

Public Logistics and Its Possible Application in Local Government Administration

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The steady increase in public sector spending on the purchase of goods and services in public procurement is more noticeable. The aim of this article is to present the possibility of optimization of the public logistic and to show its potential areas of application. The examples of the application of public logistics presented in this paper show its great importance and justify its rapid growth. The development of the public logistics is a consequence of the increase in range of public duties realized by local authorities and the growth private sector involvement in this sphere of activity.

Keywords: public logistics, public sector, logistic services, public services.

1. INTRODUCTION

The sum of public sector spendings (state, voivodeship, county, local community) on the purchase of goods and services in Poland neared 130 billion PLN in 2012, which amounted to approximately 8.3% GDP¹. In 2013 these expenses are expected to be even higher, due to realization and coordination² outsourcing.

From the scientific point of view, the most interesting aspect is seemingly the relationship between the public and private sector. The former is obliged to provide common welfare within its designated budget (*Service in budget*); however private companies function according to the rule of *Service & budget*, which means they are profit-oriented. Moreover, in accordance with the law, official relationship between public and private sector may only be of a formal nature.

As such, this article aims to present the optimisation possibilities of public logistics and to point to the viable areas of its applications.

2. THE DEFINITION AND NATURE OF PUBLIC LOGISTICS

Recent years have brought substantial changes to the public sector. On the one hand we observe a relative decrease in budget income coupled with a simultaneous increase of expenses pertaining to realise public objectives. These disadvantageous tendencies are especially prominent in low-level administration, which are accordingly presented with additional responsibilities without providing financing.

Discord of meagre financing and a constantly growing number of responsibilities has made the seeking of saving opportunities a necessity, which in turn means modernisation and transformation of public administration.

¹ Public procurement system and competition evolution in the economy, Office for Competition and Consumer Protection report, Warsaw, 2013, www.uokik.gov.pl, [11.09.2013].

² J. Teska, G. Krasnodębski, *Logistyka publicznych usług transportowych*, „Logistyka” 2011, nr 3, p. 2820.

As a result this leads the public sector³, striving for greater effectiveness, to begin partially outsourcing its objectives⁴. Among external subcontractors, the most predisposed are logistics operators, due to the multitude of public sector activities of a logistic nature. Public logistics, with its coordinative functions, also shows the greatest capability for the creation of an optimised meeting point of the public and private sector.

to be considered in the context of delivery chains⁵. The basic aims of the (public) delivery chain include: reduction of realisation time, increase of productivity and promptness, decrease in reserves, limitation of bottlenecks (e.g. via utilising simulation tools) and increase of income, among others.

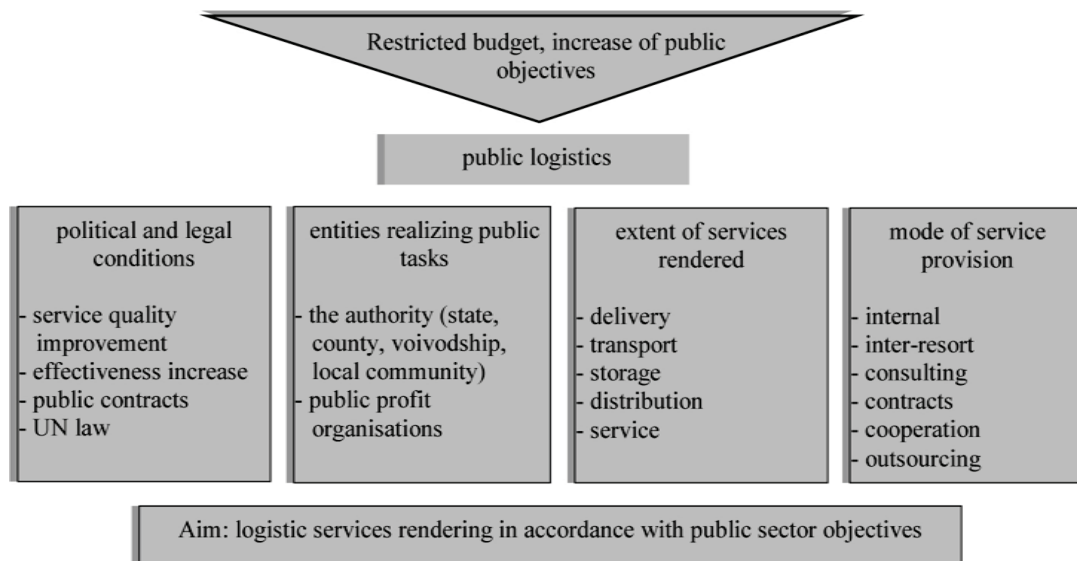


Fig. 1. Public logistics and its place in public services realisation.

Source: M. Witt, *Strategische Logistikkonzepte für den öffentlichen Sektor*, [in:] *Öffentliche Logistik*, M. Essig, M. Witt, Hrsg., Wiesbaden 2009, p. 132.

Logistic services are understood here as not merely basic services, such as transportation or storage, but all benefits along the chain of purveyance, from purchase to utilisation, to recycling. Since multiple entities take part in public objectives realisation, public logistics needs

Public sector modernisation and rationalisation capability is more constricted than those of private enterprises, due to political, legal and budget constraints. Optimisation effects may differ depending on the level of administration hierarchy (state, voivodeship, county or local community) and size of the public service organisation. The extent and the character of the logistic services may differ as well (fig. 1).

Political determinants are reflected in governing elites' preferences pertaining to the types of public investments. The governor's preferential decisions retain the *status quo* of public organisations⁶, due

³ The definition of public differs between member countries of EU. Based on EU laws and the scientific discourse three aspects of definition may be derived:

1. functional – public sector encompasses entities holding state authority or rendering public services;
2. legal/functional – public sector contains only entities cited directly in appropriate acts;
3. financial – includes entities which are financed publicly and do not adhere to usual market standards.

Green Paper on European Commission Public Sector Information, [in:] European Financial Integration Monitor – European Integration Committee Office, 1998.

⁴ J. Teska, G. Krasnodębski, *Logistyka publicznych usług transportowych*, „Logistyka” 2011, no 3, p. 2820.

⁵ Public delivery chain means flow-oriented public merit chain/net management. It is a web of national agencies, Organisation, self-governing agencies, institutions and private companies, M. Eßig, *Zur Anwendbarkeit der logistischen Führungskonzeption auf den öffentlichen Sektor*, [in:] *Logistikmanagement: Innovative Logistikkonzepte*, Hrsg. R. Lasch, C.G. Janker, Wiesbaden 2005, p. 93.

⁶ Erridge A., Greer J., *Partnership and public procurement: Building social capital trout supply relations*, “Publik Management” 2002, no. 3.

to the non-transferability of the legal duty placed on the public administration. Its restrictions, enumerated in norms are appointed by the parliament, not the public administration (though public administration may retain some latitude in this matter). Political determinants fulfil the legal requirements regulated by laws and regulations since every expenditure must have legal basis. Legal basis is a necessity, although an insufficient condition. Additionally, authorisation determined by the finance act, delineating the area of the task and planned expenses is required.

The scope of services rendered within public logistics range from purely operational tasks such as transport and storage, through public estate management to taking responsibility for all logistic tasks along the chain of delivery.

The mode of task realisation is mostly decided by the state. Those tasks may be fulfilled by the public sector itself (exclusively) or outsourced. This presents a problem with determining which tasks are necessarily undertaken by the state and which can be subjected to the rules of the market so that the quality of the services may increase with simultaneous decrease in imposition on the state budget. The first attempts at solving this dilemma were undertaken relatively recently, along with the emergence of democratic state. The implementation of terms such as 'decentralisation' and 'subsidiarity' lead to a re-evaluation of the meaning of 'public services/tasks'.

Decentralisation assumes hierarchy in governing and subsidiarity points to the fact that the state should only realise the tasks that must be realised by the state itself. The remaining tasks should be passed to those who would do it better and more effectively⁷. This in turn requires inclusion of a third party in the realisation, be it in form of contracts, outsourcing or public-private partnership.

3. PUBLIC LOGISTICS AND FORMS OF ITS REALISATION

When considering the possibilities and applications of public logistics in self-governing management the first thing to envision is the public-private partnership for the purpose of public transportation. Closer analysis will show that most of the transport services are not offered by a third party within the bounds of partnership, but rather are outsourced to private companies. Acquisition

of logistic operator to supervise collective transport tasks is grounded in public commissioning law. It is necessary to point out that until now, contracts with private carriers were drawn as a result of various modes of public servicing, most of the time, via the competitive method (open bid)⁸. Transport tasks realisation has a long history in Poland, from as far back as 1992 a private carrier is responsible for urban and suburban transportation in Warsaw and since 2008, Krakow as well. Private transport company *Warbus* in Warsaw has been serving the bus lines in Murowana Goślina, Lesznowola near Warsaw for many years, and before that, local lines in Elk and the hypermarket lines in Warsaw. Przedsiębiorstwo Komunikacji Samochodowej sp. z o.o. renders passenger rail and public transport services in Gdańsk, Sopot, Gdynia and adjacent communities.

Multiple examples of public services outsourcing to logistic operators may be found among European armies, which, aiming for a reduction in expenses, form cooperation or outsource⁹.

One such example is the British army which transfers public endeavours to external logistic operators via outsourcing, public-private partnership or private founding. It also partially privatised military logistic operators¹⁰.

Thanks to outsourcing water transport, German Bundeswehr reduced its expenses by 1.2 billion Euros in 9 years. At the same time, it achieved almost 65% increase in mileage efficiency. Outsourcing of military gear supply brought 175 billion Euros in savings in just the first two years¹¹.

The most advanced country in regard to public logistics is the United States. The first case of logistics outsourcing of military functions was during the first Balkan War, when the construction and upkeep of the military camps was delegated to the *Halliburton*¹² concern. *Blackwater*, a company created in 1976 in a specially built military base,

⁸ Public Procurement Office Information Bulletin, December 2012.

⁹ Further on outsourcing in armed forces: *Outsourcing usług w systemie logistycznym Sił Zbrojnych*, red. nauk. T. Jałowiec, S. Smyk, K. Szelaż, Warsaw 2011.

¹⁰ T. Jałowiec, *Firmy w brytyjskich silach zbrojnych*, Przegląd Logistyczny nr 1/2010, p. 64.

¹¹ G. Poletti, *Teilprivatisierung: Armee drückt aufs Bremspedal*, www.wiso-net.de/r_presse/webcgi?START=A20&DOKM=362382_Bern_0, [13.09.2012].

¹² www.forbes.pl/artykuly/sekcje/sekcja-dossier/funkcje-panstwa---wyprowadzic,3378,1, [13.09.2013].

⁷ J. Regulski, *Samorządna Polska*, Warsaw 2005, p. 22.

trains 40 thousand people per year. The company is currently contracted by the US government to provide safety during the war in Iraq¹³. Part of the national responsibilities in space technology is outsourced, and soon space flight is to be outsourced from the NASA¹⁴.

In Poland employing private companies to secure military bases or in the education system is also increasing. In this context one must consider Polish Army's endeavour in implementing a system of contracting outside of the army favourably¹⁵. The Polish Army decided to outsource operations not resulting from fulfilling the military function to logistic operators. Priority tasks, such as¹⁶:

- service and support of military gear and weaponry;
- utilising warfare;
- transport;
- storage and upkeep of stock supplies;
- upkeep of military premises;
- Polish military contingent provision.

Are to be contracted by 2018.

Similar tendencies are visible in other public sector units as well, such as the welfare system, where foster homes exist. These are *de facto* private companies realising services and fulfilling service functions by the orders of community administration. Motorways are also built via external entities (such as consortia). One such example is A2 motorway, which Stryków-Konotopa section is being built by *Boegl&Krysl* and *Dolnośląskie Surowce Skalne* consortium. The northern section of A1 motorway (Gdańsk-Toruń) is constructed as part of a public-private partnership between the state and *GTC S.A.*

Although this solution is not very common in Polish self-government, it may prove advantageous. The areas that seem to be best suited for passing over to logistic operators are accounting, human resources, customer service and office supplies. According to K. Bestra, commissioning those tasks to logistic operators

may allow the offices to save up to several dozen percent¹⁷.

From a local self-government's point of view, cooperation with health care units, especially in hospital supplying area, is an interesting and until now unrecognised territory. It is mostly because of those units' unique transitional position between purely public to (partially) privatised.

4. PUBLIC LOGISTICS IN HEALTH CARE OPERATIONS (HOSPITALS)

Hospital supplying is a crucial area of public logistics. Among its basic elements are both distribution, in terms of external logistic tasks and all aspects of internal material logistics (such as transport logistics, storage, supply, waste utilisation)¹⁸. In this sense public logistics encompasses the whole hospital delivery chain (medical chain), usually defined as a sum of materials and services flow, oriented to satisfy the needs of hospital, as well as other organisations servicing patients¹⁹. The great potential in hospital workflow reorganisation and optimisation of the medical services chain of deliveries is obvious even during brief analysis of employment required to realise all logistic procedures relating to, inter alia, patient transportation, board, supply of materials directly utilised in hospitalisation or utilisation of toxic waste.

¹³ www.pl.wikipedia.org/wiki/Academi, [13.09.2013].

¹⁴ www.forbes.pl/artykuly/sekcje/sekcja-dossier/funkcje-panstwa---wyprowadzic,3378,1, [13.09.2013].

¹⁵ Decision Nr 318/MON National Defense Minister from 3.07.2008. on contracting outside Polish National Armed Forces system, Dz. Urz. MON from 24.07.2008 with subsequent changes.

¹⁶ J. Teska, G. Krasnodębski, *Logistyka publicznych...*, op. cit., p. 2809.

¹⁷ www.forbes.pl/artykuly/sekcje/sekcja-dossier/funkcje-panstwa---wyprowadzic,3378,1, [13.09.2013].

¹⁸ U. Pieper, C. Rockel, M. Wiemann, *Revolution in der Krankenhauslogistik*, [w:] *Beschaffungslogistik und Einkauf im Gesundheitswesen*, S. Drauschke, U. Pieper, Hrsg, Neuwind-Krifel 2002, p. 267; C. Drees, *Beschaffungsmanagement im Krankenhaus*, Hrsg. Deutsches Forum für Krankenhausmanagement, 2003, p. 20.

¹⁹ E.S. Schneller, L.R. Smelter, *Strategic management of Health Care Supply Chain*, San Francisco 2006, p. 5.

In manufacturing companies the potential reduction of expenses in supply was acknowledged long ago. Similar advantages can be achieved in hospital supply. It is mostly due to the high unification of both delivery processes and medical products. According to studies of A.T. Kearney Institute and German Health Institute (DKI), the potential reduction of material costs are in order of 20-25%, which translates to 3.6 to 4.5 billion euro²⁰. Moreover, thanks to delivery processes optimisation further reduction may be achieved, in case of almost 20% of the total processes cost²¹.

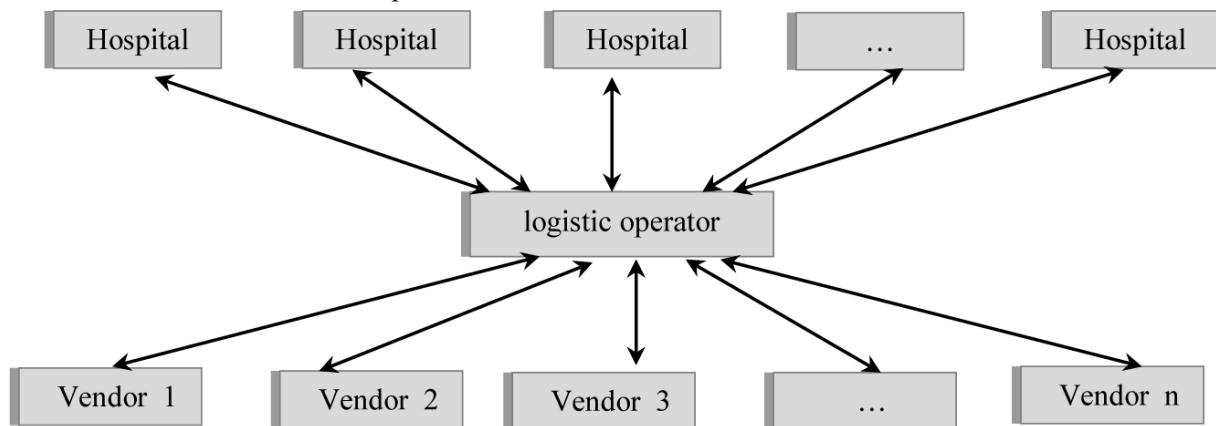


Fig. 2. The model of public-private partnership with a logistics provider serving health services.
Source: B. Grüb, *Öffentliche Logistik aus Sicht von PPP*, [w:] *Öffentliche Logistik...*, op. cit., p. 85.

If those numbers are applied to the overall hospital upkeep costs, total savings could be 6.6 to 8.3%²². The biggest fraction of the material cost is medical products (46%).

Delivery structures of medical products are not monopolised, which means that hospitals decide on the supplier based on market situation (often opting to choose the cheapest offer). This can lead to a great number of suppliers however, resulting in complicated hospital delivery processes.

One of the optimisation options of hospital logistics are cooperations' allowing for purchase consolidation. In mature medical markets (Western Europe, USA) this process is initiated by forming Hospital Purchase Groups²³, whose purpose is to

aggregate demand of many entities, resulting in a greater bidding effectiveness with vendors. Consequently, it causes, inter alia, lower purchase prices, better service conditions and standardisation, as well as unification of products assortment used by various hospitals²⁴. The pursuit of purchase effectiveness growth within the capabilities of the group requires an array of administrative work and negotiation, often which are then passed to an external logistic operator (e.g. in form of public-private partnership)²⁵ (fig. 2).

Cooperation with a logistic operator is not necessarily restricted to merely purchasing tasks, but may also include²⁶:

- legal support for the group members;
- clinical studies coordination;
- financial and management consulting.

The basis for the extensive cooperation with a logistic operator is counselling and forming positive relations with customers. The main problem lies in choosing the adequate operator. Before signing a contract the medical facility should not only confirm the operator's competences in healthcare support, but also analyse its infrastructure and human resources backup.

There are multiple positive examples of employing logistic operators in healthcare

²⁰ Deutsches Krankenhausinstitut & A.T. Kearney, *Best Practice in der Beschaffung im Krankenhaus*, Studie 2010, p. 3.

²¹ Ibidem.

²² Ibidem.

²³ Purchase Group is a voluntary association of buyers who colligate their demand in order to achieve a more favourable negotiation position and better terms. W. Kaszyński, J. Federwoski, *Szpitalne Grupy Zakupowe*, [www.federacjaszpitali.pl/resources/MZ\\$2Cgrupyzakupowe.pdf](http://www.federacjaszpitali.pl/resources/MZ$2Cgrupyzakupowe.pdf), [13.09.2013].

²⁴ P. Bartkowiak, J. Domański, *Szpitalne Grupy Zakupowe w kształtowaniu łańcucha wartości na rynku usług szpitalnych*, „Przedsiębiorczość i Zarządzanie” 2013, Vol. XIV, Z. 3, p. 12.

²⁵ B. Grüb, *Öffentliche Logistik aus Sicht von PPP*, [w:] *Öffentliche Logistik...*, op. cit., p. 83.

²⁶ P. Bartkowiak, J. Domański, *Szpitalne Grupy...*, op. cit., p. 13.

faculties' in Europe, e.g. St. Francis Hospital Group²⁷ in Munster, Germany is serviced by *Fige*²⁸, a logistic operator specialising in hospital support. Thanks to outsourcing and logistic services, the hospital achieves savings in terms of logistics of 20-25%²⁹.

Another example is logistic cooperation in terms of public logistics are *NetLog* Hanover, formed between regional clinics, Higher Medical School and *Rhenus Eonova* company. The first contract between a logistic operator and health care institution was signed in 2005 and the project costing 5 billion euro. The aim of this partnership was the implementation of a new health care supply system, which improved efficiency and quality of hospital logistics.

Although the advantages of public logistics application in hospitals are irrefutable, this manner of functioning has not yet been adopted in Poland. The hospitals regard such solutions with scepticism and still single-handedly manage suppliers, which given their great number is ineffective. This situation seems to be a result of a lack of knowledge about the benefits to hospitals thanks to the help of logistic operators, or a lack of trust in them.

5. SUMMARY

The examples of public logistics incorporation presented in this paper reveal their significant potential, as well as presenting grounds for its exponential development, which results from both expanding array of public services realised by local government authorities and increased private sector commitment. And though the public logistics potential is irrefutable, local governments and public sector entities remain skeptical about its practical application. The examples of public logistic application point to the possible future in which it finds supporters and will go a long way towards the increase in effectiveness of public services.

²⁷ The Hospital Group consists of 14 Catholic hospitals, 7 houses for disabled and elderly, holds shares in rehabilitation centers, hospices and retirement homes.

²⁸ Fige company renders logistic services in Benelux and Italy and soon plans to enter the Polish market.

²⁹ www.logistyka.infor.pl/transport/artykuly/574060_farmacja-i-uslugi-medyczne-przyszloscia-branzy-tsl.html, [11.09.2013].

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