Karolina MUCHA-KUŚ
Instytut Projektów i Analiz Sp. z o.o.
karolina.mucha-kus@ipa-instytut.pl

Jakub STĘCHŁY
Górnośląsko-Zagłębiowska Metropolia
j.stechly@metropoliagzm.pl

Krzysztof ZAMASZ
Politechnika Śląska
Wydział Organizacji i Zarządzania
Instytut Zarządzania, Administracji i Logistyki
krzysztof.zamasz@polsl.pl

THE ROLE OF COOPETITION IN DEVELOPMENT OF ELECTROMOBILITY

Abstract. The growing importance of electromobility and the desire to spread the use of electric vehicles are inextricably linked with the development of innovative technologies and new business models. On the one hand, regulations are being created outlining the development plans in this regard, on the other hand some of the market players are beginning to take actions aimed at establishing certain solutions and their business commercialization. In this context, it becomes important to analyse the nature of management strategies used by the entities involved in the development of electromobility. The authors of the paper identify and analyse various types of coopetition strategies in the context of electromobility development in Poland.

Keywords: electromobility, EV, coopetition

ROLA KOOPETYCJI W ROZWOJU ELEKTROMOBILNOŚCI

Streszczenie. Wzrost znaczenia elektromobilności oraz dążenie do upowszechnienia korzystania z pojazdów elektrycznych nierozerwalnie związane są z rozwojem innowacyjnych technologii oraz nowych modeli biznesowych. Z jednej strony, powstają regulacje prawne nakreślające plany rozwoju w tym zakresie, z drugiej zaś można już zauważyć działania graczy rynkowych mające na celu doprowadzenie do wypracowania oraz biznesowej komercjalizacji poszczególnych rozwiązań. W tym kontekście, istotna staje się analiza charakteru

strategii zarządczych stosowanych przez podmioty zaangażowane w rozwój elektromobilności. W artykule dokonano identyfikacji oraz analizy rodzaju strategii koopetycyjnych na przykładzie rozwoju elektromobilności w Polsce.

Słowa kluczowe: elektromobilność, koopetycja, samochody elektryczne

1. Introduction

Electromobility (e-mobility) is a concept based on the use of ecological, zero-emission, electric vehicles instead of vehicles powered by fossil fuels. It applies to both the technical aspects of the vehicle, and to charging technology and infrastructure. International research agency Navigant Research[1] predicts that by 2023 electric cars will constitute 2.4% of next-generation vehicles in the world. In turn, the global sales of electric passenger vehicles could reach 6.4 million in 2023. The buyers of electric vehicles are more and more often companies and public institutions, who in addition to environmental benefits, see it as an opportunity to optimize the current costs of the fleet.

The growing importance of electromobility in the world is therefore linked to innovative and economically competitive solutions. The Responsible Development Plan adopted by the Polish Government[2] addresses the need to seek new ways of gaining competitive advantages and solutions that may bring about the expected economic effect. This, in turn, increases the possibility of developing new technologies and new business models. Proper management of innovative projects, taking into account the nature of the various partners involved in such endeavors, plays a key role in achieving certain goals, which may positively influence the sustainable development of electromobility.

Capital-intensive investment processes often require a combination of competence of several entities in joint efforts to achieve the intended purpose. It may be noticed that in nowadays realities, companies compete with one another in some fields, and cooperate in others[3]. Such behaviors are not described in classical management literature, yet the actual strategies of market players often involve cooperation with their competitors by means of so-called coopetition strategies. This is because market players would be unable to achieve the expected results by working individually, thus they often consciously decide to establish cooperation with their competitors.

The purpose of this article is to identify coopetition and to analyse its types based on activities taken to achieve the development of electromobility in Poland.

---

[1] Report „Prognoza dla rynku pojazdów elektrycznych: 2014-2023". „Navigant Research", IV quarter 2014, http://www.navigantresearch.com/, 22nd Dec. 2016.

[2] http://www.me.gov.pl/node/26432, 22nd Dec. 2016.

[3] Luo Y.: Toward coopetition within a multinational enterprise: a perspective from foreign subsidiaries. "Journal of World Business", Vol. 40, 2005, p. 71-90.

2. Coopetition as a Management

The Concept of Coopetition

Strategic management results in long-term effects, focusing on the future changes in the companies' environment and adjusting the companies to these conditions. This means that the availability of resources is aimed at using and strengthening opportunities, as well as eliminating the threats emerging in a changing environment. The researchers of strategic management emphasize the importance of co-creating of value by the market players, which might contribute to the better financial results achieved by the involved actors. Organizations do not create value in isolation[4], but come in all sorts of relationships to achieve strategic objectives[5].

It is worth mentioning that in terms of classical economics, cooperation is juxtaposed with competitive behaviors[6], and the market players either cooperate or compete with one another. In addition, the economic dogma of competition's beneficial influence on both market and consumers, makes the cooperation of rivals harmful and undesirable[7]. However, by observing the behaviors of market players, there may be noticed their efforts to establish interactions with their direct competitors[8]. They complement their activities by using key competences in order to achieve greater benefits[9]. Such a strategy, called coopetition[10] is a combination of competition and cooperation, which seems paradoxical in terms of classical management studies.

Coopetition as a subject of research is often defined as a consequence of intensification and development of unstable and dynamic cooperation behaviors between competitors[11]. Coopetition is a transposition of game theory into the business realities, by creating a new strategic concept allowing access to external resources, i.e. know-how, finance or technologies. In this respect it has become a strategy of creating value and competition in its division, in the conditions of partial convergence of interests and goals and changeable structure of a game with a positive and variable sum. At the same time coopetition is accompanied by a confrontational attitude and it is difficult to determine ex-ante to what

[4] Hakanson H., Snehota I.: No Business is an Island: the Network Concept of Business Strategy. "Scandinavian Journal of Management", Vol. 5, 2006, p. 187-200.
[5] Bengtsson M., Kock S.: Cooperation and competition in relationships between competitors in business networks. "The Journal of Business & Industrial Marketing", Vol. 14, No. 3, 1999, p. 178-191.
[6] Adler P., Heckscher C., Prusak L.: Building Collaborative Enterprise. "Harvard Business Review", July-August 2011, p. 95-101.
[7] Vonortas N.: Multimarket Contract and Inter-Firm Cooperation in R&D. "Journal of Evolutionary Economics", Vol. 10, 2000, p. 243-271.
[8] Czakon W., Mucha-Kuś K., Sołtysik M.: Coopetition Strategy – What Is In it for All? A Study of Common Benefits in the Polish Energy Balancing Market. "International Studies of Management & Organization", Vol. 46(2), 2016, p. 80-93.
[9] Brandenburger A.M., Nalebuff B.J.: Co-opetition. Doubleday Currency, New York 1996.
[10] In English: the combined terms cooperation and competition make a neologism: coopetition.
[11] Czakon W., Mucha-Kuś K., Rogalski M.: Coopetition Research Landscape – a Systematic Literature Review 1997-2010. "Journal of Economics and Management", Vol. 17, 2014, p. 121-150.

extent will the partners gain profits from cooperation[12], unless it is strictly defined. Coopetition is a strategy involving at least two parties and it may occur between the cooperating companies in a certain part of their business, while at the same time these companies can compete on a different field, in order to achieve better results, both individual and common[13].

Types of Coopetition

The coopetition researchers show some patterns typical for every-day practical business relations, which allows for the classification of this strategy depending on the accepted division criterion. There is therefore the deliberate coopetition[14] and the emerging coopetition[15]. The first pattern may be characterized by a conscious, thoughtful and purposeful quest for benefit on a both individual and common level. The division of tasks and their coordination are quite clear and often well-defined and specified. In this meaning, the coopetition is a purposeful, externally-oriented strategy, strongly focused on a larger number of involved actors, instead of just one[16]. Opposite behavior being, somewhat provoked by the current market situation, an emerging pattern which applies to a sudden and dynamic increase in the number of individual behaviors and searching for the value within the connections among the cooperating partners, usually not planned prior to the onset of cooperation.

Given the direction of the resulting relationships, two types of coopetition may be distinguished; horizontal coopetition and vertical coopetition[17]. The horizontal pattern involves the cooperation of direct competitors within the market in which they operate, while the vertical pattern may be observed in seller-buyer relationships and usually concerns the level of negotiated prices. In the vertical relation, the common interests of the involved parties are identified, as well as their interdependence within the supply chain. On the other hand, horizontal coopetition is conducive to achieving a competitive advantage and a strong market position.

Another perspective in the division of coopetition types is the number of players involved. We may therefore, define bilateral strategies involving the cooperation of two parties, and

[12] Mucha-Kuś K., Zamasz K., Sołtysik M.: Innowacyjne strategie koopetycyjnych zachowań uczestników rynku energii. WSB, Dąbrowa Górnicza 2015, s. 83-93.
[13] Mucha-Kuś K.: Strategia koopetycji. Innowacyjne połączenie konkurencji i współdziałania? „Przegląd Organizacji", nr 2, 2010, s. 9-12.
[14] Robert F., Marques P., Le Roy F.: Coopetition between SMEs: an empirical study of French professional football. "International Journal of Entrepreneurship and Small Business", Vol. 8(1), 2009, p. 23-43.
[15] Mariani M.: Coopetition as an Emenrgent Strategy. "International Studies of Management & Organization", Vol. 37(2), 2007, p. 97-126.
[16] Mucha-Kuś K., Sołtysik M.: Koopetycja w procesie inwestycyjnym na przykładzie projektu budowy elektrowni jądrowej w Polsce. Studia Ekonomiczne, nr 155. Uniwersytet Ekonomiczny, Katowice 2013, s. 43-494.
[17] Tidström A.: Causes of conflict in intercompetitor cooperation. "Journal of Business & Industrial Marketing", Vol. 7(24), 2009, p. 506-518.

network strategy which involves a larger number of competitors[18]. Moreover, both strategies may be additionally divided into simple and complex ones[19], which has been presented in Picture 1. Simple bilateral coopetition refers to a strategy existing between the two parties belonging to the same value chain. Complex bilateral coopetition refers to more than one link of a chain. Similarly, simple network coopetition refers to relations within a group of actors of a single chain, while complex network coopetition relates to a larger number of links in the value-creation chain.

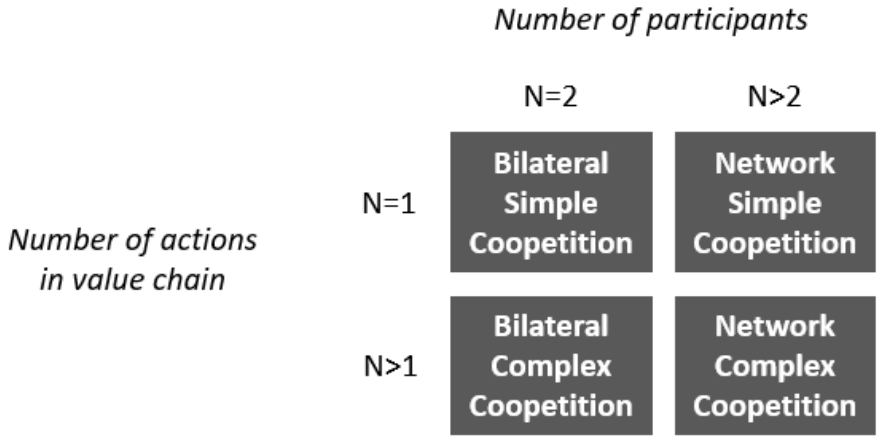

Fig. 1. Coopetition division according to the number of market players
Source: Dagnino G.B., Padula G.: Coopetition Strategy: A New Kind of Interfirm Dynamics for Vaule Creation. Paper presented at the Second EURAM Annual Conference, Stockholm, May 9-11 2002.

Coopetition researchers emphasize the fragmentation of knowledge when it comes to coopetition results and its practical implications. Due to the majority of works being epistemological in nature, there are still no comprehensive empirical studies showing the use of this strategy in business. The authors of research also emphasize that normatively coopetition should give better results than using competition or cooperation strategies separately, not only in the context of a single company, but also from the perspective of common benefit. Moreover, individual competitors would simply often be unable to reach a set goals, which is why they decide to cooperate with a competitor.

3. Preconditions for the Development of Electromobility

In order to take the appropriate strategic decisions, it is necessary to assess the current situation of a given company as well as its environment, especially from the perspective of

[18] Dagnino G.B., Le Roy F., Yami S., Czakon W: Strategie koopetycji – nowa forma dynamiki między-organizacyjnej. „Przegląd Organizacji", nr 6, 2008, s. 3.
[19] Dagnino G.B., Padula G.: Coopetition Strategy: A New Kind of Interfirm Dynamics for Vaule Creation. Paper presented at the Second EURAM Annual Conference. Stockholm, May 9-11 2002.

existing restrictions, as well as evaluate the potential development scenarios and their dynamics.

Technological Aspects – Electrical Cars

At the beginning of 2015 the number of electrical cars in the world had not exceeded one million units[20]. In relation to the total number of cars sold in 2015, which amounted to 74 million units, it is a low number. The ever-present uncertainty as to the dynamics of the development of the electric-car market has put car producers at the horns of a dilemma concerning the choice of a proper strategy. The dynamic rise in the popularity of Tesla S or the commercial success of Nissan Leaf is being juxtaposed with the car manufacturers' need to substantially reconfigure their value chain. The introduction of new models is associated with the need to adapt production lines. A large share of the cost of a car battery as well as the production process' high sensitivity to the economies of scale makes the electric cars today significantly more expensive than their internal combustion counterparts. This translates to the purchasing decisions made by individual customers[21].

A changing business environment forces the incumbent manufacturers to keep introducing innovations in the field of their business activities, e.g. in the field of electric vehicle designing, the reconfiguration of existing value networks to include the entities being the providers of batteries and powertrain components, or sales strategies which take into account changes in the product, the way electric cars are used or the customers' expectations. An example of coopetition may be the cooperation of Tesla Motors, Daimler and Toyota. Unlike the majority of car manufacturers, Tesla does not commission the manufacturing of engines to third parties. Due to this, at the end of 2012, Tesla began cooperation with other car manufacturers by supplying them with electric drive systems for Smart Fortwo, Daimler's E-cell or Toyota's RAV4 EV. The cooperation seems to have proven beneficial to all parties – Daimler and Toyota successfully entered the US market of electric cars by using cheaper drives, while Tesla got yet another source of income, which allowed it to start the battery production facility – Gigafactory[22].

[20] Kaldellis J.K., St. Liaros G.: Spyropoulos Electromobility in EU: Current status and future prospects for the Greek market. International Conference 'Science in Technology' SCinTE 2015.
[21] Gis M.: Elektryfikacja transportu samochodowego. „Transport Samochodowy", nr 2, 2016.
[22] Taesu Cheong, Sang Hwa Song, Chao Hu: Strategic Alliance with Competitors in the Electric Vehicle Market: Tesla Motor's Case. "Mathematical Problems in Engineering", Vol. 2016.

Technological Aspects – Charging Infrastructure

One of the important limitations to the pace of popularization of electric cars is their range being the derivative of the currently used technologies of chemical energy storage. Despite substantial progress and forecasts of further decrease of prices and increase in battery capacity, the range remains one of the key barriers to the development of electric cars.

Car manufacturers adopt various strategies for addressing this problem. Tesla Motors is currently developing its own network of fast chargers, the so-called Superchargers. Some manufacturers organize information campaigns to educate about the actual travelling habits (e.g. in France the average daily distance covered by car is 31 kilometres – far less than the reach of available electric cars)[23]. Examples of the use of coopetition may also be seen in the area of charging infrastructure. In November 2016, the BMW, Daimler AG, Ford Group and the VW Group (together with Audi and Porsche) signed a memorandum under which a Joint Venture will be created, whose task will be to build a network of 400 fast chargers throughout Europe. Other car manufacturers and regional partners were invited to participate in that project[24]. Similarly, two energy companies: Italian Enel and Austrian Verbund, and three car manufacturers, i.e. Nissan, BMW and VW Group have teamed up to create a network of two hundred fast chargers in Italy and Austria[25].

Regulatory Aspects

Safe, efficient and environmentally friendly transport is a priority for the European Union, who supports and funds research within the framework of numerous research projects relating to, among others, the introduction of innovative products and services, using electric cars and other ways to reduce transport-related emissions. Electric transport may significantly reduce the maintenance costs of e.g. company fleets. The European Commission recognized it as its priority in the coming years. According to the electromobility development plan prepared by the European Commission for the years 2014-2020 a system of electric-car charging is to be created in EU countries, including Poland[26] (EV, electric vehicles). Currently, Poland has not yet created a unified program to support a sustainable development of adequate infrastructure[27]. A number of documents can be mentioned addressing this issue from the

[23] Donada C., Perez Y.: Editorial: Electromobility at the crossroads. "Int. J. Automotive Technology and Management", Vol. 16, No. 1, 2016.

[24] http://media.daimler.com/marsMediaSite/en/instance/ko/BMW-Group-Daimler-AG-Ford-Motor-Company-and-Volkswagen-Group.xhtml?oid=14866747, 29th Dec. 2016.

[25] https://cleantechnica.com/2016/12/26/eva-enel-verbund-renault-nissan-bmw-vw-group-partnering-new-ev-fast-charging-network-italy-austria/, 28th Dec. 2016.

[26] http://www.outsourcingportal.eu/pl/rozwoj-branzy-e-mobility, 22nd Dec. 2016.

[27] Some Polish cities began investing in electromobility. Gdańsk opened public charging stations for electric vehicles. The authorities of Wrocław are planning to start a network of electric car rental, and Warsaw relieves drivers from parking charges when charging their cars.

perspective of urban transport: The Action Plan for Urban Mobility[28] or The Green Card: Towards a New Culture for Urban Mobility[29].

The Ministry of Energy has prepared the Electromobility Development Plan, which is one of three elements of the Clean Transport Package, which also includes the national framework for the alternative fuel policy and the Low-carbon Transportation Fund. The plan was submitted to public consultation at the end of September 2016, and its provisions define the horizon for activities in this field reaching as far as 2025. The plan outlines the benefits related to the dissemination of electric vehicles in Poland, and identifies the economic and industrial potentials behind it. It emphasizes the improvement of air quality, increase in energetic security, the improvement of electromagnetic grid's stability, as well as the development of highly-specialized industry. The electromobility development perspective has been supplemented by a comprehensive set of suggestions concerning support instruments, whose implementation will greatly influence the development of the electromobility industry, create demand for electric vehicles, cause the modernization of the electromagnetic grid and improve the collaboration between science and business sectors[30]. The experience of other countries shows that a proper choice of support instruments translates significantly to the success of the implementation of electromobility. For example, the survey by the Norwegian Association of Electric Vehicles shows that the incentives most frequently mentioned by the customers included: a reduction of custom duties, the abolition of VAT, the exemption from fees on toll road sections[31]. Of course, the incentives must be tailored to the local economic, legislative and social realties.

Due to the growing importance of low emissions, an increase in the number of cars in urban traffic and the subsequent decline in the quality of residents' lives, municipalities take actions leading to the formation and implementation of integrated transportation policies which take into account the principles of local sustainable development[32]. Also, in this area, space for coopetition can be found, especially between market participants seeking to develop the charging infrastructure, car-sharing programs, the use of electric bicycles or electric buses[33]. Public transport operators often perceive one another as competition, while studies show that the use of multimodal transport (e.g. a combination of car sharing and public

[28] http://eur-lex.europa.eu/legal-content/PL/TXT/PDF/?uri=CELEX:52009DC0490&from=PL, 28th Dec. 2016.
[29] http://eur-lex.europa.eu/legal-content/PL/TXT/PDF/?uri=CELEX:52007DC0551&from=pl, 28th Dec. 2016.
[30] http://www.me.gov.pl/node/26456, 22nd Dec. 2016.
[31] Haugneland P., Bu C., Hauge E.: The Norwegian EV success continues, EVS29 Symposium Montréal, Québec, Canada, June 19-22, 2016.
[32] Beim M.: Dokąd, jak i czym zmierzamy? Rekomendacje dla polityki transportowej Warszawy po 2015 r. Zielone Mazowsze Komisja Dialogu Społecznego ds. Transportu, 2016.
[33] Schockert S., Herzwurm G., Helferich A.: Application of QFD within a co-opetition network of public transport organizations. "Proceedings of the 19th International Symposium on QFD". Santa Fe, New Mexico, USA 2013.

transport, or a bicycle and public transport) helps to solve the so-called 'last mile' problem and increase the overall use of the public transport at the expense of private cars[34].

Business Aspects – the Polish Market

On 19 October 2016 the leading energy companies, i.e. PGE Polska Grupa Energetyczna, Energa, Enea and Tauron Polska Energia established the Electromobility Poland company, whose purpose is to contribute to the development of electromobility in Poland. According to the energy companies, electromobility is one of the areas that will have a significant impact on the electricity market in years to come. The degree of preparation of the energy sector to popularize electric cars will determine whether electromobility can become a chance for the energy sector to become more innovative and give it enough momentum to burgeon. Considering the above, the largest Polish energy companies opted for a joint venture. The new entity has a registered capital of PLN 10 million, and each of the companies appointing Electromobility took 25 percent of the share capital thus obtaining 25 percent of votes at the shareholders' meeting. In this case, it is easy to identify the use of coopetition strategy – through the cooperation of the biggest competitors to implement and develop innovation concerning solutions and ways to popularize electromobility. What is more, in June 2016 a letter of intent was signed on the establishment of the Centre for Electromobility. The signatories being, apart from the Technical University, the National Centre for Nuclear Research and four energy companies: Energa, Enea, Tauron Polska Energia and PGE Polska Grupa Energetyczna[35].

4. The Use of Coopetition in the Development of Electromobility

The creation of new solutions, technologies and the increase of the so-called 'business pie'[36] as well as an increase of the market should be seen as a common benefit of coopetition. Investing, in the broad sense of this term, is the basis for all development, and the search for added value and benefits is an integral part resulting from any investment.

The entities would not be able to implement such projects alone. The use of coopetition, and direct interaction with one's competitors makes it possible to achieve the expected value. Innovative activities are particularly challenging especially in terms of the need to have and share certain resources, competence, know-how or experience. Only cooperation in this field

[34] https://ec.europa.eu/energy/intelligent/projects/sites/iee-projects/files/projects/documents/momo_car-sharing_f03_environmental_impacts_en.pdf, 29th Dec. 2016.
[35] http://www.money.pl/gospodarka/wiadomosci/artykul/electromobility-poland-samochod-elektryczny,239,0,2174959.html, 22nd Dec. 2016.
[36] So called by American coopetition researchers A. Brandenburger and B. Nalebuff.

may bring the expected results and lead to the development of electromobility in a given country.

Coopetition \ Company		PGE	ENEA	ENERGA	TAURON
Deliberate		x	x	x	x
Emerging					
Horizontal		x	x	x	x
Vertical					
Bilateral	Simple				
	Complex				
Network	Simple				
	Complex	x	x	x	x

Fig. 2. Coopetition in the Development of Electromobility in Poland
Source: Own work.

Given the typology of coopetition presented in this article, the strategy of PGE, ENERGA, ENEA and TAURON may be described as: (i) intentional – results from a conscious decisions of the partners, has been agreed, planned and formalized, (ii) horizontal – relates to the cooperation of direct competitors, and (iii) network complex – relates to more than two actors in more than one part of the value chain, which, taking into account a wide range of activities of all competitors, has been presented in fig. 2.

These examples show that the companies in the market of electromobility consciously use coopetition to effectively manage the market, considering the current level of market development[37].

5. Summary

Coopetition, or the simultaneous occurrence of cooperation and competition, has become a managerial practice present in numerous branches of the economy, it has also become a response to the need for innovative solutions. It is impossible for companies to operate

[37] Damousis I.G., Amditis A., Naberezhnykh D.: Electromobility: a market readiness study – Preliminary findings. IEEE IEVC'14, 2014.

separately from their environment[38], that is why it is so important for them to identify and consciously use the interdependence with other companies on the market. A commonly created value is often the result of competitors' cooperation and, what's even more important, would be impossible to achieve by the partners individually[39].

The considerations of this article apply to the holistic view of management strategies in the context of electromobility development in Poland. Analyses of relations among the companies involved in Electro Mobility Poland company show that the interactions among competitors may be described as coopetition: deliberate, horizontal, network and complex. Common commitment of the competitors may contribute to the development of electromobility in Poland. It may be predicted that it will bring about numerous benefits for a wide group of stakeholders: the national economy will benefit from the increase in competitiveness of the partners working within it, healthcare and environmental costs will be reduced, the country's energy independence balance will improve, the energy companies will benefit from the rising demand for electricity and will also have a chance to broaden their offers by additional services related to long-term car renting and car sharing of electric vehicles, energy storage or prosumer PV[40] infrastructure. Ultimately owners and users of electric cars will benefit.

The topics presented in this article are a prelude to further research in the use of coopetition with regards to the development of electromobility. The attempt to identify and define the typology of this phenomenon is only an introduction to further, in-depth analyses that have a chance of becoming useful in the light of the growing role of the sharing economy and diversified business models adopted due to the popularization of electric vehicles.

Bibliography

1. Adler P., Heckscher C., Prusak L.: Building Collaborative Enterprise. "Harvard Business Review", July-August 2011.
2. Beim M.: Dokąd, jak i czym zmierzamy? Rekomendacje dla polityki transportowej Warszawy po 2015 r., Zielone Mazowsze Komisja Dialogu Społecznego ds. Transportu, 2016.
3. Bengtsson M., Kock S.: Cooperation and competition in relationships between competitors in business networks. "The Journal of Business & Industrial Marketing" 1999, Vol. 14, No. 3.

[38] Hakanson H., Snehota I.: No Business is an Island: the Network Concept of Business Strategy. "Scandinavian Journal of Management", Vol. 5, 2006, p. 187-200.
[39] Brandenburger A.M., Nalebuff B.J.: Co-opetition. Doubleday Currency, New York 1996.
[40] http://publications.jrc.ec.europa.eu/repository/bitstream/JRC100516/framework%20for%20electric%20vehicles%20and%20photovoltaic%20synergies.pdf, 29th Dec. 2016.

4. Brandenburger A.M.,. Nalebuff B.J: Co-opetition. New York: Doubleday Currency 1996.
5. Czakon W., Mucha-Kuś K., Rogalski M.: Coopetition Research Landscape – a Systematic Literature Review 1997-2010. "Journal of Economics and Management", Vol. 17, 2014.
6. Czakon W., Mucha-Kuś K., Sołtysik M.: Coopetition Strategy – What is in it for All? A Study of Common Benefits in the Polish Energy Balancing Market. "International Studies of Management & Organization", No. 46(2), 2016.
7. Dagnino G.B., Le Roy F., Yami S., Czakon W.: Strategie koopetycji – nowa forma dynamiki międzyorganizacyjnej. „Przegląd Organizacji", nr 6, 2008.
8. Dagnino G.B., Padula G.: Coopetition Strategy: A New Kind of Interfirm Dynamics for Vaule Creation. Paper presented at the Second EURAM Annual Conference, Stockholm, 9-11.05.2002.
9. Demailly D., Novel A.-S.: The sharing economy: make it sustainable, Studies No. 03, IDDRI, Paris, France 2014.
10. Donada C., Perez Y., Editorial: Electromobility at the crossroads. "Int. J. Automotive Technology and Management", Vol. 16, No. 1, 2016.
11. Gis M.: Elektryfikacja transportu samochodowego. „Transport Samochodowy", nr 2, 2016.
12. Hakanson H., Snehota I.: No Business is an Island: the Network Concept of Business Strategy. "Scandinavian Journal of Management", No. 5, 2006.
13. Kaldellis J.K., Liaros S., Spyropoulos G.: Electromobility in EU: Current status and future prospects for the Greek market. International Conference 'Science in Technology' SCinTE 2015.
14. Luo Y.: Toward coopetition within a multinational enterprise: a perspective from foreign subsidiaries. "Journal of World Business", No. 40, 2005.
15. Hakanson H., Snehota I.: No Business is an Island: the Network Concept of Business Strategy. "Scandinavian Journal of Management" Vol. 5, 2006.
16. Mariani M.: Coopetition as an Emenrgent Strategy. "International Studies of Management & Organization", Vol. 37(2), 2007.
17. Mucha-Kuś K.: Strategia koopetycji. Innowacyjne połączenie konkurencji i współdziałania? „Przegląd Organizacji", nr 2, 2010.
18. Mucha-Kuś K., Sołtysik M.: Koopetycja w procesie inwestycyjnym na przykładzie projektu budowy elektrowni jądrowej w Polsce. Studia Ekonomiczne, nr 155. Uniwersytet Ekonomiczny, Katowice 2013.
19. Mucha-Kuś K., Sołtysik M., Zamasz K.: Capacity market – demand for coopetition? [in:] Zamasz K. (ed.): Capacity Market in Contemporary Economic Policy. Difin, Warszawa 2015.
20. Mucha-Kuś K., Zamasz K., Sołtysik M.: Innowacyjne strategie koopetycyjnych zachowań uczestników rynku energii, [w:] Dacko-Pikiewicz Z., Marakova V., Niestrój R.

(red.): Innowacje i przedsiębiorczość w procesie podnoszenia konkurencyjności przedsiębiorstw. Wydawnictwo Naukowe WSB, Dąbrowa Górnicza 2015.
21. Robert F., Marques P., Le Roy F.: Coopetition between SMEs: an empirical study of French professional football. "International Journal of Entrepreneurship and Small Business", No. 8(1), 2009.
22. Schockert S., Herzwurm G., Helferich A.: Application of QFD within a co-opetition network of public transport organizations. Proceedings of the 19th International Symposium on QFD. Santa Fe, New Mexico, USA 2013.
23. Taesu Cheong, Sang Hwa Song, Chao Hu: Strategic Alliance with Competitors in the Electric Vehicle Market: Tesla Motor's Case. "Mathematical Problems in Engineering", Vol. 2016, doi: 10.1155/2016/7210767.
24. Tidström A.: Causes of conflict in intercompetitor cooperation. "Journal of Business & Industrial Marketing", No. 7(24), 2009.
25. Vonortas N.: Multimarket Contract and Inter-Firm Cooperation in R&D. "Journal of Evolutionary Economics", Vol. 10, 2000.
26. Weiller C., Shang T., Neely A., Shi Y.: Competing and co–existing business models for EV: lessons from international case studies. "International Journal Of Automotive Technology and Management", Vol. 15(2).
27. http://media.daimler.com/marsMediaSite/en/instance/ko/BMW-Group-Daimler-AG-Ford-Motor-Company-and-Volkswagen-Group.xhtml?oid=14866747, 09.12.2016.
28. https://cleantechnica.com/2016/12/26/eva-enel-verbund-renault-nissan-bmw-vw-group-partnering-new-ev-fast-charging-network-italy-austria/, 22.12.2016.
29. http://eur-lex.europa.eu/legal-content/PL/TXT/PDF/?uri=CELEX:52009DC0490&from=PL, 28.12.2016.
30. http://www.me.gov.pl/node/26432, 22.12.2016.
31. http://www.me.gov.pl/node/26456, 22.12.2016.
32. https://ec.europa.eu/energy/intelligent/projects/sites/iee-projects/files/projects/documents/momo_car-sharing_f03_environmental_impacts_en.pdf, 29.12.2016.
33. http://www.money.pl/gospodarka/wiadomosci/artykul/electromobility-poland-samochod-elektryczny,239,0,2174959.html, 22.12.2016.
34. http://www.navigantresearch.com/, 22.12.2016.
35. http://www.outsourcingportal.eu/pl/rozwoj-branzy-e-mobility, 22.12.2016.