The effects of innovative solutions implemented in the supply chain of the public postal operator in Poland

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Abstract

Transformations on the postal market that have occurred since the end of the 1990s extorted Poczta Polska S.A. from implementation of changes in many areas of its activity. The purpose of these transformations is to adapt to new legal requirements, technical and technological changes and to cope with the growing competition within the postal market. Factors playing an essential role with regard to the above are initiatives taken and innovations implemented in the postal logistic chain, without which the postal operator could not operate and which contribute to the diversification of provided services. The purpose of this article is to present and assess the changes in the postal created and implemented by Poczta Polska.

Keywords: innovation, public postal operator, postal logistic chain

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Introduction

The supply chain has been defined as “three or more companies (suppliers, focal company, and customer) linked together by flows of products, services, information, and finance, which may include manufacturing (Mentzer et al. 2007: 507).” Another definition states that the supply chain “covers all activities associated in acquiring and moving produce/services from source to end user. Extraction (mining, quarrying, drilling for minerals), growing, producing through manufacture raw materials, components, work in progress through to finished goods to be distributed and delivered to the customer and lastly to the customer (Hines 2004: 378).” A public postal operator is one of entities having a developed supply chain. Due to the changing legal and economic conditions, the post supply chain becomes to an increasing extent a part, with regard to the performed services and logistic operations, of the Polish open logistics system, both in terms of traditional postal services as well as services within the transport, forwarding and logistics market or services provided using modern information and communication technology.

The presented thesis is a consequence of the changing social, legal and economic reality which directly affects the market of postal services and indirectly affects the Polish logistics system. The subject changes constitute a purposeful stimulated evolution which mainly results from the EU legal regulations, i.e. I (EU Official Journal 1998), II (EU Official Journal 2002) and III Postal Directive (EU Official Journal 2008) and their implementation in the legal systems of Member States. The third of the abovementioned directives specified the procedures for the complete liberalization of the postal market and determined the deadline for the complete opening of the common market on December 31, 2010 with a possibil-
ity to postpone the date by Member States to the end of 2012.

Complete liberalization of the postal services market was implemented from January 1, 2013 in Poland - according to the abovementioned regulations, the last area of the postal market reserved for the public operator (mail weighing up to 50 grams, the area which constitutes ca. 75% of the postal services market and generated half of the revenue in this sector according to the Office of Electronic Communications - OEC) was opened (Wolny rynek ... 2013). However, pursuant to the statement of the President of Poczta Polska S.A. quoted by the press: “The last letter will be sent in 2025” (Miączyński and Kostrzewski 2014. The presented statement is reflected in the results of the reports concerning the condition of the postal market,\(^\text{10}\) which indicates a downward trend in the traditional area of postal services but also an increase in the KEP (courier, parcel and express delivery services) area. The analysis presented in the abovementioned reports indicates more real threat to Poczta Polska S.A. which results from the complete liberalization and dynamic entry of private operators into the previously reserved market of postal services.\(^\text{11}\)

The liberalization of the market and substitutability of postal services has a broader impact on the economy, the structure of entities operating within this market changes as well as the share in particular segments of the provided postal services. Moreover, a new segment of services related to the communication and exchange of information using ICT was created and it develops dynamically as well as the difference between the system of postal logistics and TSL market blurs in favour of the integrated logistic system. The purpose of the transformation is to adapt Poczta Polska S.A to new legal requirements, technical and technological changes as well as to meet the growing competition within the postal services. Crucial are the realized and taken initiatives concerning diversification of services and an effective use of owned resources as well as innovations implemented in the postal logistic chain, without which the functioning of the postal operator would be impossible. The article shows the problems concerning the changes within the postal delivery chain taken and implemented by Poczta Polska and assesses the resulting benefits.

Restructuring and liberalization of the postal services market

New conditions which are favourable to the increase of competition were created when Poland joined the European Union and it resulted in the need to adjust the domestic market of the postal services market to the EU requirements, including the rules specified in Directives aiming at full liberalization (Directives 2008). Activities in this field were taken by the authorities within the period preceding the accession and it was reflected by adoption of the Postal Law Act of June 12, 2003 (Postal Law Act 2003). This Act severely limited the scope of postal services which were reserved by law to be provided by a public operator.\(^\text{12}\) Reduction of the reserved area constituted a direct reason for development of competition in the postal market and it resulted from a significant weakening of the position of Poczta Polska S.A. (Supreme Audit Office 2012). This situation is reflected in the increase of the

\(^{10}\) See http://www.uke.gov.pl/poczta-845 (available on: March 9, 2014) The scope of duties of the OEC President includes, among others, preparation and publishing an annual report on the state of the postal services market in Poland.

\(^{11}\) An example of effective operations of competition within the part of the market which was operated by Poczta Polska S.A. up to now can be as follows: Polska Grupa Poczta which, upon winning a tender, signed a contract with the Treasury - the Court of Appeal in Cracow and the Public Prosecutor General last year on handling correspondence from common courts and prosecutors’ offices. A two-year contract which entered into force in January 2014 is worth ca. PLN 500 million. PGP will deliver, during the term of the agreements, over 100 million shipments, that is on average more than 4 million letter, parcels and courier mail within Poland and abroad monthly (Onet.biznes 2014).

\(^{12}\) A weigh limit of 50 g as well as price limit of up to 2.5 times the fee for the shipment of the lowest weigh range (the fastest category specified in the pricelist of universal postal services= was applied to the area of these services in 2006;
number of non-public operators within the postal services market (Table 1).\(^{13}\)

### Table 1. The number of registered non-public operators in the years 1996-2012 (as of December 31)

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of registered operators</th>
<th>Increase compared to the previous year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>15</td>
<td>-</td>
</tr>
<tr>
<td>1997</td>
<td>17</td>
<td>+2</td>
</tr>
<tr>
<td>1998</td>
<td>18</td>
<td>+1</td>
</tr>
<tr>
<td>1999</td>
<td>21</td>
<td>+3</td>
</tr>
<tr>
<td>2000</td>
<td>21</td>
<td>-</td>
</tr>
<tr>
<td>2001</td>
<td>30</td>
<td>+9</td>
</tr>
<tr>
<td>2002</td>
<td>52</td>
<td>+22</td>
</tr>
<tr>
<td>2003</td>
<td>58</td>
<td>+6</td>
</tr>
<tr>
<td>2004</td>
<td>90</td>
<td>+32</td>
</tr>
<tr>
<td>2005</td>
<td>113</td>
<td>+23</td>
</tr>
<tr>
<td>2006</td>
<td>157</td>
<td>+44</td>
</tr>
<tr>
<td>2007</td>
<td>164</td>
<td>+7</td>
</tr>
<tr>
<td>2008</td>
<td>182</td>
<td>+18</td>
</tr>
<tr>
<td>2009</td>
<td>209</td>
<td>+27</td>
</tr>
<tr>
<td>2010</td>
<td>244</td>
<td>+35</td>
</tr>
<tr>
<td>2011</td>
<td>247</td>
<td>+3</td>
</tr>
<tr>
<td>2012</td>
<td>267</td>
<td>+20</td>
</tr>
</tbody>
</table>

Source: Raport o stanie ... 2013: 14.

An important aspect of the entry of competition into the postal services market is lack of regulations during the transitional period for the non-public operators with regard to the services provided within large cities and rural areas. A natural balance in the postal market was destroyed. Its mechanism consisted of making money on the services provided within the agglomeration and financing costs related to maintaining an equal access to the services in rural areas from a part of profits. Ensuring equal access to postal services for the EU citizens at a specific level results from the above-specified Directives and their implementation to the legal systems of Member States. In connection with the transformations in the postal market and abolition of the reserved area as of January 1, 2013, the presented conditions have begun to pose a serious threat to the active public operator who is obliged, among others, to meet the statutory quality and price standards. Unequal competition involves, among others, bearing fixed costs related to the logistic infrastructure of the public operator e.g. cost of maintaining the network of 8,240 post offices,\(^{14}\) necessary for the provision of general postal services (Supreme Audit Office 2012: 8). Analysis of the competition’s operations in this field leaves no doubt that the activities of non-public operators accumulates within the mass customers group in large agglomerations where the costs of services are the lowest and the income is the highest. This issue is illustrated in Table 2.

### Table 2. Number of urban and rural post offices (as of December 31, 2012)

<table>
<thead>
<tr>
<th>Operator</th>
<th>City</th>
<th>Village</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poczta Polska</td>
<td>4060</td>
<td>4399</td>
<td>8459</td>
</tr>
<tr>
<td>Non-public operators</td>
<td>5674</td>
<td>249</td>
<td>5923</td>
</tr>
<tr>
<td>Total</td>
<td>9734</td>
<td>4648</td>
<td>14,382</td>
</tr>
</tbody>
</table>

Source: Raport o stanie rynku ... 2013: 44.

Mass customer service is the key to success within the market which was previously restricted. In this group of services, the unregistered letters are the most significant. This is confirmed by data for the year 2012 (Raport o stanie ... 2013), when the public operator provided over 2.0 billion postal services within Poland and abroad (general postal services, contractual postal services, including courier services) and it resulted with over PLN 4.7 billion revenue. This number of services included almost 1.4 billion general postal services which generated almost 4.0 billion revenue, with over 1.2 billion letters, the revenue of which amounted to over PLN 3.2 billion. Non-public operators provided (in Poland and abroad) in total nearly 3.2 billion postal services in 2012 (correspondence mail, advertisements, parcels, unsolicited mail), which resulted in nearly PLN 1.6 billion revenue. As a

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\(^{13}\) For a comparison of EU countries, see Dieke et al. (2014).

\(^{14}\) The obligations imposed on the public operator are determined, among others, by the provisions specified in the regulation concerning the conditions of providing general postal services. Regulation of the Minister of Infrastructure of January 9, 2004 on the conditions of providing general postal services (Journal of Laws No. 6, item 34 as amended);
result of actions carried out by the authorities, a situation on the market of postal services changed, however, the situation of Poczta Polska did not change. In order to equalize opportunities in this regard, the public utilities were transformed with effect from September 1, 2009, into a single-member company of the State Treasury under the name Poczta Polska Spółka Akcyjna. The premise for commercialization was to adapt the functioning of Poczta Polska to the generally applicable rules of the market, while maintaining the status of a public operator. The transformation into a commercial company was to ensure: the efficiency of decision-making and management system, increase and ultimately (after entering into the stock exchange) enable an access to the external financing, flexible responding to the market conditions and taking actions forestalling the undertaking of competition (Supreme Audit Office 2012: 8). Not all planned benefits could be implemented to the equal extent. The Management Board of Poczta systematically carries out actions which allow for preparation of the company to the entrance into the stock exchange and commercialization. An important obstacle to the ongoing operational activities is the lack of flexibility in obtaining external resources which constitutes the basis for an effective competition within the market. Flexibility in this regard is effectively limited by the statutory obligation concerning the proceeding which in case of such a large state-owned company is carried out in accordance with the principles of public procurement law (Public Procurement Law 2004).

Despite the changing situation of the market of postal services with regard to competition and legal environment, Poczta Polska S.A. remains the largest player on the postal services market and the shape of this market depends to a large extent on both the decisions of authorities towards the public operator and the actions taken by this company (Raport o stanie ... 2013).

Innovative solutions in the postal supply chain of a public postal operator

Changes in the postal supply chain are continuous and in some respect they are innovative (Gądek-Hawlena, Wróbel 2009:51) and a very important element of those changes was the entrance of Poczta into the market of transport, forwarding and logistics services (TSL) including the services of FCL and LCL pallet load in 2009 (Wróbel 2009; Wróbel 2013: 418). The presence of Poczta on the market is important due to the possibility of using the owned resources: postal logistic infrastructure and external resources used on outsourcing basis (Gądek-Hawlena, Wróbel 2013: 155-162). In the initial period, the entrance of Poczta into the TSL market was significant and is reflected in the actual profit in the context of the reduction of fixed costs resulting from the owned logistic infrastructure which was not fully used due to the bind-

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15 Act of September 5, 2008 on commercialization of the public utility PP (Journal of Laws No. 180, item 1109)
16 Warsaw, June 18, 2013 (ISBnews) – Poczta Polska may enter into the stock exchange in 2-3 years after the completion of the restructuring process and the stable financial results. Controlling interest (51%) should stay in possession of the State Treasury, say the representatives of the Management Board. “Thinking about the stock exchange will appear when Poczta Polska shows stable growth and when the investment in such an assets has an economic sense from the point of view of a Polish or foreign investor. It is not our intention or purpose to privatize the post but to go public” - said the President of Poczta Polska during the press conference. “At least 51% of shares have to be kept in possession of the State Treasury as a controlling interest” - because Poczta will be essentially prepared to the entering into the stock exchange in 2-3 years because the process of deep restructuring which began in 2011 will continue for some time. However, going public will require a previous decision of the owner with regard to this case. “We will strive to materialize this process in our next term of office”, said the President of Poczta Polska, when asked about the possible date of entering into the stock exchange. A general meeting of shareholders of Poczta Polska will be held in June and it will acknowledge the fulfilment of duties by the Management Board and the next day, the Management will begin operations in the new term. The President stated that looking through the prism of last two years, there is a great chance that Poczta Polska will achieve the goal assumed in the strategy up to 2017. However, he stressed that Poczta has to act based on three main pillars, that is: parcels, logistics as well as bank and insurance services performed on the basis of its own bank (Gazeta Wyborcza 2013).
ing postal regulations\textsuperscript{17} as well as trade and seasonal fluctuations in terms of the number of sent mail and transported cargo (Wróbel 2009: 313).

The previous and current term of the Management Board of Poczta Polska include consistent actions and implementation of the Strategy of Poczta Polska up to 2015 (Poczta Polska 2015) which was approved by the Supervisory Board of Poczta Polska S.A. The subject document refers to the entire group of Poczta Polska and it was developed on the basis of the analysis of current situation and forecasts concerning the market of postal services. The strategy assumes a diversification of the ongoing postal services and a gradual replacement of declining services with the services tending to increase (see Skarżyński, 2013).

Strategic directions of Poczta Polska Group up to 2015 assume, among others (Poczta Polska 2014):

- construction of a competitive and profitable postal, financial and logistic Group,
- achieving a sustainable profitability which will allow in the future to go public,
- focusing of customers and new quality of the postal network: post office as a friendly postal and financial centre.
- investments in continuous improvement of the competences of the staff.

However, an important issue with regard to the competitiveness are mainly the processes in the enterprise, in particular the planned and implemented development in various fields. Among the concepts of development, diversification of services which Poczta Polska S.A. aims to introduce or has already introduced in accordance with the strategy's assumptions concern primary the field of E-services, IT ad automatic support of implemented processes, increase revenue sharing in TSL market and the most important, from the point of view of the subject of the article, shall consist of:

1. Network integration and installation of distribution devices in the dispatch and distribution points within the new postal logistic system.
2. Implementation of an IT platform supporting the postal logistics system.
3. Expansion of the offer including e-services to the needs of an individual customer through implementation of hybrid services\textsuperscript{18} and a reverse hybrid\textsuperscript{19}.
4. Planning and implementing the policy concerning purchase, modernization of post offices and fleet of vehicles.
5. Development and implementation of a more dynamic strategy concerning the entrance into the market of FCL and LCL pallet load.

Analysing the scope of changes (chosen due to the subject of the article) in the offer with postal services, implemented processes and logistic operations, they will have a direct impact on the postal logistics system. As a part of the mail distribution system, transformations of streams of goods and related information are realized due to:

1. Time - short-term storage, i.e. buffering consignments, cargo, distribution and consolidation of streams of goods for the needs of postal and external cargo.
2. Place - transport of postal and external cargo between the dispatch and distribution points as well as direct transport to and from the customers.
3. Character - that is a widely understood change of the physical shape of shipments, goods as a result of actions taken in the functional subsystems. It should be noted the transformation includes a traditional

\textsuperscript{17} By 2009, according to postal regulations, mail could not be mixed together with other cargo. Within the implemented recovery programs concerning the Postal Logistic System, changes to the internal regulations concerning creation of possibilities for the Logistics Centre of adding load of external customers to the vehicles were introduced.

\textsuperscript{18} Hybrid mail, the traditional letter does not have to be send in a traditional manner. Business correspondence can be added to the mail distribution system in an electronic form and it will be printed, put into envelopes and delivered as a classic consignment. A hybrid consignment can be either a a registered or ordinary letter (Poczta Polska 2014).

\textsuperscript{19} Reverse hybrid is a transformation of traditional correspondence into electronic version and sending it to the recipient to the specific e-mail address (Pocztowokurierski.pl 2012).
Cross-docking\textsuperscript{20} but also because of the form of the shipments due to the performance of hybrid services and reverse hybrid. The dimension of the functions realized by the subsystems of the Postal Logistics System is wider than it is presented, the implemented operations include, among others, a change of the form of the load - order picking, packing, repacking, labelling as well as reloading. Lowering costs is achieved, among others, by joining cargo of numerous customers with the mail shipment at the so-called first and last mile (consolidation of orders), distribution operations (consolidation of shipments), control of physical goods flow and virtual substitution of shipments in such a way as to use the postal logistics infrastructure effectively.

An important element of the innovative changes is the establishment of a new company which, from the point of view of implementation of traditional postal services, is revolutionary for the customers. The new brand of Poczta Polska is called – envelop – poczta prosta (Antyweb 2013). The new brand of Poczta Polska is presented on the online platform of Poczta Polska www.poczta-polska.pl. Envelo is responsible for the introduction of Poczta Polska S.A. to the Internet, where the customers can benefit from its comprehensive services. Currently, Envelo includes three services (Envelo 2014):

1. Neocard - “With the neocard sending a paper postcard is at mouse. It is a perfect solution for the fans of new technologies and innovative solutions but also a treat for those who does not want the traditional postcards to sink into oblivion in favour of e-cards. You just have to choose your favourite pattern of the postcard, write something from the heart, specify the recipient and make the payment in a form convenient to you. Within few days, the online order turns into a traditional, paper postcard which will be delivered by a postman to the addressee.

2. Neolist [Neoleter] - Traditional, printed letter which you send... directly from the computer?! Now it is possible! With this service you can send your correspondence to any address from anywhere. You just have to prepare the content of the letter in an electronic form, enter the recipient’s details, select the type of the shipment and it’s ready! All other activities - printing of the letter, putting it into an envelope and sending to the recipient - are already on our side. The postman of Poczta Polska will deliver your neoletter directly to the mailbox of the designated person. What is more, in this way, you can also send mail merge. You do not know, how much time you can save in this modern and fully secure manner.

3. Neoznaczek [Neostamp] - it is the equivalent of a traditional postage stamp constituting a proof of sending a shipment. After online purchase, you can print a neostamp by yourself on the postcard, adhesive label or directly on the envelope. It saves time - you can make postage and then send a letter of postcard at any time - regardless of the working hours of a post office. Neostamp is a perfect solution for those who appreciate tradition and at the same time are not afraid of modern solutions.”

As it was announced, other services are being developed, for example the customers on the Envelo platform will benefit from a neofaktura [neoinvoice]. This service will be directed both to the individual and business customer. “It will be a comprehensive solution to meet the needs of those who issue invoices as well as their recipients (Jurczak 2014)”. The presented selected elements of a comprehensive implementation of the strategy of Poczta Polska S.A. as well as innovative solution constitute a real dimension in the improving financial result of Poczta Polska S.A. Group. Table 3 shows selected financial data on a comparable basis in millions of PLN.

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\textsuperscript{20} Cross-docking is a method which generally supports distribution processes. It involves reloading and shipping goods to the recipient directly after delivering them into the warehouse, without the need of storage (Logistyka.net.pl 2012).
Data presented in Table 3 indicate that the success on the market of postal services is possible assuming the realization and implementation of innovative solutions both in terms of the performed services and logistics processes, an important element of those changes must be the reduction of fixed costs and maintenance or improvement of the profitability ratios by elimination of unnecessary operations and processes.

**Conclusion**

In the light of the considerations included in this article, it can be seen that the dominant role within the changes in the postal logistics chain played the changes to legal regulations which resulted in an increase of the number of entities which provide services within the KEP area as well as the development of modern technologies. The presented changes which allow Poczta Polska for maintaining a still significant position on the market include:
- performance of the service of a hybrid shipment,
- maximum use of the network of dispatch and distribution points as well as post offices with their equipment and fleet of vehicles used for transport of shipments - both mail and those related to TSL industry,
- more and more active use of modern telecommunication and IT technologies enabling an efficient performance of services, which are tailored to the changing needs of a customer and which have an influence on the level of satisfaction.
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Konsekwencje wdrożenia innowacyjnych rozwiązań do łańcucha dostaw polskiego operatora pocztowego

Abstrakt
Przeobrażenia rynku pocztowego, które następują od początku lat dziewięćdziesiątych w Polsce wymusiły na Poczcie Polskiej S.A. dokonanie wielu zmian w różnych dziedzinach jej działalności. Celem tych przekształceń jest dostosowanie się do nowych wymogów prawnych oraz innowacji wprowadzonych w pocztowym łańcuchu dostaw bez których pocztowy operator nie mógłby funkcjonować, oraz które przyczyniły się do dywersyfikacji świadczonych usług. Celem artykułu jest prezentacja oraz ocena zmian, które zostały stworzone oraz wdrożone przez Pocztę Polską S.A.

Słowa kluczowe: innowacje, operator pocztowy, łańcuch dostaw poczty