

Management of supply chain and networks of enterprises

Zarządzanie łańcuchem dostaw i sieciami przedsiębiorstw

The purpose of this paper is to examine how supply chain management principles influence on different forms of enterprises' integration. Research problem relates to the effects of the integration of the particular organizational forms. The results of research indicate that a significant relationship has been established between and supply chain performance and the effects of the integration. The findings reveal that networking is significantly related to integration, and that informal integration is more important than formal one.

Key words:

networks, enterprises, supply chain.

Celem artykułu jest zbadanie, w jaki sposób zasady zarządzania łańcuchem dostaw wpływają na różne formy integracji przedsiębiorstw. Problem badawczy przedstawiony w artykule dotyczy efektów integracji poszczególnych form organizacyjnych w przedsiębiorstwach. Wyniki badań wskazują, że istnieje związek między wydajnością łańcucha dostaw, a efektami wynikającymi z integracji w samym łańcuchu. Wyniki pokazują również, że powiązania sieciowe są związane z integracją, a także nieformalna integracja jest ważniejsza niż formalna.

Słowa kluczowe:

sieci, przedsiębiorstwa, łańcuchy dostaw.

Introduction

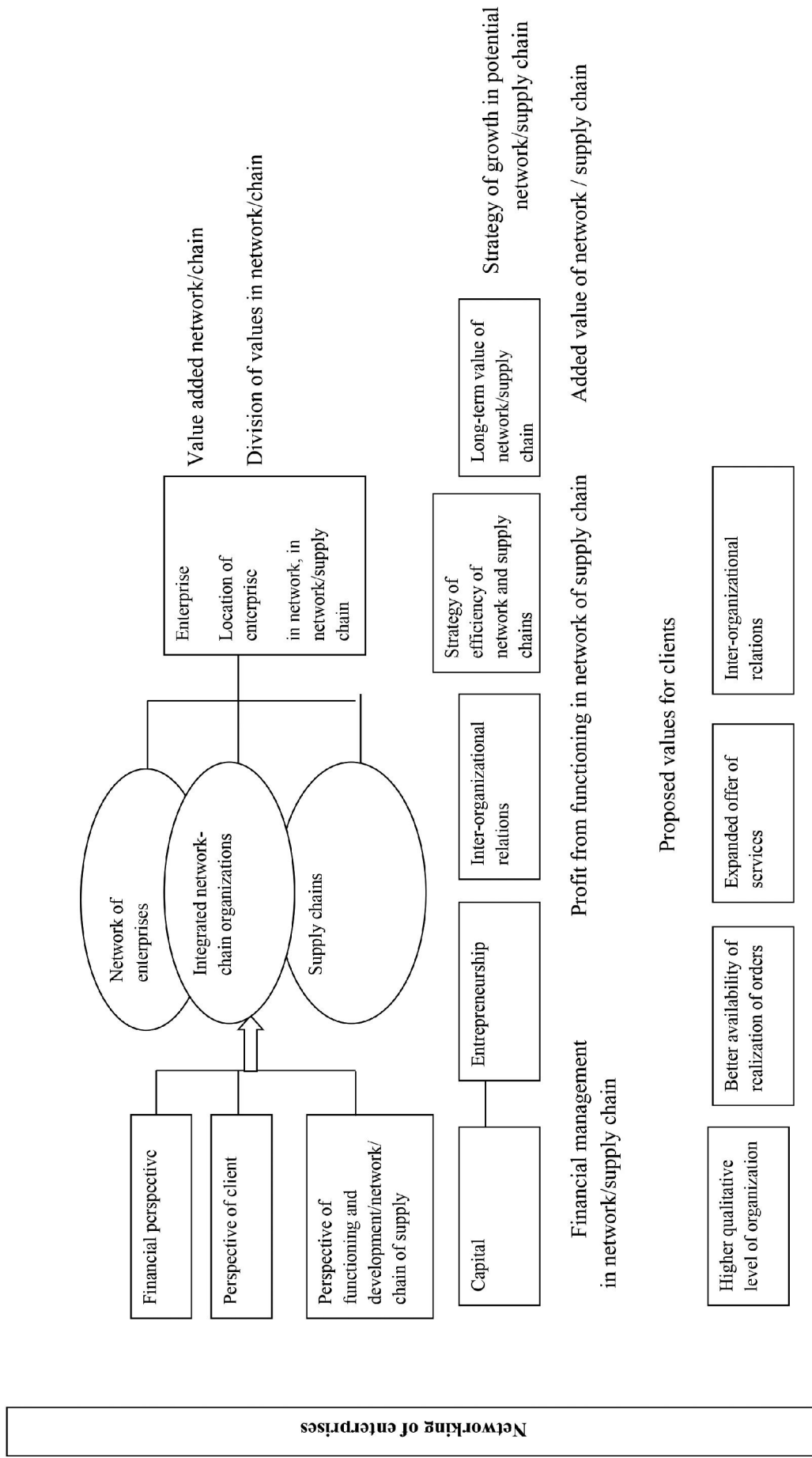
Functioning of supply chain management has been the subject of many scientific discussions. As enterprises seek to develop partnerships and effective links with trading partners and clients, processes become more complicated than ever before. Physical logistics become more dependent on networking, and these creation of network can help to effective arrangements. Enterprises are then faced with the management issues of network processes and relationships creating an inter-dependence. To cope with various issues, many enterprises are rearranging their strategical and operational processes to better manage their environmental dynamics and to achieve competitive advantage as well as to satisfy their clients.

Premises of functioning of supply chains

Carrying out analysis of the processes of management in the context of the subject of deliberations justifies the restriction of the problematic issues to first and foremost the conceptualization of the relations of the supply chain and networking of enterprises. The identification of the afore-mentioned issues is to be found at the

theoretical basis. In undertaking the aforesaid problem, it is essential to emphasize that the supply chain is an intricate economic category as there is a multitude of definitions that distinguish supply chains. Subject-related literature provides many general definitions and inter-connected supply chains and networks of enterprises. Apart from the general definitions, the chosen descriptions of identification have been indicated that confirm the convergence of the supply chain with the network of enterprises. This convergence confirms one of the most acknowledged definitions in accordance to which "a supply chain is a network of organizations that are engaged by way of ties with suppliers and clients in various processes and activities which create value in the form of products and services provided to the final consumers" (Christopher, 1998). Another definition comes down to the claim that "the supply chain consists of a network of plants and manufacturers that supply the raw materials and components, while subsequently processing them into semi-products and sub-assemblies and ultimately the finished goods, while subsequently facilitating their consumption by the final consumer" (agchi, 2000). In literature, the definition of the network of supply chains is also to be found. In terms of their characteristics, the existence of relations with suppliers and/or clients is emphasized, as well as the concentration on the functioning areas. By referring

Figure 1
Relational map of supply chains and networking



Source: Prepared on the basis of the following: Kaplan, Norton, 2004, p. 137.

to the research results, the authors in question emphasized that the problems of distribution, supplies, sales and promotion prevailed (Mierzejewska, Tomaszewski, 2016). A further definition defines a supply chain as an intricate network of economic entities within the framework of which the flow of products and services is executed, as well as the flow of capital and information (Mesjasz-Lech, 2014). On the basis of the dependencies of the supply chains and networking presented, it is justifiable to indicate the relational map in this area (Fig. 1). The map illustrates the areas of the efficiency of the network and supply chains. These areas relate to the management of finance, creation of the value for clients, as well as strategies of network activity and supply chains. The perspectives of the relations of supply chains and the networking of enterprises are of particular importance. In this context, it is essential to refer to the strategies, particularly for the aims of the supply chain.

The creation of the supply chain is determined by various aims, of which economic aims are of fundamental importance (Witkowski, 2003).

It is assumed that the reduction of costs is one of the more significant economic aims of the supply chain (Surowiec, 2015), thus ensuring the increased level of competition. One of the more significant sources of reducing costs in the supply chain is the reduction in the level of stocks. "Cost reduction is often considered an important objective for purchasing and supply personnel" (Baily, 1997). In further deliberations, it is emphasized that "cost reductions of this order are sometimes thought to be possible only by substituting inferior goods or patronizing inadequate suppliers" (Baily, 1997). The level of importance of costs in the supply chains is underlined by R. Kaplan and R. Cooper. This category has a direct impact on the management of costs and efficiency (Kaplan, Cooper, 2000).

Networking of enterprises as integrated organizations

In the analysis of networking, it is necessary to assume the justified view that "inter-organizational networks are taking on a greater level of importance in the economy (levels of international cooperation, as well as national and regional cooperation and cooperation between the enterprises) in science (scientific-research networks, design networks), or in private life (social networks; Jelonek, 2012).

Consequently, the significance of networking is aptly deemed to be that "functioning in the network structures is one of the significant determinants of

the contemporary economy. The genesis of their development is perceived to be in the cooperative ties" (Sopińska, Tomaszewski, 2012). In the context of the significance of networking, it is necessary to refer to the network paradigm in which the creation of the competitive advantage of an enterprise is determined by various factors. The network structure is of fundamental importance as well as the position and the relations of an enterprise in the network, while also the skill to avail of entities in the network (Staniec, 2013). The networking of enterprises is an important problem of the integration of economic units. Networking constitutes the economic category which is featured by the uniform set of organizational solutions that illustrates the vast differentiation of the quantitative and qualitative parameters (Staniec, 2015). In subject-related literature, there is also a reference to space. A sample reference concentrates on the following: "issues associated with challenges... in the context of global space with particular regard for inter-organizational networks" (Pachura, 2016). In further deliberations, due to the aim of the work there has been a focus on the current directions of research occurring in the context of networking that are aimed at defining the essence of the systemic efficiency of the network subjects. The problem formulated in the afore-mentioned manner directly refers to the effect in a cost relation. However, in networking, the importance of the roles, functions and managerial qualities are emphasized with relation to the people and institutions bearing responsibility for the efficient management of the network J. Niemczyk, R. Trzaska. There is a reference to the value of the enterprise to be found at the basis of the network efficiency. The process of creating value integrates with the cooperative activity of the enterprises within the framework of the network itself, while simultaneously designating the level of competition in the sphere of acquiring the generated value (Ziółkowska, 2013). Hence, it is also possible to refer to the claim that the most valuable solution from the viewpoint of the strategies of the network is that of the creation of values in its own arrangement of network values" (Niemczyk, Lachota, 2014).

A network of values is an integral strategic element of an enterprise as *the process orientation in a company increasing activity and transparency of actions, making coordination and integration of tasks easier, better recognition of customer preferences, as well as realization of strategic goals* (Barcik, Dziewiński, Jakubiec, 2015).

In terms of the aspects of the strategies of networking, one of the most significant problems is that of network awareness (Byłok, Kucęba, Pabian 2011). The aforesaid sphere has become the subject of two-stage research which concentrated on the

Table 1

Cooperation with entities cooperating with clients, suppliers and competitors of the enterprise

Cooperation with the same entities in the case of the following	Precisely with the same entities (1)	Only with some of the entities	At least with same entities (1+2)
Suppliers	7.4%	74.3%	81.7%
Client	2.3%	78.1%	80.4%
Competitor	13.2%	83.8%	97.0%

Source: Kawa, Pierański, 2015.

diagnosis of the state relating to the network awareness of Polish managers.

In the first stage, qualitative research was executed by means of group interviews with the aim of defining the notion of awareness. Identification of the awareness was executed in terms of two aspects. In one of these, there was a focus on the assumption that the network matched the set number of independent entities between which there are relations of a long-term nature. The second aspect constitutes the derivative assumption that each enterprise is a subjective element in the network structure, regardless of the scope of its activity in the network. By focusing on the afore-mentioned aspects, the research aim was defined that was identified as setting a diagnosis in terms of the sphere of the level of awareness of managers in taking up the positions of the represented enterprise in inter-organizational relations.

The second stage is that of quantitative research whose aim was the response to the question relating to the existence of network awareness in enterprises. Research indicates that only half of the surveyed enterprises are aware of the existence of relations of the particular enterprise with other network entities. A summary of the research has been illustrated in the following table 1.

In the summary of the research it is stated that the network identification of managers in the notion of theory and practice varies to a certain extent. Networking in the theories of science of management is more appreciated than in the case of practice represented by the managers of enterprises. A similar nature of strategic analysis was executed in the sphere of competence. Analysis was carried out on the competences of the network by emphasizing their essence. Identification of competences is as follows: leadership in the network, coordinative ability regarding the network activities and the level of awareness of the competence levels of the network members (Olko, 2014).

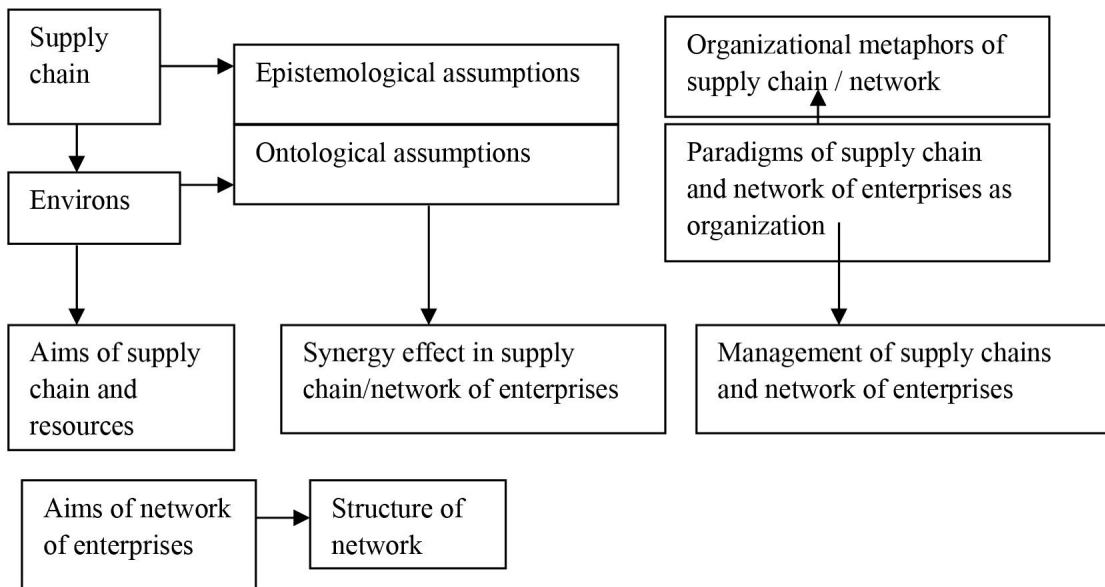
Management of supply chains and networks of enterprises in terms of the aspect of aims and effects of an integrated organization

The analysis of the functioning of supply chains and networks of enterprises justify the undertaking of the problem of the management of the cooperating entities. Hence, it is justifiable to indicate the concept of the management of the supply chain which is identified with the process of the most advanced period of development, together with the integrated activities of logistics. In this context, P. Blaik claims that a new quality of the management of supply chain has emerged. With reference to the aforesaid new quality, problems relating to the international perspectives, together with integrative activity are exposed in the field of the flow of tangible goods, as well as information and financial goods. The author at hand also underlines the necessity of a consistent orientation towards the needs of clients and first and foremost exposes the integrative aspects of management. Thanks to these processes, the integration of the entities of the supply chain takes place. The consequence of the occurrence of the afore-mentioned integrative processes is the possibility of managing the supply chain that is identified as the optimal formation of the processes occurring in the supply chain (Blaik, 2010). The aforesaid aspect of deliberations constitutes the appropriate space of reference for networks of enterprises. In the process of managing the supply chain, it is essential to provide answers to the following questions. The first question relates to the boundaries of the supply chain that encompass the particular enterprise. In the second question, we provide answers in the sphere of the position of the enterprise, its activity and method of establishing the final client (Jokiel, 2014).

The afore-mentioned answers synthesize the essence of the supply chain, while simultaneously

Figure 2

Paradigms and metaphors in philosophy of management of supply chains and networks of enterprises



Source: Prepared on the basis of the following: Świerczek, 2012, p. 4.

indicating the justification of the reference to the occurring relations in the processes of the flow of tangible goods and information goods. Providing responses to such formulated questions is also fully justifiable if the subject matter of deliberations is that of networks of enterprises in the context of the processes of management.

By focusing on the epistemological and ontological assumptions, we identify the aims of the supply chain and the network of enterprises, while simultaneously indicating the metaphors of these organizations. The focal point of the philosophy of the management of the supply chains and the networks of enterprises is however the quantification of the synergy effects achieved by the integrated organizations.

The mutual relations illustrated in the structure of the supply chain and the network create new quality facilitating the achievement of the synergy effects and the assumed goals (Laskowska-Rutkowska, 2013).

Thus, it is justifiable to refer to the claim according to which the aim is acknowledged to be *the generation of synergy arising from the interaction between products, technologies and markets* (Rokita, 2010). Interactions of this type occur in the supply chains and networks. Substantive convergence exists in the view by which the essence comes down to the conclusion that "the fundamental issues of logistics and management of supply networks are analysed against the backdrop of the networks of ties between enterprises" (Ciesielski, 2014). The afore-mentioned reference relates to the higher forms of supply chains

and networks, namely the management of supply networks. A similar nature of the relation of the aims of the supply chain appear in the process of co-sharing the aforesaid chain. It is possible to state that *the aim of co-sharing the supply chain is the achievement of additional benefits from the synergy effect as the result of the connection of the chosen elements of its chains by the firm in question, which it would not be able to achieve independently* (Kamiński, 2013). Taking account of the aims and the results of the functioning of the supply chains and networks fits in with the paradigms and metaphors of the afore-mentioned integrated groups of enterprises. Hence, it is essential to reflect the aforesaid processes in the strategic planning. It is claimed that *strategic planning is the most fundamental form of planning as it identifies objectives and establishes the basic steps to reach them.* (Hampton, 1977)

The continuation of the aforesaid processes is realized as *it is now clear to many corporations that in order to have the very strongest combination of competitive advantages, MNCs/multinational corporations should blend elements of both global and multi-domestic strategies into their worldwide operations* (Dess, Miller, 1993). On this basis, the practical aspects of the management of the supply chains and networks of enterprises are indicated. Within the framework of the aforesaid processes the co-sharing of the aforesaid chain and networks appear.

In economic practice, it is possible to indicate the enterprises that realize the process of co-sharing its supply chain which are Kimberly-Clark Corp. and

Table 2
Number of enterprises

Number of enterprises					
Integrational structure of enterprises	Network	Supply chain	Cluster	Other form of organization	Total
<i>Period of functioning</i> up to 3 years	28	12	16	21	77
Between 3 years and 6 years	12	15	19	28	74
Between 6 years and 9 years	18	17	22	23	80
Over 9 years	15	21	20	27	83
<i>Position of enterprise</i>					
leader	26	19	12	—	57
partner	27	46	65	—	138
<i>Type of integration</i>					
formal (contract)	23	16	62	—	101
informal	30	49	15	—	94
<i>Nature of integration</i>					
National level	43	34	56	83	216
International level	10	31	21	17	79
<i>Aim of integration</i>					
Strategy of leadership	18	28	19	29	94
innovativeness	30	22	31	33	116
joint market	5	15	27	38	85
<i>Effects of integration</i> (more than one effect indicated)					
Reduction of costs	28	34	45	62	169
Joint distribution centres	29	26	27	24	106
Joint transportation activity	22	19	24	31	96
Improvement of level of customer service	28	32	26	17	103
Increase in corporate social responsibility of enterprises	31	36	28	25	120

Source: Self-analysis on the basis of survey research.

Unilever from the cosmetics branch. A multitude of activities of the aforesaid process caused the occurrence of savings of the costs of transportation and shortening of the cycle of supplementing stocks. Moreover, the effect achieved was the reduction of the level of stocks by 30% while ensuring the availability of goods at a level that eliminates shortfalls (Kamiński, 2013).

A significant undertaking in terms of co-sharing the supply chain was the creation of a joint distribution centre. The aforesaid undertaking gave rise to the synergy effects of co-sharing the supply chain by the firms Kimberly-Clark Corp. and Unilever.

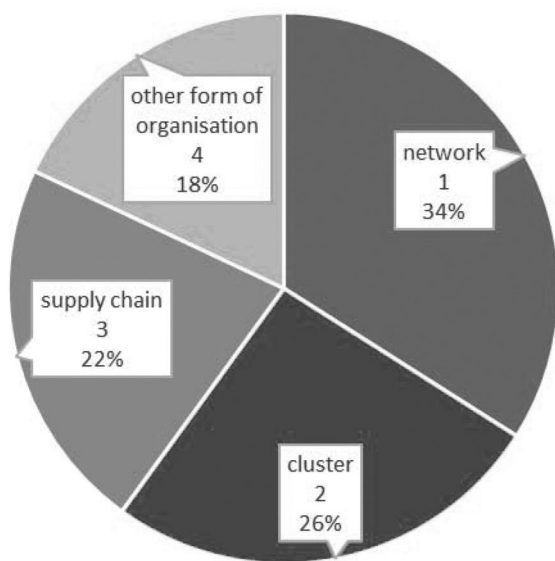
By taking account of the problems of the management of the supply chains and networks, empirical research was carried out in the enterprises. The research analysis encompassed 295 enterprises from the sector of SMEs. The basic questions related to the position of the enterprises, as well as the type and nature of integration. The most important questions were deemed to be those that gave answers which identified the aims and effects of the integration of enterprises.

In the sample of enterprises analysed, the most numerous group constituted the ones which have been functioning on the market for over 9 years (27.1% of the total number of enterprises analysed), whereas the least number were those which had been established a maximum of 3 years previously (23.1%). The remaining two groups of enterprises that have been functioning on the market between 3 and 6 years, as well as from 6 to 9 years were represented by 24.1% and 25.7% respectively in terms of the research on enterprises. The structure of the analysed group of enterprises has been presented in Fig. 3 with regard to the form of organization.

In the structure of the integrated enterprises, the following have been distinguished: networks, supply chains, clusters and other organizational forms. Likewise, other integrated organizational forms have been indicated in surveys (e.g. mutual agreements). With reference to the afore-mentioned groups, enterprises held the position of a partner, while that of a leader to a much lesser extent.

Analysis of the type of integration illustrates informal integration prevails over formal integration in networks and supply chains. The reverse situation

Figure 3
Structure of analysed enterprises with regard to the form of organization



Source: Self-analysis on the basis of survey research.

occurs in the group of clusters. The basic reason for such a type of relation is perceived to be the subsidization of enterprises associated in clusters within the framework of EU programs (Bojar, 2009).

Evaluation of the nature of integration indicates the domination of the structures at a national level (73.2% of the total number of enterprises surveyed). A significant number of international ties only appear in supply chains (almost 48% of enterprises functioning within the framework of supply chains are characterized by an international level of integration). The most important research problems should be acknowledged to be the aim of the integration and the effects of these processes. In the case of the groups of enterprises running activities within the framework of a network or supply chain, the most important aims of integration are widely acknowledged to be that of innovativeness and leadership strategy. Joint markets for goods in networks and supply chains are markedly lower in terms of significance. The level of significance of the goods markets in clusters and other organizational forms is however higher than with reference to the networks and supply chains.

The final research problem relates to the effects of the integration of the particular organizational forms. In the structure of effects, the greatest importance is attached to the reduction of the costs and the creation of the joint distribution centres. Likewise, the effects gained from the increase of CSR of enterprises and the improvement of the level of customer service are also important. Moreover,

the effects of conducting joint transportation activity are also distinguished.

The measurement of the dependency between the qualitative variable illustrated in the correlation table involved the utilization of the chi-square measurement:

$$\chi^2 = \sum_{i=1}^r \sum_{j=1}^k \frac{n_{ij}^2}{\hat{n}_{ij}} - n$$

whereby:

$$\hat{n}_{ij} = \frac{n_{i.} \cdot n_{.j}}{n}$$

n — number of attempts, n_i — sum of numbers in the i verse ($i = 1, \dots, r$), n_j — sum of numbers in j — this column ($j = 1, \dots, k$), n_{ij} — empirical numbers, n_{ij} — theoretical numbers.

Does the "position of the enterprise" depend on the form of organization?

- 1) Does the "type of integration" depend on the form of organization?
- 2) Does the "nature of integration" depend on the form of organization?
- 3) Does the "aim of integration" depend on the form of organization?
- 4) Does the "form of integration" depend on the period of functioning of an enterprise?

At the level of significance of 0.01, there are no grounds for the rejection of the zero hypothesis by assuming that no correlation dependency exists between the form of the organization and the period of the functioning of the enterprise. This signifies that in the sample of enterprises analysed, it is not possible to perceive the relation between the length of the period of functioning of enterprises on the market and the form of organization chosen by them.

At the level of significance of 0.01, it is necessary to reject the zero hypothesis in favour of the alternative hypothesis in the case of the remaining four test procedures (Compare: Table 6). This signifies that a significant correlation dependency exists between "the position of the enterprise" and the chosen form of organization. Enterprises associated in networks with a similar frequency held the position of both a leader and a partner, whereas in the case of the remaining organizational forms appeared in the role of a partner.

Furthermore, the occurrence of a significant correlation dependency was declared between the type of integration and the organizational form of an enterprise. At the level of significance of 0.01, it is possible to confirm the occurrence of a significant correlation dependency between the chosen form of organization and the nature of integration. The evaluation of the nature of integration indicates the

Table 3

Results of survey research relating to the form of organization of enterprises and their position

Position of enterprise	Form of organization				Total
	Network	Supply chain	Cluster	Other form of organization	
Leader	26 (12)	19 (14.8)	12 (17.5)	10 (22.7)	67
Partner	27 (41)	46 (50.2)	65 (59.5)	90 (77.3)	228
Total	53	65	77	100	295

Source: Self-analysis. The theoretical numbers designated for chi-square statistics have been placed in brackets.

Table 4

Results of survey research relating to the form of organization of enterprises and type of integration

Type of integration	Form of organization				Total
	Network	Supply chain	Cluster	Other form of organization	
Formal (contract)	23(33.4)	16(41)	62(48.5)	85(63.1)	186
Informal	30(19.6)	49(24)	15(28.5)	15(36.9)	109
Total	53	65	77	100	295

Source: Self-analysis. The theoretical numbers designated for chi-square statistics have been placed in brackets.

Table 5

Results of survey research relating to the form of organization of enterprises and nature of integration

Nature of integration	Form of organization				Total
	Network	Supply chain	Cluster	Other form of organization	
National level	43(38.8)	34(47.6)	56(56.4)	83(73.2)	216
International level	10(14.2)	31(17.4)	21(20.6)	17(26.8)	79
Total	53	65	77	100	295

Source: Self-analysis. The theoretical numbers designated for chi-square statistics have been placed in brackets.

Table 6

Results of survey research relating to the form of organization of enterprises and aim of integration

Aim of integration	Form of organization				Total
	Network	Supply chain	Cluster	Other form of organization	
Strategy of leadership	18(16.9)	28(20.7)	19(24.5)	29(31.9)	94
Innovativeness	30(20.8)	22(25.6)	31(30.3)	33(39.3)	116
Joint markets	5(15.3)	15(18.7)	27(22.2)	38(28.8)	85
Total	53	65	77	100	295

Source: Self-analysis. The theoretical numbers designated for chi-square statistics have been placed in brackets.

Table 7

Results of survey research relating to the form of organization of enterprises and the period of its functioning

Period of functioning	Form of organization				Total
	Network	Supply chain	Cluster	Other form of organization	
No shorter than 3 years	18(12.2)	12(15)	16(17.7)	22(23.1)	68
Over 3 years and no shorter than 6 years	9(12.8)	15(15.6)	19(18.5)	28(24.1)	71
Over 6 years and no shorter than 9 years	14(13.7)	17(16.7)	22(19.8)	23(25.8)	76
Over 9 years	12(14.4)	21(17.6)	20(20.9)	27(27.1)	80
Total	53	65	77	100	295

Source: Self-analysis. The theoretical numbers designated for chi-square statistics have been placed in brackets.

Table 8

Results of test of independence of chi-square (executed on the basis of data stipulated in tables 1–5)

	Position of enterprise	Type of integration	Nature of integration	Aim of integration	Period of functioning
Form of organization	33,963[0,000]	80,771[0,000]	21,077[0,000]	21,323[0,002]	6,958[0,642]

Source: Self-analysis. The p-value has been provided in brackets.

domination of the structures at a national level (73.2% of the total number of enterprises analysed). A substantial number of international ties only occur in supply chains (almost 48% of enterprises functioning within the framework of supply chains are featured by an international level of integration).

The test procedure work carried out in the empirical section also facilitated the identification of the existence of the statistically important correlation dependency (level of significance of 0.01) between the choice of aims of integration by the enterprise and the form of organization. In the case of the groups of enterprises conducting activities within the framework of the network or supply chain, the enterprises conducting activities within the framework of the network or supply chain in the vast majority of cases acknowledge innovativeness and leadership strategy to be the most significant aims of integration. Joint markets for goods in networks and supply chains are deemed to be of significantly lesser importance. The level of significance of markets for goods and other organizational forms is however higher than with reference to the network and supply chains.

Analysis of the type of integration indicates that in networks and supply chains informal integration prevails over formal integration. The reverse situation occurs in the group of clusters. The basic cause of this type of relation is assumed to be the subsidization of enterprises, which are associated in

clusters within the framework of EU programs (Bojar, 2009).

Summary

Evaluation of the nature of integration indicates the domination of the structures at the national level. A significant number of international ties only exists in the supply chains. The most important research problems should be acknowledged to be the aim of integration and the effects of these processes. In terms of aims, innovativeness and leadership strategy are clearly distinguished. Joint markets for goods in networks and supply chains are of markedly lower importance. The level of significance of the markets for goods in clusters and other organizational forms is however higher than with relation to the network and supply chains.

The final research problem relates to the effects of the integration of the particular organizational forms. In the structure of the effects, the possibility of reducing costs and creating joint distribution centers are of the greatest importance. Likewise, the effects achieved from the increase in the CSR of enterprises and the improvement of the level of customer service are significant. Furthermore, conducting joint transportation activity is distinguished among the effects.

Bibliography

- Bagchi, B.K. (2000). *On measuring supply chain competency of nations: a developing country perspective* (28). Cardiff: LERC.
- Baily, P.J.H. (1997). *Purchasing and Supply Management* (238). International Thomson Publishing, Inc UK.
- Barcik, A., Dziewiński, P., Jakubiec, M. (2015). *Management of Enterprise in the 21 st Century. Conditions and Perspectives of Growth*. Warszawa: Difin, 36.
- Blaik, P. (2010). Rozwój logistyki w kierunku zintegrowanej koncepcji zarządzania. In: *Logistyka w naukach o zarządzaniu* (66). Katowice: Akademia Ekonomiczna.
- Bojar, M. (2009). The Triple Helix In Regional Development — The Role of Clusters. In: *Clusters Politics Management Good Cluster in Practices in The World*. Toruń: Ed. E. Bojar. Wyd. Dom Organizatora.
- Bylok, F., Kuceba, R., Pabian A. (2011). Corporate social responsibility as a determinant in the development of enterprise in Poland. In: *Business in central and eastern Europe: cross-atlantic perspectives*. Ed B. Kondellas. Chicago: ed Northeastern Illinois University, 39.
- Ciesielski, M. (2014). Relacje między dostawcami i odbiorcami. *Gospodarka Materialowa i Logistyka*, (7), 2.
- Christopher, M. (1998). Logistics and supply chain management: strategies for reducing cost and improving service (14). *Financial Times*. London: Prentice Hall.
- Dess, G., Miller, A. (225). *Strategic Management* (225). USA.
- Hampton, D. R. (1977). *Contemporary Management* (161). USA.
- Jelonek, D. (2015). Sieci innowacji a strategiczna orientacja przedsiębiorstw na innowacje. In: R. Krupski (red.), *Zarządzanie strategiczne. Strategie sieci i przedsiębiorstw w sieci* (141). Prace naukowe WWSzZiPT nr 32, Wałbrzych. Wg. J. Niemczyk, M. Organa, K. Piórkowska, (2012), Mechanizmy zarządzania sieciami międzyorganizacyjnymi. In: J. Niemczyk, E. Stańczyk-Hugiet, B. Jasiński (red.), *Sieci międzyorganizacyjne. Współczesne wyzwanie dla teorii i praktyki zarządzania* (207–248). Warszawa: Wydawnictwo C.H. Beck.
- Jokiel, G. (2014). Identyfikacja procesów w łańcuchach dostaw. In: J. Lichtarski, S. Nowosielski, G. Osbert-Pociecha, E. Baboszewska-Zajbert (red.), *Nowe kierunki w zarządzaniu przedsiębiorstwem — wiodące orientacje* (287). Wrocław: Prace Naukowe UE. Nr 340.
- Kamiński, F. (2013). Współdzielenie łańcucha dostaw. *Gospodarka Materialowa i Logistyka*, (9), 30.
- Kaplan, R., Cooper, R. (2000). *Zarządzanie kosztami i efektywnością* (51–53). Kraków: Dom Wydawniczy ABC.
- Kaplan, R., Norton D. (2004). *Strategy maps*. USA: Harvard Business School Press.
- Kawa, A., Pierański, B. (2015). Świadomość sieciowa we współpracy gospodarczej przedsiębiorstw w Polsce. *Przegląd Organizacji*, (12), 21–27.
- Laskowska-Rutkowska, A. (2013). Proces tworzenia innowacji w łańcuchu dostaw w ujęciu modelowym. *Gospodarka Materialowa i Logistyka*, (12), 23.
- Mesjasz-Lech, A. (2014). Integracja i koordynacja jako determinanty funkcjonowania organizacji sieciowej na przykładzie łańcucha dostaw. In: L. Knop, J. Machnik-Słomka, S. Olko (red.), *Organizacja i zarządzanie* (11). Gliwice: ZN nr 76. Politechnika Śląska.
- Mierzejewska, W., Tomaszewski, A. (2016). Struktury przedsiębiorstw w czasie kryzysu. In: M. Romanowska, W. Mierzejewska (red.), *Przedsiębiorstwo odporne na kryzys* (161–162). Warszawa: Oficyna Wolters Kluwer-business.
- Niemczyk, J., Trzaska, R. (2014). Zarządzanie w sieciach międzyorganizacyjnych z perspektywy ról, funkcji menadżera. In: J. Lichtarski, S. Nowosielski, G. Osbert-Pociecha, E. Tabaszewska-Zajbert (red.), *Nowe kierunki w zarządzaniu przedsiębiorstwem — wiodące orientacje* (495–508). Wrocław: Wyd. Uniwersytetu Ekonomicznego we Wrocławiu.
- Niemczyk, J., Lachota, W. (2014). Renta sieciowa a wartość przedsiębiorstwa. In: R. Borowiecki, T. Rojek (red.), *Współczesne formy relacji międzyorganizacyjnych. Współpraca–Kooperacja–Sieci* (145). Kraków: Wyd. Uniwersytetu Ekonomicznego w Krakowie.
- Niemczyk, J. (2015). Poziomy rozwoju sieci międzyorganizacyjnej (243). In: R. Krupski (red.), *Zarządzanie strategiczne. Strategie sieci i przedsiębiorstw w sieci*. Wałbrzych: Prace naukowe WWSzZiPT, (32).
- Olko, S. (2014). Badanie kompetencji w sieciach i klastrach w przemysłach kreatywnych. L. Knop, J. Machnik-Słomka, S. Olko (red.), *Organizacja i Zarządzanie* (46–47). Gliwice: ZN Nr 76. Wyd. Politechniki Śląskiej.
- Pachura, P. (2016). Management and Space-introduction to Cenceptualization. *Przegląd Organizacji*, (1), 63.
- Rokita, J. (2010). Architektura biznesu podstawą projektowania systemów logistycznych. In: *Logistyka w naukach o zarządzaniu* (165). Katowice: Wyd. Akademii Ekonomicznej.
- Sopińska, A., Tomaszewski, A. (2015). Współpraca w sieciach poziomych w świetle badań największych polskich przedsiębiorstw. In: R. Krupski (red.), *Zarządzanie strategiczne. Strategie sieci przedsiębiorstw w sieci* (377). Wg. J. Niemczyk, M. Organa, K. Piórkowska, (2012). Mechanizmy zarządzania sieciami między organizacyjnymi. In: J. Niemczyk, E. Stańczyk-Hugiet, B. Jasiński (red.), *Sieci międzyorganizacyjne. Współczesne wyzwanie dla teorii i praktyki zarządzania* (207–248). Warszawa: Wydawnictwo C.H. Beck.
- Staniec, J. (2013). Zarządzanie ryzykiem w organizacji w świetle paradygmatu sieciowego (154). *Organizacja i Zarządzanie. Kwartalnik naukowy*, (3), 23. Gliwice: Wyd. Politechniki Śląskiej.
- Surowiec, A. (2015). Rola metody open-book accounting w zarządzaniu relacjami w łańcuchach dostaw. In: R. Borowiecki, T. Rojek (red.), *Kształtowanie relacji partnerskich i form współdziałania współczesnych przedsiębiorstw. Strategie–Procesy–Narzędzia* (157). Kraków: Wyd. Uniwersytetu Ekonomicznego.
- Świerczek, A. (2012). Zarys filozofii zarządzania łańcuchem dostaw. *Gospodarka Materialowa i Logistyka*, (7), 4.
- Witkowski, J. (2003). *Zarządzanie łańcuchem dostaw* (17). Warszawa: PWE.
- Ziółkowska, B. (2013). *Zarządzanie procesami tworzenia wartości w przedsiębiorstwie. Perspektywa wizualizacji* (7). Częstochowa: Wyd. Politechniki Częstochowskiej.