "Rynek usług pocztowych, zarys problemów," *Telekomunikacja i techniki informacyjne* 3–4 (2004): 31, accessed 05 September 2022, https://www.itl.waw.pl/czasopisma/TiTI/2004/3-4/24.pdf.

8 Agnieszka Budziewicz-Guźlecka, *Oddziaływanie polityki społeczno-gospodarczej na zmiany polskiego rynku usług telekomunikacyjnych* (Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, 2019), 48.

In fact, the liberalisation of the European postal market began as early as 1997. At that time, the European Parliament and the Council of Europe issued Directive 97/67/EC, which defined the standard for postal services, authorised the reservation of selected services to the state operator and recommended the establishment of separate regulatory bodies for the postal market in each country. Another 2002 directive, No. 2002/39/EC, contained a plan for arriving at full market liberalisation, scheduled for 1 January 2009, through the gradual abolition of reserved areas in universal service. The 3rd directive of 2008 – 2008/6/EC changed this optimistic assumption – full market liberalisation was postponed by two years, and for the new member states by up to four years, to 1 January 2013.[9]

Since liberalization in 2013, the Polish postal services market has been on a path of continuous development. At the time, it was the site of profound structural changes also observed in other markets in developed countries: declining volumes of traditional postal services more than compensated for by rapid growth in e-commerce shipment volumes. The rate of growth of the total revenues of the operators operating on the Polish postal market has regularly significantly exceeded the rate of growth of the Polish economy as a whole in recent years. This was particularly evident in 2020 due to the COVID-19 pandemic and its consequences, which for the courier shipments segment in particular, as one of the few industries, provided a particularly favourable environment for even more accelerated growth.[10]

The nominal value of the Polish postal services market in 2021 exceeded PLN 12.8 billion, growing by nearly PLN 1.3 billion compared to 2020. Unlike last year, the increase in the value of the market this time was also accompanied by a noticeable increase in the overall volume of completed postal services, which reached a figure of 1.94 billion pieces in 2021, an increase of 3.2% year-on-year. The most important role in the market in 2021 continued to be played – as the designated operator – by Poczta Polska S.A., which provided 1,174.2 million services in domestic and foreign streams (60.7% share of total volume), which translated into PLN 5,154.6 million in revenue (40.0% share of total revenue). With respect to the previous year, the volume of services provided by the designated operator decreased by 7.2% and the value of revenues fell by 3.3%. In 2021, alternative operators provided a total of 760.9 million services in domestic and foreign trade (39.3% share of total volume), which translated into PLN 7,736.0 million in revenue (60.0% share of total revenue). With respect to the previous year, the volume of services provided by alternative operators increased by 24.8%

9 Anna Drab-Kurowska, "Proces liberalizacji rynku usług pocztowych w świetle regulacji Unii Europejskiej," *Informacja Pocztowa* 5 (2007): 1–12.

10 *Raport o stanie rynku pocztowego w 2021 roku* (Warszawa: UKE, maj 2021), accessed 2 December 2022, https://bip.uke.gov.pl/raporty/raport-o-stanie-rynku-pocztowego-w-2021-r-,63.html, 5.

and the value of revenues rose by 23.0%. Letter mail remained the most popular service in 2021, as in previous years, with 975.7 million pieces delivered, but this represented a 7.5% decrease compared to 2020, and translated into PLN 3,419.6 million in revenue (a 3.5% decrease).Meanwhile, deliveries of courier and traditional postal parcels totaled 805.2 million pieces in the year under review (an increase of 21.0%), which generated PLN 8,610.5 million in revenue (an increase of 18.6%), which means that 2021 was another consecutive year in which an increase in revenue from these services was observed.[11] The key drivers of the change in the value of the Polish postal services market are presented in Figure 1.

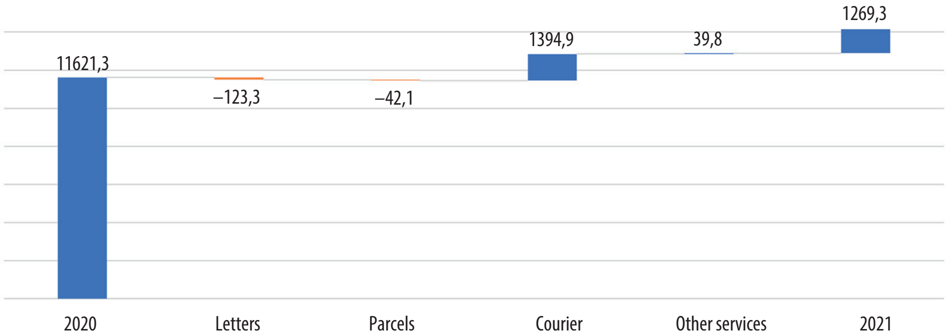

Figure 1. The key drivers of the change in the value of the Polish postal services market (PLN million)

Source: *Raport o stanie rynku pocztowego w 2021 roku*, 16.

The market in the area of courier and parcel services today, already generates more than 60% of revenues in the Polish postal services market. This is evidenced by the results achieved by the courier industry in 2021 (PLN 1.4 billion revenue growth in 2021 against PLN 1.6 billion in 2020). The volume of delivered parcels increased in 2021 by almost 141 million pieces compared to 2020, reaching a figure of more than 770 million pieces, which means that in 2021 an average of more than 2 million courier parcels already reached the hands of Poles every day (the barrier of 1 million per day was exceeded in 2018).[12] The value of the postal services market by postal market segment in 2019–2021 in relative terms, is presented in Figure 2.

11 *Raport o stanie rynku pocztowego*, 6.

12 Przemysław Cząstka, *Dwa miliony przesyłek dziennie*, UKE, accessed 05 September 2022, https://www.uke.gov.pl/blog/dwa-miliony-przesylek-kurierskich-dziennie,55.html.

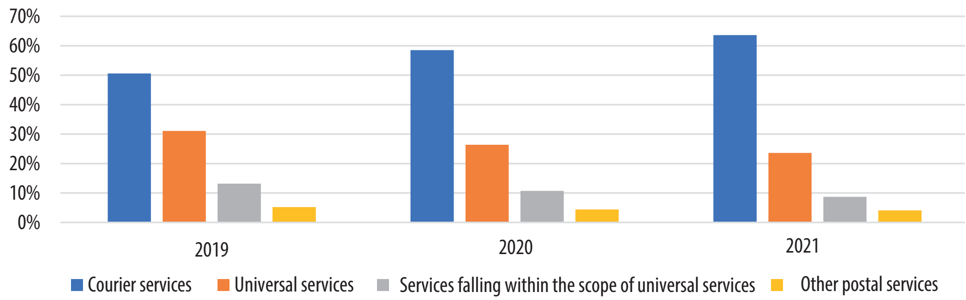

Figure 2. Value of the postal services market by postal market segment in Poland in relative terms in 2019–2021

Source: *Raport o stanie rynku pocztowego w 2021 roku*, 19.

Despite such increases, the Polish postal services market has significant prospects for further growth. E-commerce industry analysts claim that growth trends, albeit at a more modest rate than in the pandemic, will continue even after the pandemic ends, which will translate into demand for courier services. If forecasts about the growth dynamics of the value of the Polish e-commerce market prove true, the volume of courier shipments in the next 2–3 years may even increase to a value already in the range of 0.9–1 billion shipments per year.

To summarise this analytical part, Table 1 presents the largest operators in Poland in the field of CEP shipments in 2021 in terms of generated revenue and volumes.

Table 1. Leading postal operators in the courier segment

VOLUME				REVENUE			
No.	Operator's name	domestic traffic	cross-border traffic	No.	Operators name	domestic traffic	cross-border traffic
1	InPost sp. z o.o.			1	InPost sp. z o.o.		
2	DPD Polska sp. z o.o.			2	DPD Polska sp. z o.o.		
3	Poczta Polska S.A.			3	GLS Poland sp. z o.o.		
4	GLS Poland sp. z o.o.			4	UPS Polska sp. z o.o.		
5	UPS Polska sp. z o.o.			5	FedEx Express Poland sp. z o.o.		
6	FedEx Express Poland sp. z o.o.			6	Poczta Polska S.A.		
7	DHL*			7	DHL*		

(*DHL Parcel Polska Sp. z o.o. and DHL Express Poland Sp. z o.o.)

Source: *Raport o stanie rynku pocztowego w 2021 roku*, 25.

The above shows that the national postal operator in terms of volume handled ranked 3rd in 2021 while in terms of revenue it only ranked 6th. This undoubtedly demonstrates the strong competition in the courier market and the dominance of operators who are not obliged to bear the costs of providing universal postal services. The above table is also intended to show the position of the Polish national postal operator against the background of global market players who mainly serve the CEP market.

When analysing the postal services market, it should be noted that a very important factor is the progressive process of e-substitution caused by the technological revolution, which has had a gigantic impact on changes in the way we communicate – from the replacement of paper bills for the provision of various services with their electronic versions, to new forms and tools of communication, such as smartphones. Changes in this area are occurring so rapidly that e-mail is now becoming more of a tool used exclusively in business or public administration and local government, rather than in interpersonal communication, where it is increasingly being replaced by instant messengers (e.g., WhatsApp) or social media (Facebook, Twitter, Instagram).

As a result, it is not profitable for private companies to invest in the letter services market, which is shrinking every year.

In a liberalised postal market, however, operators pursue the most valuable institutional customers, guaranteeing bulk mailings in the thousands or millions, as well as e-commerce customers.[13] This is now the basis for any post office to run a stable business. To illustrate the mega trends, Figure 3 presents a summary of the value of global e-commerce, which includes the potential of each world region in this area in 2020. Such statistics undoubtedly determine the choice of means of transportation of ordered goods and their further distribution to the final customer.

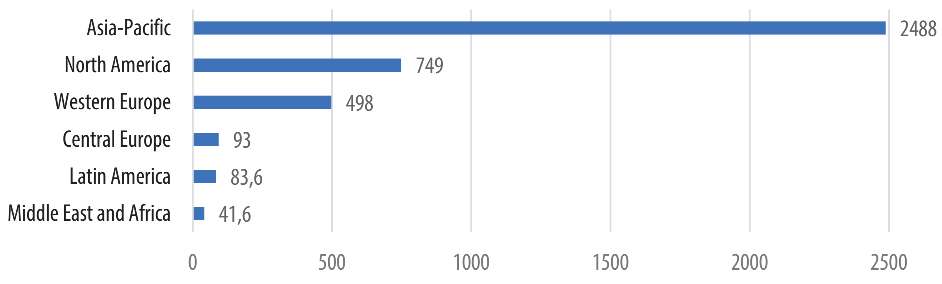

Figure 3. E-commerce sales forecast in 2020 (USD billion)

Source: Katarzyna Mokrzycka, *Polski e-commerce w 2020 r. jest wśród najszybciej rosnących rynków w Europe* [RAPORT 300RESEARCH], 26 listopada 2020, 300 GOSPODARKA, accessed 30 December 2022, https://300gospodarka.pl/300research/wartosc-rynku-e-commerce-na-swiecie-w-tym-roku-przekroczy-4-bln-dolarow-raport-300research.

13 Anna Drab-Kurowska and Wojciech Drożdż, "Digital Postal Operator as an Important Element of the National Energy Security System," *Energies* 15 (2021), 1: 231.

And according to the Global Ecommerce Forecast 2021 report, after global e-commerce grew 25.7% in 2020 to USD 4.213 trillion, analysts expect global e-commerce retail sales to grow another 16.8% in 2021 to USD 4.921 trillion. As in 2020, the Asia-Pacific region and North America led the regional e-commerce retail sales rankings in 2021. China's excessive role means that the Asia-Pacific region will account for 60.8% of global e-commerce retail sales in 2021. North America will have a 20.3% share and Western Europe 12.6%.

Rapid technological change has forced postal operators to adapt their services to the needs of the information society, take advantage of new economic opportunities and pay more attention to emerging and rapidly-growing direct and indirect competition.[14] Postal services are, therefore, services of general economic interest. They are an important communication tool, providing social benefits. They are also an important element of communications and trade [15] and a response to the development of worldwide globalisation.

Distribution of postal services

The postal service is primarily the performance in domestic or cross-border traffic of activities carried out jointly or separately involving, among other things, the acceptance, sorting, movement and delivery of postal items. The activities refer to the operational recognition of the postal item. This service, due to its widespread use, utilises various modes of transportation that offer the relatively lowest price compared to the proposed postal service. In general, the choice of transportation depends not only on the economically-reasonable value, but depends largely on the timing of its delivery and the operational capabilities of postal operators. The quality of the postal service, on the other hand, is expressed in the fulfilment of expectations in relation to the time of delivery.

With regard to the distribution of postal services, it is important to emphasise the importance also of the role of the performance of the universal postal service for which the Designated Operator in Poland is responsible. It is selected for a period of 10 years by the President of the Office of Electronic Communications, by decision, from among postal operators selected through a competition announced by the President of the Office

14 Anna Drab-Kurowska and Agnieszka Budziewicz Guźlecka, "The Digital Post Ecosystem—Example of Poland in the Context of Research," *Sustainability* 13 (2021), 5: 2550–2565, DOI: https://doi.org/10.3390/su13052550.

15 *Raport z badania społecznego zapotrzebowania na usługi powszechne* (Warszawa: UKE, listopad 2021), accessed 2 December 2022, https://www.bip.uke.gov.pl/raporty/raport-z-badania-spolecznego-zapotrzebowania-na-uslugi-powszechne,52.html, 5.

of Electronic Communications. Poczta Polska S.A. was designated to provide universal service from 1 January 2016 to 31 December 2025.[16] Here, it is necessary to outline the scope of their provision, as well as other responsibilities that come with the role of the National Postal Operator to citizens. As a consequence of the above, the parameter of accessibility can be considered from several perspectives as spatial accessibility,[17] temporal accessibility[18] and economic accessibility,[19] which undoubtedly defines the aspect of postal service distribution capability.

Spatial and temporal accessibility are defined in detail in the Regulation of the Minister of Administration and Digitisation of 29 April 2013. The regulation provides a detailed method for the distribution of post offices of the designated operator (i.e., the conditions for accessibility to universal service in the national territory, which have already been referred to when analysing the essence of the universal service, i.e.:

1. One permanent office of the designated operator, when counting a mean for the country, per 6,000 citizens in towns and cities.
2. One office of the designated operator, when counting a mean for the country, per area of 85 km^2 in rural settings.
3. At least one permanent post office of the designated operator should be opened in each municipality.
4. Post offices of the designated operator should be open on all working days, except Saturdays, at least 5 days a week, and if the week includes a public holiday, the number may be correspondingly lower.

In addition, according to the cited regulation, the designated national postal operator provides at least one emptying of the outgoing mailbox and delivery of mail at least every working day and no less than 5 days a week.

The President of the Office of Electronic Communications may by decision establish, ex officio or at the request of the designated operator, a derogation from the obligation to provide universal service in a specific area.[20] When making such a decision,

16 *Co to jest usługa powszechna?* Centrum Informacji Konsumenckiej, accessed 01 December 2022, https://cik.uke.gov.pl/.

17 The indicated standards of spatial accessibility were not developed on the basis of objective premises, resulting, for example, from a study of the demand for services; rather, they take into account the structure of the postal network from the period of development of legal acts regulating these issues, as well as formal aspects resulting from the current administrative division of the country – hence, the requirement for at least one post in each municipality.

18 In some EU countries, mountain regions are excluded from public operator service during the winter.

19 Economic accessibility in both Polish and EU regulations does not specify its definition or how to measure it, except for the wording that prices must be affordable and allow all users access to universal postal services.

20 Applies to the frequency referred to in Article 46(2) (5), or in compliance with the postal run time indicators referred to in the implementing regulations issued pursuant to Article 47 (1), or in compliance with the method of arrangement of post offices referred to in the implementing regulations issued

the President of the Office of Electronic Communications takes into account the factors determining the conditions for the provision of universal service in a given area, in particular:

1. Current demand for universal service,
2. Geographic conditions which have a significant impact on making postal communication with human habitats difficult,
3. Population density in the area,
4. Profitability of universal service.

As previously mentioned, postal services are carried out in domestic traffic, with their distribution taking place mainly by means of vehicles such as bicycles, mopeds, vehicles up to 3.5 t and over 3.5 t, and is carried out by employees in the positions of drivers, letter carriers and couriers. International shipments, on the other hand, encompass the area of a minimum of two countries. These usually involve continental areas or the entire world. In this case, it is a network of transport links employing each mode of transport. Considering in particular the distribution of postal services in the international aspect, attention should be paid to the mentioned trends in this market, i.e., globalisation enabling the dynamic development of e-commerce, in particular on the Asia-Europe route. In this regard, we are dealing with two axes of major transport routes: The Silk Road from China to Europe by rail[21] and the maritime route, whose general characteristics will be outlined later in the article.

Sea freight

Apart from the carriage itself, sea freight can also include the formalities of arranging transport as well as loading and unloading and, naturally, the preparation of customs documentation. A freight forwarder can also arrange for the storage of goods, as well as their distribution. Clearly, all these services affect the total cost. Also worth noting is that freight now refers to more than just ships, and the term is also used in the context of air, rail and truck transport[22]. Maritime transport plays and will continue to play a fundamental role in global and European trade and the economy. 77% of European external trade and 35% of overall trade between EU member states is carried out by sea. Maritime transport is therefore a key component of the international supply chain.

pursuant to Article 47 (3). Dz. U. (Journal of Laws) of 2012 item 1529, dated 23 November 2012, with the amendment of the ACT in Dz. U. of 2022, No. 896, dated 23 March 2022.

21 The New Silk Road is a pivotal rail route for trade between China and Europe. As estimated by Bain Co., trains on the China-Europe line carried about 1.46 million containers in 2021, transporting goods worth about $75 billion, or about 4 percent of the total value of trade between the Old Continent and the Middle Kingdom.

22 *Czym jest fracht morski?*, PFC, accessed 18 December 2022, https://pfc24.pl/czym-jest-fracht-morski/.

In spite of a decline in shipping activity in 2020, due to the effects of the COVID-19 pandemic, the sector is anticipated to grow strongly in the coming decades, fueled by increasing demand for products.[23]

The maritime economy is also likely to become one of the drivers of economic growth in Europe over the next several years. This is also the perspective of the European Union, recognising in the blue economy the potential to improve the economic situation of member states, including Poland. Blue growth should take place under conditions of sustainable development, which means improving economic performance whilst taking care of the environment, employees and local communities.[24] We should emphasise that maritime transport is among the most popular modes of transport for the procurement of goods for the automotive industry, machinery, components, cars, raw materials and e-commerce service, a natural associate of the postal service.

There are several types of maritime transport in the forwarding of the above-mentioned industries, i.e.:

– Full Container Load (FCL),
– Less Container Load (LCL),
– Multimodal Transport (carriage of goods using two or more modes of transport, e.g., air transport, road transport, rail transport).[25]

Examining the types of maritime transport in more detail, we can distinguish cabotage which covers all ports of a country. It is essential for a territory characterised by a particularly long coastline, where it can be used as a means of internal transport. This mainly concerns China and the US. Linear services, which include transport from port to port "in a straight line." This is exceptionally important for regular shipping of e-commerce shipments. There is also tramp shipping, which is the inverse of linear. It mainly applies to incidental transports representing an alternative, mainly to vehicles. It is employed for very large loads and mainly when standard modes of transport are inefficient.

Thus, maritime transport is a type of transport in which time is of secondary importance. It is applied in courier, logistics services for the transportation of high-volume consignments or shipments of unusual dimensions, where other means of transport are excluded.[26] It should be noted that Polish seaports have an increasingly important role

23 *Pierwszy europejski raport o wpływie transportu morskiego na środowisko*, IMGW, accessed 01 December 2022, https://www.imgw.pl/wydarzenia/emter2021-pierwszy-europejski-raport-o-wplywie-transportu-morskiego-na-srodowisko.

24 *Corporate social responsibility & Responsible business conduct*, European Commission, accessed 01 December 2022, http://ec.europa.eu/growth/industry/corporate-social-responsibility/.

25 *Kiedy warto wybrać transport morski i jakie są zalety transportu morskiego?*, OMIDA, accessed 21 December 2022, https://seaandair.pl/blog/co-to-jest-transport-morski/.

26 Józef Frąś, Marek Siwkowski and Marek Matulewski, "Zarządzanie dystrybucją usług na rynku pocztowym," *Zeszyty Naukowe Uniwersytetu Szczecińskiego* 855, *Finanse, Rynki Finansowe Ubezpieczenia* 74 (2015), 2: 295–302, DOI: 10.18276/frfu.2015.74/2-26.

in the development of sea-land intermodal transport chains. Particularly noteworthy are the container terminals within ports due to the wide range of investments and the very high growth rate of container turnover in recent years. The increase in sea freight from the Far East also creates opportunities for both the development of seaports, such as Gdańsk, as natural hubs for handling container cargo in Central and Eastern Europe.[27] In this context, it also seems important to refer to the forecasts of global demand for cargo transportation in each transport industry in Poland until 2030,[28] as included in Table 2.

Table 2. Global cargo services demand forecast by 2030

Transport industry	Years		
	2015	2020	2030
Transport in million tons			
Rail	211.0	225.0	261.0
Car	1,643.0	1,800.0	2,075.0
Inland	6.1	8.5	14.0
Pipeline	54.0	56.0	66.0
Maritime	52.0	60.0	81.0
Air	0.1	0.1	0.2
Transport in billion tkm[29]			
Rail	46.0	50.0	62.0
Car	279.0	321.0	405.0
Inland	1.4	1.6	3.2
Pipeline	23.0	23.0	26.0
Maritime	110.0	123.0	159.0
Air	0.2	0.3	0.6

Source: Jan Burnewicz, "Prognozy zapotrzebowania na usługi transportowe w Polsce do 2020 roku," in: *Uwarunkowania systemu transportowego Polski*, eds. Bogusław Liberadzki, Leszek Mindur (Warszawa–Radom: Instytut Technologii Eksploatacji, 2007), 132.

Maritime transport is considered one of the fastest growing. It is estimated that between 2015 and 2030, transport will increase from about 44% to 56%, depending on how

27 Jerzy Wronka, *Polskie porty morskie w morsko-lądowych intermodalnych łańcuchach transportowych* (Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, 2017), 10.

28 Agnieszka Budziewicz-Guźlecka and Anna Drab-Kurowska, "Selected aspects of corporate social responsibility in maritime freight services on the example of selected courier companies," *SHS Web of Conferences* 58 (2018): 01003.

29 Tonne-kilometres (tkm). The sum of freight turnover in freight transport by types of freight transport, i.e. rail, road, European, inland waterway and sea transport.

transport is measured. This perspective is reflected in the behaviour of market players. Sea freight services are one of the core services offered by leading postal operators. The increased interest is attributable to, among other things, the need to reduce transaction costs, as well as the growth of international trade. International business and trade are largely dependent on global shipping, which, as part of the logistics chain, determines the efficiency of global trade.

The dominant enterprises in the field of global distribution of postal services, including the CEP segment whose rapid development is ensured by e-commerce, are global brands that provide diversified services in this area, making use of, among other things, maritime transport. Analysing the Report on the State of the Postal Market in Poland in 2021, courier shipment volumes, especially in cross-border traffic, including those transported by sea, accounted for less than 5% in 2021, as shown in Table 3.

Table 3. Courier shipment volumes in 2019–2021

	2019	%	2020	%	2021	%	2020/19	2021/20
Country	415.5	94.3	605.0	95.2	738.4	95.2	45.6	22.1
Cross-border, including:	25.3	5.8	30.6	4.8	37.6	4.8	26.0	22.8
outgoing	16.1	3.7	22.7	3.6	25.2	3.2	24.0	10.8
incoming	9.2	2.1	7.9	1.2	12.5	1.6	29.5	57.3
TOTAL	440.9	100.0	635.6	100.0	776.0	100.0	44.5	22.1

Source: *Raport o stanie rynku pocztowego w 2021 roku*, 26.

In the period under review, the courier market grew steadily, both in terms of volume and revenue, in both domestic and cross-border traffic. The largest increases were observed in 2020, i.e., the year in which many restrictions were imposed on social and economic life following the COVID-19 pandemic.

We should also note that the most popular direction from which general cargo is transported is China. Maritime transport dominates here. In this case, there is no requirement to load at least one specially-dedicated container. Individual consumer orders – parcels can also be located with other goods in a container. Such transport to Poland takes between 33 and 45 days. Shipments from China by sea usually arrive at the port of Gdynia,[30] then undergo a customs procedure. The postal operators also receive shipments to Poland from German or Benelux ports. However, the total transport costs may be higher in this case.

30 The port of Gdynia transhipped 26.686 million tons of cargo in 2021, an increase of 8.2% compared to the previous year which also ended with a record. An increase in handled volumes was evident in specific cargo categories, such as general cargo (16.1 million tons, up by 14%).

Thus, sea freight is reserved for cargo for which the addressee does not expect delivery earlier than 30 days from the ship's departure from a Chinese port and the goods do not belong to the "time-sensitive" group. Moreover, an essential component of the transaction in addition to the price and commodity specifications are the terms of transport, i.e., who pays for the transport, or how costs and risks are shared between the counterparties. In this context, the answer is the Incoterms®, which are not legally required, although highly recommended. Freight forwarders and transport enterprises are excluded from the application of the terms. The Incoterms® cannot override any obligations or rights – they are only part of the entire export contract. Price, method of payment, transfer of ownership, breach of contract and product liability are all issues that must be addressed in a sales contract. Priority over Incoterms® will always rest with local or international legal standards.[31] Of the 11 current Incoterms® 2020, four are dedicated exclusively to maritime and inland waterway transportation i.e., FAS (Free Alongside Ship), FOB (Free on Board), CFR (Cost and Freight), CIF (Costs, Insurance and Freight). The remaining terms can be applied to all modes of transportation. Whereas, if there is any discussion of risks in maritime transport, it is certainly necessary to mention maritime insurance as well. "General average" is the decision of a ship's captain to sacrifice part of the cargo or ship or to incur extraordinary expenses in order to save from imminent danger all the property engaged in a sea expedition. The cost of general average is borne pro rata by each owner of the saved cargo. It is described in law in the Maritime Code, while the specific terms and conditions should be included in the contract of carriage by sea. The tool for determining the extent of general average is the so-called York-Antwerp Rules. "Particular average," on the other hand, is the damage suffered by a ship or cargo during a sea voyage due to some event (accident), in addition to ordinary damage (caused by wear and tear) and damage related to general average, particular average can be attributable to: acts of God or culpable acts of persons (errors in navigation, theft, etc.), natural properties or defects in the substance of the cargo carried. The consequences of a particular average are incurred by the owner of the goods and the shipowner.

Thus, in the activities of all maritime transport operators, extensive measures can be observed to reduce the risks involved. In addition, the potential as well as the opportunities for the continued development of maritime transport in postal operations were identified. Special attention is paid below to selected market players offering sea freight as part of the distribution of postal services.

31 *ABC Eksportu Incoterms® 2020*, PAIH, accessed 19 December 2022, https://www.paih.gov.pl/abc_eksportu/incoterms.

Selected examples of sea freight organisers for postal services

Sea freight is particularly popular because of its cost-effectiveness. On top of that, as already mentioned, sea freight is the cheapest of the available options for shipping bulk goods in intercontinental transport. In addition, shipments of various dimensions, including oversized, can be transported by sea. Thus, the logistics market offers many solutions focused on international exchange of postal items but also its strength is the global companies in the industry.

The DHL Group is an example of a maritime freight leader in the postal industry, leveraging the option of full container load (FCL), shipping by sea to provide customers with reliable, flexible and cost-effective transportation around the world. It offers tailor-made alternatives for the transportation of all kinds of goods using different types of equipment and capacities. As part of its worldwide network, it operates 45,000 connections through nearly 2,800 scheduled direct voyages per week, reaching all major ports and inland transshipment points. Thus, it can ensure predictability of the supply chain, deadlines and commitments to end customers.[32]

Another player in the sector is FedEx. As part of its comprehensive international shipping program, FedEx Trade Networks offers sea freight services connecting North America, Latin America, the Asia-Pacific region, Europe and the Middle East. Taking advantage of the capabilities of regional marine terminals, wide sailing opportunities each week and privileged relationships with multiple shipowners, it maximises transportation flexibility while keeping costs in check.[33]

On the other hand, GlobKurier Freight & Forwarding has a rich logistical background consisting of experienced freight forwarders and logisticians who organise the shipment or collection of cargo and goods in cooperation with courier companies even from the farthest corners of the world in a maximally-optimised time providing services related to, among other things, freight transport by sea, rail, road and air.[34]

Hellmann Worldwide Logistics Polska, which is actually hard to call a transport or courier entity, is one of the largest international logistics service providers that handles a very wide range of maritime transportation of mainly large shipments. We should also emphasise that each of the presented companies provides customs and forwarding services, as part of their services.

32 *Ładunek niepełnokontenerowy (LCL),* DHL.com, accessed 01 December 2022, https://www.dhl.com/pl-pl/home/nasze-dywizje/spedycja-miedzynarodowa/transport-morski/ladunek-niepelnokontenerowy.html.

33 Drab-Kurowska, "Selected," 01003.

34 *Cennik usług transportowych i spedycyjnych*, Globkurier.pl, accessed 19 December 2022, https://www.globkurier.pl/cennik/uslugi-transportowe-i-spedycyjne.

Conclusion

Summarising the activities in the area of distribution and transport of postal services by sea freight, it is possible to note several factors that determine the development of this type of transport. First of all, the main contributing factor is the growth of e-commerce and the courier shipments generated by this channel, both by individual customers and in the B2B segment. Sea freight is mainly used by global participants in the postal market. Hence, the distribution of postal services through this channel is not dominant in the context of the mode of transport in favour of road or air transport, which instead favours the distribution of postal services with a higher time standard, but at a significantly higher cost.

Among the tools and methods that have been adopted by the postal and transport industry in order to flexibly shape distribution and transport processes, the following can be mentioned:

1. Well-developed logistics for the provision of services on time in line with customer expectations.
2. Supporting logistics activities with the necessary IT systems that consolidate the national and international supply chain.
3. International cargo consolidation.
4. Unification of collective packaging in international and domestic CEP transport.
5. Adaptation of postal services to legal and organisational requirements used in international trade.

Further research on the postal services market in the international aspect should focus on improving supply chains, in particular on reducing their costs. The instability of the global economy will encourage companies to shorten intermediate links in order to maintain margins with constantly increasing prices of services. Although sea freight is currently experiencing a slight slowdown due to global turbulence, e-commerce will continue to grow over the coming decades, but with varying intensity. However, its handling will become the dominant task of postal operators.

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English version: Mark Atkinson

SUMMARY

The article points out the main trends that dominate the Polish postal market and presents the types of sea freight, including especially those used by postal service distributors. Examples of the cost and risk safeguards that should accompany sea freight are also indicated.

Współczesny rynek pocztowy w świetle dystrybucji usług pocztowych drogą morską

Słowa kluczowe: rynek pocztowy, dystrybucja, e-commerce, fracht morski

STRESZCZENIE

W artykule wskazano główne trendy dominujące na polskim rynku pocztowym oraz przedstawiono rodzaje frachtu morskiego, w tym w szczególności te wykorzystywane przez dystrybutorów usług pocztowych. Wskazano również przykłady zabezpieczeń kosztów i ryzyka, które powinny towarzyszyć frachtowi morskiemu.

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