



SHARING ECONOMY IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Barbara Ocicka¹, Grażyna Wieteska²

1) Warsaw School of Economics, Warszawa, **Poland**, 2) University of Lodz, Łódź, **Poland**

ABSTRACT. Background: Challenges in today's business environment require from logistics and supply chains managers continuous searching for innovative methods in business processes management, oriented to the simultaneous achievement of the Triple Bottom Line effects, namely economic, social and environmental. As a result, the concept of sharing economy is nowadays gaining rising significance among business practices. It has positive impact on building and development of collaborative relations between business partners in value chains as well as between potential market competitors. Sharing economy in logistics and supply chain management determines the requirement to manage companies' potential and relations between them in a different way.

Materials and results: The paper is based on a desk research. The authors conducted a review of recent literature, reports of international institutions and consulting firms, conference presentations, materials provided by companies, professional business movies and other Internet sources. As a result of the materials analysis, different best practices in sharing were described and success factors for their development in logistics and supply chain management were indicated.

Conclusions: The development of sharing practices is one of the most important aims of the managers responsible for business processes management in supply chains, especially for logistics processes. The presented sharing practices highlight different implementation possibilities and their significant influence on business activities in various aspects. Despite the variety, sharing practices have common characteristics, which could be indicated as their operational and strategic success factors. They enable the authors to present practical recommendations addressed to logistics and supply chain managers.

Key words: sharing economy, sharing logistics, sharing in supply chain management.

INTRODUCTION

The hypercompetitive and challenging environment requires continuous improvement and searching for innovative methods and practices of business processes management oriented to the sustainable performance including economic, social and environmental effects in line with the Triple Bottom Line concept [Elkington 1998]. In this context, sharing economy has gained the potential to transform business models and strategies. It is worth considering how this change might affect logistics and supply chain management. Generally, sharing is not a new idea, but in

recent years, it has taken another leap, as the just mentioned term sharing economy or collaborative economy [Brinkø et al. 2015]. The term sharing is generally defined by such characteristics as non-ownership, temporary access and redistribution of material goods or less tangible assets such as money, space or time [Kathan et al. 2016]. It is also defined as the preference to pay for assets or services by consumption or on-demand, rather than owning assets permanently or signing long-term contracts for services [Deloitte 2016]. In the authors' opinion, the sharing economy could be characterised by such attributes like assets accessibility and flexibility of their utilisation, aligned to various needs of entities

on the B2B as well as B2C market, oriented to synergy in the range of economic, social and environmental benefits.

It should be strongly underlined that new information and communication technologies are rapidly changing the sharing concept and practices on the global stage, making them more accessible and flexible in the 21st century business than ever before. New opportunities, that companies would like to explore with lightning speed, are focused on the enormous potential of digital technologies. Logistics and supply chain managers turn their special attention to the so-called SMAC solutions, namely: social media, mobile technologies, Big Data Analytics and cloud computing [Blanchard 2014]. On the one hand, ICT is one of the key drivers of sharing practices and determines development of new successful business models in global economy (e.g. Airbnb, Uber), but on the other hand simultaneously, the sharing economy represents a serious threat to some established industries [Kathan et al. 2016]. As the Deloitte report stated, new entrants will continue to emerge, because technology has eroded assets ownership as the traditional entry barrier in many industries [Deloitte 2016]. There emerge new opportunities in particular for forward-thinking companies and innovative start-ups that change competitive landscape.

The main aim of the article is to identify the success factors for sharing development in logistics and supply chain management. Its achievement is based on a two-phase methodology design that consists of the secondary sources review and case studies analysis. The authors noticed a gap between sharing economy issues presented in the literature and observed current business practices. Finally, their intention is to notice the most important potential research opportunities and practical recommendations for logistics and supply chains managers.

METHODS

The method used in this paper is a desk research. The two specific research paths were followed. The first one relates to the analysis of papers from different journals.

The scientific papers issued between 2014 and 2016 year were analysed in terms of a discussed topic. However, to define specific concepts, a few papers from previous years were taken into account. Authors based on the leading providers of research databases which are EBSCOhost Online Research Databases and Emerald Insight. The “search results” covered the papers concerning similar areas. The following search terms were used: sharing in logistics, sharing in supply chain, sharing in supply chain management, sharing logistics. This action allows authors to concentrate only on the logistics and supply chain management fields. The most relevant papers were taken into account during the analysis. Simultaneously, the most recent sharing approaches implemented by the companies were identified.

The second research path was the analysis of case studies presenting good and best sharing practices in logistics and supply chain management. The source of the knowledge were reports of international institutions and global consulting firms, conference presentations and materials provided by managers of logistics and supply chain management, professional business videos available on the companies’ websites. As a result, both lessons learned were discussed and the success factors in sharing development were indicated. Although the sharing economy has been gaining much attention in recent years, B2B practices are still not widely described. Authors concentrated on the business to business practices to fill this gap.

SHARING ECONOMY ISSUE PRESENTED IN THE LITERATURE

Sharing economy (collaborative consumption, access-based consumption) is an economic activity influencing the structure of retail and service businesses in a revolutionary way [Miller 2016]. Mostly, the Internet start-ups are new competitors for the traditional companies [Cusumano 2015; Ryther-Francom 2016]. Because of a unique business model, sharing economy is disrupting different industries like entertainment, media and communications [PricewaterhouseCoopers 2015].

To a large degree, sharing economy is related to the B2C market. Sharing assets and skills is a fundamental principle of this business model. People share the back seats of cars, spare bedrooms or fundamental skills. These habits have become a common practice today which is strongly supported by mobile phone applications and websites [Press 2015]. Peer-to-peer communication seems to be the backbone of it.

Table 1. Conventional management and shared management
Tabela 1. Zarządzanie tradycyjne i zarządzanie oparte na współdzieleniu

Dimensions	Conventional management	Shared management
Sustainable	Primary emphasis on financial performance, social responsibility often as isolated activities	Linking economic and societal issues including environmental aspects, attention to creating shared value
Holistic	Strong role of business functions and business unit, focus on positive corporate synergies	Acknowledging positive and negative synergies, truly global strategies in all aspects of a firm's business
Analytical	Top-down leadership, traditional customer relationship management, limited link to empirical studies	Participatory leadership, use of big data and evidence-based management techniques and methods
Relational	Primary focus on a single firm's strategy and competitive advantage, collaboration with suppliers and customers	Large portfolios of interfirm alliances and network, close resource sharing, open innovation
Entrepreneurial	Primary focus on established processes and management routines, emphasizing efficiency	Focus on innovation and corporate entrepreneurship, independent start-up teams in large companies
Dynamic	Gaining and sustaining competitive advantage over long periods, long-term strategies and planning	Temporal competitive advantages, emphasis on strategic renewal and organizational transformation

Source: Lichtenhaler U., 2016

In the last years, more and more attention is paid to the sharing initiatives in the business to business market, what is a starting point for this paper. However, there are still a few papers in this area. Lichtenhaler presents the differences between a conventional management and a shared management in terms of the six dimensions [Lichtenhaler 2016] (Table 1).

The key difference between conventional and shared management results from the number of companies involved in a management process. No doubts, the shared management promotes B2B collaboration and supply chain processes improvement.

The most typical issue of sharing process in supply chains is information. Supply chain integration models include sharing information and IT tools implementation as the important factors influencing supply chain excellence [Simchi-Levi et al. 2000; Poirier 2004]. In general, in the manufacturer-manufacturer relationships, shared information concerns the following areas (Table 2): products, processes, inventory, resources, orders (demand) or planning [Montoya-Torres and Ortiz-Vargas 2014]. Sharing information in relationship with logistics partner is also crucial for supply chain and cluster competitiveness [Rivera et al. 2016; Subramanian et al. 2016].

Table 2. Type of information shared in dyadic supply chain

Tabela 2. Rodzaje informacji wymienianej w dwustronnej relacji w łańcuchu dostaw

General area of information sharing	Type of information
Products	Product structure
Processes	Manufacturing lead time, delivery lead time, cost of processes, quality, delivery, configuration costs
Inventory	Inventory level, inventory holding cost, cumulative costs, service level
Resources	Capacity, variation of capacity
Orders (demand)	Demand, demand variability, batch size, delivery date, quantity, demand correlation
Planning	Demand forecasting, production scheduling, forecasting model, planning horizon

Source: Montoya-Torres J. R., Ortiz-Vargas D. A., 2014

As shown in a table 2, there are different types of information that is shared by the companies. They are a basis for supplier assessment, decisions taken on the directions for relationship improvement as well as an implementation of such strategies as Efficient Consumer Response (ECR) or Collaborative Planning, Forecasting and Replenishment (CPFR). An integral part of an efficient information exchange between supply chain links are the inter-business technologies. Information tools are shared by the companies [Aparecida and Barbin 2015], resulting

as a source of different advantages, e.g. bullwhip effect elimination [Lu et al. 2013]. Additionally, the newest literature points that the information sharing strongly supports dealing with supply chain disruptions [Riley et al. 2016; Tianjian and Weiguo 2016].

A very common logistics and supply chain practice described in the analysed literature is a revenue sharing contract. It concerns a distribution of profits and losses between companies [Altug and Van Ryzin 2014]. Information sharing can be influenced positively by revenue sharing in an outsourcing relationship [Elbert et al. 2014]. A partnership established on trust and commitment follows the principle of fair risk and benefits sharing.

Apart from information, enterprises share the knowledge. The examples of such behaviour are Supplier Development (SD) or Early Supplier Involvement (ESI) concepts. Supplier development is „any effort of a buying firm with its supplier(s) to increase the performance and/or capabilities of the supplier and meet the buying firm’s short and/or long term supply needs” [Krause 1997]. Depending on the results of the supplier pre-assessment or periodical assessment, companies take decisions on the directions of business relationship improvement. The most often companies decide to transfer the knowledge and experience to the suppliers (e.g. during meetings and conferences), invest in own resources in order to improve the collaboration and involve partners in the product improvement [Wieteska 2014]. When a company is willing to establish long-term cooperation, it is sometimes interested in involving suppliers in innovation development. Innovative knowledge sharing can determine the company performance positively [Singh and Power 2014]. Companies should be concerned with the association of suppliers on every stage of a new product development process [Handfield and Lawson 2007]. Cooperation with suppliers e.g. from scratch, is a possible source of the financial and non-financial benefits that result from improved supply chain cost, quality, time and flexibility performance. Suppliers can be a source of advanced technical knowledge as well as crucial information about potential clients and competitors [Hong et al. 2011].

Organizations are prone to share their physical resources in supply chains too. It is another aspect that appears in the analysed literature. Such collaboration can improve supply chain performance in terms of its efficiency [Gong et al. 2015]. Looking for the opportunities to develop sustainable supply chains and in parallel to cut costs of energy overheads, companies share their facilities [Brinkø et al. 2015] and transport vehicles [Islam and Olsen 2014].

Sharing resources can be an important strategy for business continuity planning [Aronis and Stratopoulo 2015]. However, this possibility still requires a comprehensive research for manufacturing companies. In a crisis situation, sharing plants, machinery or people would maintain value chain processes on a required performance level.

Sharing economy is regarded as the phenomenon that drives a sustainable development in terms of ecological [Bachnik 2016], social and economic aspect [Nica and Potcovaru 2015]. Its development was stimulated by the financial crisis from 2008 year [Del Rowe 2016]. Collaborative consumption has many advantages for its users. They have not only the economic character (cost savings, service quality) but also a psychological one like sense of community belonging [Möhlmann 2015].

Summing up, the latest literature, more and more concentrates on the sharing economy in the B2B market. Although, there are many of papers on information and knowledge sharing regarding this aspect, there are still few research papers on sharing economy in terms of sharing the physical resources in logistics and supply chain.

SHARING IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT – CASE STUDIES ANALYSIS

Transport and warehousing are currently the most important sharing processes in logistics and supply chain management. It is worth mentioning that the logistics sharing practices are explored not only by cooperating

companies, but also by potential competitors as an example of cooptation. The rising market pressure concentrated on lower logistics costs, higher customer service levels as well as on stronger social and environmental responsibility determines essentially good collaborative practices in just mentioned logistics processes. Collaborative physical logistics involves the sharing information and physical assets at the same time [Franklin and Spinler 2011]. In today's business, mainly logistics providers (3PL, 4PL) offer shared services to customers, allowing them to achieve successfully synergy effects according to such key performance indicators (KPIs) as e.g. logistics costs reduction, higher filling rates of transport vehicles, better utilisation of warehousing space or lower carbon footprint in supply chains.

As an example of the best practice, the innovative FM Logistic Pooling SPHINX project developed by the French logistics services provider should be highlighted [FM Logistic 2016]. Several FMCG manufacturers, being potential competitors in the consumer market, share FM transport and warehousing capacities to mix their products and to conduct joint deliveries to the super- and hypermarkets in the European retail distribution networks. All producers engaged in a close collaboration with the 3PL provider share not only physical assets, but also information that is of essential importance to forecasting, planning and replenishment. Up-to-date and online information sharing, based mainly on the EDI standards, is crucial to the development of the Co-Vendor Managed Inventory operations in the supply chain. The special coordination unit prepares the pooled supply chain proposals with the objective of FTL optimisation. Furthermore, an extra business partner, the Interlog Services company is engaged. It coordinates and controls the transport plan on a daily basis, using in-house developed software, called Click'n Track. Considering the effects of the FM Logistic Pooling SPHINX project with engagement of 7 pool manufacturing companies such as: Intersnack, Banania, Lustucru, Master Blenders, Kelllog's, Kimberly-Clark and Heinz, delivering together products in retail chains, the following KPIs should be pointed out in the light of the win-win collaboration: deliveries by full truckload

with 38 floor pallets per truck, delivery frequency multiplied on average by 2.5, 30% less docking at the receiving distributor, from 20 to 30% less stock coverage in the distributor's warehouse and a significant reduction of CO2 emission.

The extraordinary scenario of sharing in transportation and warehousing is a consolidation point that is realised by IKEA [Ocicka 2012]. This project might be considered as an example of the best practice in sourcing and supplier relationship management. The group of 26 suppliers shares a warehouse space in the consolidation point that is localised in facilities of one of participants near Kalisz in Poland and together conducts deliveries to the IKEA's 17 European distribution centers and more than 200 stores. The cooperating Polish suppliers consolidate the volume of above 2 million m³ of furniture and home furnishing products offered by IKEA annually. The business partners use different modes of transportation: road, railway, short sea or multimodal solutions. The most important sustainable effects of the project reflect the Triple Bottom Line philosophy, including economic (significant reduction of transport and distribution costs and shorter lead time), social (development of supplier competences in CPFR and enhancement of the IWAY standards) and environmental (decarbonisation and reduced road congestion) benefits. The development of the IKEA consolidation point near Kalisz has been evolving since 2006 as a result of the continuous improvement especially through new suppliers' integration, ICT implementation and partnership in supply chain.

Moreover, the sharing economy brings advantages in logistics and supply chain management enabling companies to share cost-intensive physical assets like warehouses or vehicles as well as information flows. The innovative vehicle-sharing platforms allow companies to share information on assets, routes and filling rates. According to the World Economic Forum, it is estimated that 15% of the trucking market would be using shared transport platforms and 20% of the warehouse market move into shared agreements by 2025 [World Economic Forum 2016].

The service provider Coyote, as a tech-advanced freight broker, has established a network of 40 000 carriers shipping freight across the United States, Canada, Mexico and more than 14 000 customers from different industries in these locations [Coyote 2016]. Using web-based technology, Coyote can identify carriers' capacities and match them with customers shipments in the most efficient way. It specializes in scheduling shipments by different transport modes to maximize backhaul opportunities. The web platform Coyote.com ensures a direct access for customers to create, view and present their loads as well as allows carriers to find, accept and update loads. In 2014, the Coyote reported the elimination of 31 million empty miles and avoidance of 56,300 metric tons of CO2 emissions [World Economic Forum 2016]. Similar ideas are being mobilized by many start-ups, e.g. uShip and may become a larger part of the transportation market in the near future [Deloitte 2016].

At present, information sharing in supply chain management might have a much broader perspective, notably based on the Big Data Analytics and cloud computing as new, breakthrough tools in supply chain management. It is enough to analyse the latest ranking list „Gartner Supply Chain Top 25” to indicate that global leaders use Big Data Analytics, and more than 10 of them have developed ground-breaking control towers to gain and integrate data originating from external and internal sources to achieve the end-to-end supply chain visibility. As an example, P&G Global Business Services have established so-called Business Sphere in cooperation with BOI, Cisco, HP, Nielsen and TIBCO Spotfire to integrate business information around the globe and support decision-making process [P&G 2016]. The control tower approach is defined as a central hub with the required technology, organization and processes to capture and use supply chain data to provide enhanced visibility for short and long term decision making that is aligned with strategic objectives [Van Doesburg 2011]. The most important objective of the information sharing between business partners is to increase supply chains flexibility in the 21st century turbulent environment. Moreover, the rising importance of predictive analytics in

supply chain risk management should be emphasized in the light of „The 2015 MHI Annual Industry Report. Supply chain innovation – Making the impossible possible” [Deloitte and MHI 2015].

Nowadays, the breakthrough change in the business information sharing is also determined by cloud computing. It refers to the various possibilities to use ICT hardware and software without the necessity of their ownership. Cloud computing ensures the demand-driven online accessibility of information technologies. Three basic services are offered in the cloud, notably Infrastructure as a Service – IaaS, Platform as a Service – PaaS, Software as a Service – SaaS, which could be flexibly aligned in the best possible way to requirements and needs of particular clients. As an example, the platform myRaben.com was established on the basis of cloud architecture of Mendix – Platform as a Service in line with agile method of project management. The potential of the myRaben.com platform is reflected in the following statistics: over 10 000 registered users, over 1 000 users logged-in daily, over 10 000 actions on portal daily, over 3 000 downloads of scanned documents daily [Trębicki and Kępiński 2016].

DISCUSSION

Based on lessons learned from the literature review and presented case studies, authors would like to discuss and indicate the most important strategic and operational success factors for sharing development.

First of all, best practices are based on the business strategies oriented to sharing tangible and intangible assets in logistics and supply chain management. Instead of their ownership and utilisation by companies only for their own business needs, they share assets with other entities to achieve synergy of economic, social and environmental effects. It ensures a sustainable economic growth of the potential and capabilities of sharing projects. This lesson learned allows to underline, that considerable linkage between business strategies of the participants is the most important strategic factor influencing sharing success, which could

be threaten as a cornerstone of common business aims and their realisation.

At the same time, there is a need of relationship between the entities that share resources. To achieve the sharing goals effectively, there is a necessity to build and continuously develop collaborative relationships between the involved parties, particularly in view of their increasing number. Partnership that establishes common objectives for the sharing project participants is a critical determinant. The strategic orientation to partnership relations between supply chain entities and its stakeholders was especially highlighted in described practices focused on knowledge sharing in ESI concept and IKEA's consolidation project. Furthermore, in the light of the FM Logistic case study, the significance of the third partner's commitment should be emphasized additionally. The development of sharing initiative might even require engagement of an external, neutral partner, like LSP, that plays the role of an architect or a leader of the project. It has core competences to professionally help in negotiations and agreements at the initial stage and in improvement of the practice at further stages of more intensive collaboration.

On the operational management level, it is worth to underline that there are interdependencies of the various aspects of sharing resources in logistics and supply chain management. As an example, effective sharing of physical logistics assets requires information sharing and only both integrated aspects allow to achieve meaningful synergy effects. Using resources in common with others results in many advantages in terms of quality, time, flexibility and costs of value adding processes. However, the best results can be achieved from sharing different resources (assets) simultaneously. As evidenced in the Coyote case study, a transparent, real-time platform Coyote.com, integrated with logistics management software of carriers and clients, is used to leverage transport capacities effectively. Based on the presented study, it can be deduced that the information and communication technology is one of key success factors enabling sharing practices implementation and its significance is rising in era of digital economy. Especially,

advanced information and communications systems, Big Data Analytics tools and cloud computing solutions could nowadays support the powerful exploitation of sharing potential in operations. They enable dynamic planning and real-time decision making to optimize effects through the shared network.

Finally, the fundamental aspect for the sharing economy success is a continuous improvement approach. There is a noticeable need to continuously search for excellence in sharing practices with regards to assets as well as processes management.

CONCLUSIONS

There is no doubt that currently we can observe the return of sharing economy course and it will constitute an important part of future business models and activities. There can be different drivers for that, however the most crucial one is the dynamic development of IT solutions. Authors would like to indicate the following most important strategic success factors for sharing development:

- the need of linkages between business strategies of partners participating in sharing projects,
- collaborative relationships management, including partnership with external partners, like logistics services or technology providers,
- integration of economic, social and environmental objectives in logistics and supply chain management to achieve long-term sustainable performance.

From the operational perspective, the following success factors should be stressed:

- simultaneous sharing of different assets and integration of their utilisation,
- advanced utilisation of the innovative, digital technologies,
- continuous improvement of implemented practices.

The two research paths chosen by the authors have revealed a specific gap between analysed papers and investigated business

sources. The chosen period of time could be the reason for that and at the same time a limitation for presented considerations. The literature that appeared between 2014 and 2016 focuses largely on the B2C market and there are relatively few articles on the sharing economy in the B2B market. Moreover, the latest papers referring to the supply chain management highlight in particular the issue of information and knowledge sharing between the companies. However, today's business implements especially practices in terms of sharing physical resources and advanced information technology. In this regard, the authors would like to outline the following research fields:

- quality research on sharing in supply chain management with regards to projects developing in different sectors, including different links and relationship management between entities, advantages and disadvantages, barriers and success factors,
- the potential of Big Data Analytics in digital supply chains management and its influence on information and knowledge sharing,
- the analysis of supply chain resources sharing as a way of ensuring business continuity in the face of challenges in the 21st century turbulent environment.

REFERENCES

- Altug, M.S., Van Ryzin, G., 2014, Is Revenue Sharing Right for Your Supply Chain?, *California Management Review*, 56, 4, 33-81.
- Aparecida de Mattos, C., Barbin Laurindo, F. J., 2015, Collaborative Platforms for Supply Chain Integration: Trajectory, Assimilation of Platforms and Results, *Journal of Technology Management & Innovation*, 10, 1, 79-92. <http://dx.doi.org/10.4067/S0718-27242015000200006>
- Aronis, S., Stratopoulo, G., 2015, Implementing business continuity management systems and sharing best practices at a European bank, *Journal of Business Continuity & Emergency Planning*, 9, 3, 203-221.
- Bachnik, K., 2016, Sustainable Consumption Through The Sharing Economy, *Research Papers of Wrocław University of Economics*, 423, 35-44, <http://dx.doi.org/10.15611/pn.2016.423.03>
- Blanchard, D., 2014, Digital Technologies Realign the Traditional Supply Chain, *Industryweek.com*, March, 28.
- Brinkø, R., Balslev Nielsen, S., Van Meel, J., 2015, Access over ownership – a typology of shared space, *Facilities*, 33, 11/12, 736-751.
- Coyote, 2016. Available from Internet: www.coyote.com.
- Cusumano, M. A., 2015, How Traditional Firms Must Compete in the Sharing Economy, *Communications of the ACM*, 58, 1, 32-24, <http://dx.doi.org/10.1145/2688487>
- Deloitte, 2016, The rise of the sharing economy. Impact on the transportation space, 1-12.
- Deloitte, MHI, 2015, The 2015 MHI Annual Industry Report. Supply chain innovation – Making the impossible possible, 1-45.
- Del Rowe, S., 2016, The Rise of the Sharing Economy, *Customer Relationship Management*, October, 23-25.
- Elbert, R., Bogusch, C., Özsucu, Ö., 2014, Revenue Sharing as an Incentive for Increased Information Disclosure in Outsourcing Relationships: An Experimental Investigation, *Supply Chain Forum, An International Journal*, 15, 3, 30-36.
- Elkington, J., 1998, *Cannibals with Forks: The Triple Bottom Line of the 21st Century Business*, New Society Publishers, Stoney Creek CT.
- FM Logistic, 2016, FM Logistic Pooling SPHINX.
- Franklin, R., Spinler, S., 2011, Shared Warehouses – Sharing Risks and Increasing Eco-efficiency, *International Commerce Review*, Spring, 23-31, <http://dx.doi.org/10.1007/s12146-011-0070-3>

- Gong, D., Liu, S., Lu, X., 2015, Modelling The Impacts Of Resource Sharing On Supply Chain Efficiency, *International Journal of Simulation Modelling*, 14, 4, 744-755, [http://dx.doi.org/10.2507/IJSIMM14\(4\)CO20](http://dx.doi.org/10.2507/IJSIMM14(4)CO20)
- Handfield, R. B., Lawson, B., 2007, Integrating Suppliers Into New Product Development, *Research-Technology Management*, 50, 5, 44-51.
- Hong, P., Doll, W. J., Revilla, E., Nahm, A.Y., 2011, Knowledge Sharing and Strategic Fit in Integrated Product Development Projects: An Empirical Study, *International Journal of Production Economics*, 132, 2, 186-196, <http://dx.doi.org/10.1016/j.ijpe.2011.04.004>
- Islam, S., Olsen, T., 2014, Truck-sharing challenges for hinterland trucking companies. A case of the empty container truck trips problem, *Business Process Management Journal*, 20, 2, 290-334. <http://dx.doi.org/10.1108/BPMJ-03-2013-0042>
- Kathan, W., Matzler, K., Veider, V., 2016, The sharing economy: Your business model's friend or foe?, *Business Horizons*, 59, 663-672, <http://dx.doi.org/10.1016/j.bushor.2016.06.006>
- Lichtenthaler, U., 2016, Six principles for shared management: a framework for the integrated economy, *Journal of Business Strategy*, 37, 4, 3-11, <http://dx.doi.org/10.1108/JBS-03-2015-0029>
- Lu Chung-Cheng, Tsai Kune-Muh, Che Jung-Hung, Lee Wang-Tsang, 2013, Mitigating the Bullwhip Effect in the Supply Chain of Semiconductor Assembly and Testing Through an Inter-Business Information Platform, *International Journal of Electronic Business Management*, 11, 3, 202-211.
- Press, A., 2015, *The Sharing Economy*, *The Saturday Evening Post*, September/October, 34-39.
- PricewaterhouseCoopers, 2015, *Sharing Economy*, *Consumer Intelligence Series*.
- Miller, S. R., 2016, *First Principles For Regulating The Sharing Economy*, *Harvard Journal on Legislation*, 52.
- Montoya-Torres, J. R., Ortiz-Vargas, D. A., 2014, Collaboration and information sharing in dyadic supply chains: A literature review over the period 2000–2012, *Estudios Gerenciales*, 30, 343–354, <http://dx.doi.org/10.1016/j.estger.2014.05.006>
- Möhlmann, M., 2015, Collaborative consumption: determinants of satisfaction and the likelihood of using a sharing economy option again, *Journal of Consumer Behaviour*, 14, 193–207, <http://dx.doi.org/10.1002/cb>
- Nica, E., Potcovaru, A.M., 2015, The Social Sustainability of the Sharing Economy, *Economics, Management, and Financial Markets*, 10, 4, 69-75.
- Ocicka, B., 2009, Reconfiguration of supply chain structure to increase the role of railway transport. Best practice case of IKEA and COM.40/Correct, in: *Best Practices in Logistics and Supply Chain Management. The Case of Poland*, ed. K. Rutkowski, Warsaw School of Economics Publishing, Warsaw, 71-99.
- P&G, 2016, *Latest innovations*. Business Sphere GBS.
- Poirier, Ch. C., Quinn, F.J., 2004, How are we doing – A survey of supply chain progress, *Supply Chain Management Review*, 8, 24-31.
- Riley, J., Klein, R., Miller, J., Sridharan V., 2016, How internal integration, information sharing, and training affect supply chain risk management capabilities, *International Journal of Physical Distribution & Logistics Management*, 46, 10, 953-980, <http://dx.doi.org/10.1108/IJPDLM-10-2015-0246>
- Rivera, L., Gligor, D., Sheffi, Y., 2016, The benefits of logistics clustering, *International Journal of Physical Distribution & Logistics Management*, 46, 3, 242-268, <http://dx.doi.org/10.1108/IJPDLM-10-2014-0243>
- Ryther-Francom, S., 2016, *The Sharing Economy Peer-to-peer Commerce is*

- Shaking up Traditional Business Models, Utah Business, December, 59-61.
- Singh, P. J., D., Power, 2014, Innovative knowledge sharing, supply chain integration and firm performance of Australian manufacturing firms, *International Journal of Production Research*, 52, 21, 6416–6433, <http://dx.doi.org/10.1080/00207543.2013.859760>
- Simchi-Levi, S., Kaminsky, P., Simchi-Levi, E., 2000, *Designing and Managing the Supply Chain Concepts. Strategies and Case Studies*, McGraw-Hill/ Irwin, Boston.
- Subramanian, N., Gunasekaran, A., Papadopoulos, T., Nie, P., 2016, 4th party logistics service providers and industrial cluster competitiveness: collaborative operational capabilities framework, *Industrial Management & Data Systems*, 116, 7, 1303-1330, <http://dx.doi.org/10.1108/IMDS-06-2015-0248>
- Tianjian, Y., Weiguo, F., 2016, Information management strategies and supply chain performance under demand disruptions, *International Journal of Production Research*, 54, 1, 8-27, <http://dx.doi.org/10.1080/00207543.2014.991456>
- Trębicki, P., Kępiński, Z., 2016, The Fourth Industrial Revolution: expected challenges in Supply Chains, Seminar BVL International Chapter Katowice, 6th September.
- Van Doesburg, R., 2011, *Global Supply Chain Control Towers. Achieving Supply Chain end-to-end Visibility*, Capgemini Consulting, 1-16.
- Wieteska, G., 2014, Improvement of suppliers in the B2B market, *Logistyka*, 3, 7228-7292.
- World Economic Forum, 2016, *World Economic Forum White Paper Digital Transformation of Industries: In collaboration with Accenture. Logistics Industry*, January, 1-31.

EKONOMIA WSPÓLDZIELENIA W LOGISTYCE I ZARZĄDZANIU ŁAŃCUCHEM DOSTAW

STRESZCZENIE. Wstęp: Wyzwania współczesnego otoczenia biznesowego wymagają od menedżerów logistyki i zarządzania łańcuchem dostaw ciągłego poszukiwania innowacyjnych metod zarządzania procesami biznesowymi, zorientowanych na równoczesne osiągnięcie efektów Triple Bottom Line, czyli ekonomicznych, społecznych i środowiskowych. W rezultacie, obecnie wśród praktyk przedsiębiorstw coraz większe znaczenie zyskuje koncepcja ekonomii współdzielenia. Ma ona pozytywny wpływ na budowanie i rozwój relacji współpracy zarówno pomiędzy partnerami biznesowymi w łańcuchach wartości, jak i pomiędzy potencjalnymi konkurentami rynkowymi. Ekonomia współdzielenia w logistyce i zarządzaniu łańcuchami dostaw tworzy potrzebę odmiennego sposobu zarządzania potencjałem przedsiębiorstw i relacjami między nimi.

Materiały i rezultaty: Praca powstała na podstawie analizy źródeł wtórnych. Autorki przeprowadziły przegląd najnowszej literatury, raportów z badań międzynarodowych instytucji i firm doradczych, prezentacji konferencyjnych, materiałów udostępnionych przez przedsiębiorstwa, profesjonalnych filmów i innych materiałów internetowych. Na podstawie analizy materiałów źródłowych, przedstawiono różnorodne najlepsze praktyki współdzielenia zasobów i wskazano czynniki sukcesu ich rozwoju w logistyce i zarządzaniu łańcuchem dostaw.

Wnioski: Rozwój praktyk współdzielenia zasobów stanowi ważny cel menedżerów odpowiedzialnych za zarządzanie procesami biznesowymi w łańcuchach dostaw, w tym w szczególności za zarządzanie procesami logistycznymi. Zaprezentowane przykłady przedsięwzięć sharingowych określają różnorodne możliwości zastosowań i ich istotny wpływ na działalność przedsiębiorstw w różnych aspektach. Pomimo różnorodności, można wskazać ich wspólne cechy mające charakter operacyjnych i strategicznych czynników sukcesu. Umożliwiły one autorkom sformułowanie rekomendacji mających walory aplikacyjne, skierowanych do menedżerów logistyki i zarządzania łańcuchem dostaw.

Słowa kluczowe: ekonomia współdzielenia, współdzielenie zasobów w logistyce, współdzielenie zasobów w zarządzaniu łańcuchem dostaw.

ÖKONOMIE DER GEMEINSAMEN NUTZUNG VON RESSOURCEN IN DER LOGISTIK UND IM MANAGEMENT DER LIEFERKETTE

ZUSAMMENFASSUNG. Einleitung: Herausforderungen des gegenwärtigen Business-Umfeldes erfordern von den Managern für Logistik und Management der Lieferkette eine ständige Nachsuche nach innovativen Methoden der Verwaltung von Business-Prozessen, die die gleichzeitige Erzielung der Effekte im Modus Triple Bottom Line, das heißt der wirtschaftlichen, sozialen und umweltfreundlichen Effekte, anstreben würden. Im Ergebnis eines solchen Sachverhaltes gewinnt innerhalb der Unternehmenspraxis das Wirtschaftskonzept der gemeinsamen Nutzung von Ressourcen sehr viel an Bedeutung. Dieses Konzept beeinflusst positiv den Aufbau und die Entwicklung der Zusammenarbeit zwischen den einzelnen Business-Partnern innerhalb der Wertkette, wie auch zwischen den potenziellen Marktwettbewerbern. Die Ökonomie der gemeinsamen Nutzung von Ressourcen in der Logistik und im Management der Lieferketten generiert die Notwendigkeit einer anderen Art und Weise der Verwaltung von Unternehmenspotenzialen und -relationen.

Material und Ergebnisse: Die vorliegende Arbeit ist anhand einer Analyse von Sekundärquellen entstanden. Die Autorinnen führten eine Übersicht über die neueste Fachliteratur, über Berichterstattungen über die von internationalen Beratungseinrichtungen und -firmen erzielten Forschungsergebnisse, über Konferenz-Präsentationen, ferner über die von unterschiedlichen Unternehmen zur Verfügung gestellten Materialien und branchenbezogenen Filme sowie über andere Erkundungen vom Internet durch. Aufgrund der Analyse des Quellenmaterials wurden die unterschiedlichen, und zwar die besten Praktika auf dem Gebiet der gemeinsamen Nutzung von Ressourcen dargestellt und auf die Erfolgsfaktoren bei deren Entwicklung innerhalb der Logistik und des Lieferketten-Managements hingewiesen.

Fazit: Die Entwicklung der Praktika der gemeinsamen Nutzung von Ressourcen macht ein wichtiges Ziel bei den für das Businessprozess-Management innerhalb der Lieferketten, insbesondere für das Logistikprozess-Management verantwortlichen Managern, aus. Die dargestellten Beispiele der Sharing-Unternehmungen projizieren verschiedene Möglichkeiten deren Anwendung und deren wesentlichen Einfluss auf die Betätigung der Unternehmen in allerlei Aspekten. Trotz der Verschiedenartigkeit solcher Unternehmungen kann man ihre gemeinsamen Merkmale, die den Charakter der operativen und strategischen Erfolgsfaktoren besitzen, aufzeigen. Sie alle haben den Autorinnen die Formulierung der Empfehlungen, die über die Anwendungseigenschaften verfügen und an die Manager für Logistik und Lieferketten-Management gerichtet sind, ermöglicht.

Codewörter: Ökonomie der gemeinsamen Nutzung, gemeinsame Nutzung von Ressourcen in der Lieferkette, gemeinsame Nutzung von Ressourcen im Lieferketten-Management

Barbara Ocicka
Department of Logistics,
Collegium of Business Administration
Warsaw School of Economics
Al. Niepodległości 128
02-554 Warsaw, **Poland**
e-mail: barbara.ocicka@sggw.waw.pl

Grażyna Wieteska
Department of Logistics
Faculty of Management
University of Lodz
ul. Matejki 22/26
90-237 Łódź, **Poland**
e-mail: gwieteska@uni.lodz.pl