



SUPPLY CHAINS IN CONTEXT OF KNOWLEDGE OF BUSINESS NETWORKS

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ABSTRACT. Background: Supply chains are a kind of business networks although both of these concepts are still defined in different ways in Poland. It seems that the paradigms of economics subdisciplines absorbed the knowledge of business networks in various ways and on various levels. In Poland, the networks are still treated as a novelty in many areas of management science.

Methods: The paradigms of four subdisciplines (logistics, marketing, strategic management and international economic relations) were analyzed and compared.

Results: The level of the integration between economic subdisciplines is low. There are significant differences among paradigms of subdisciplines, the concept of network is treated in different way in different subdisciplines, and therefore, the concept of strategy in particular disciplines is treated differently.

Conclusions: The formation of interdisciplinary research teams should be intensified as well as the methodological discussions on different levels (from the unification of concepts up to grouping and unification of paradigms) should be induced.

Key words: network, supply chain, logistics, paradigm.

INTRODUCTION

The strange signs of the Logistics Development of the logistics can be observed in Poland. They concern the speed of elimination of gaps in the economic science and in the degree of the integration of subdisciplines of this field of the science. Although the rate of the transformations of the general paradigm of economics and management studies in Poland is big (which means the elimination of the gap between Polish and world science), the level of the integration of subdisciplines and their paradigms do not increase and therefore it inhibits the flows between them. The attempt to highlight this problem is the aim of this paper. It can be the basis to prepare the preliminary thesis about the level of the integration, although it concerns only a small part of this problem – the recognition of one selected concept in various areas of the knowledge of management and economics. Therefore, it is also a call to continue this research by other scientists.

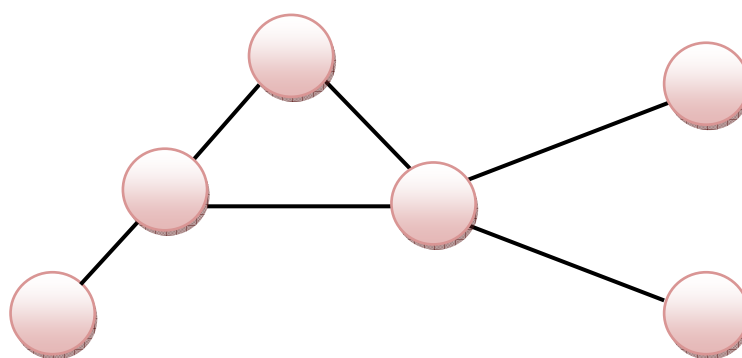
The “network”, one of the most important categories among modern economic sciences, was chosen for the purpose of this research. In the areas described by this concept, the degree of the integration among paradigms of four subdisciplines: logistics, marketing, strategic management and international economic relations were evaluated. The question will of course arise, whether in case of such disciplines, especially logistics and marketing, i.e. fully practical ones, is it possible to talk about a paradigm, i.e. achievements, scientific trends, theories, etc. Despite of that, such issues seem to be reasonable and appropriate. Definitely, the word “paradigm” can be used as “a model of a research” and maybe (will be shown later) in the meaning given by T.S.Kuhn. The reasoning scheme adopted in

this research is very close to the view, where the various parts of paradigm of economics sciences are assigned to various subdisciplines.

The logistics is a starting point for these researches and the aim of them is to determine the level of the integration, with putting the special emphasis on the networks in strategies. If the assumptions of this researches turn to be true and the statement could be made that the fast development of economics sciences is accompanied by excessive disintegration of paradigms of its subdisciplines, the appropriate steps towards the integration could be undertaken.

SUPPLY CHAINS AND BUSINESS NETWORKS

The economic networks, called also business networks, are understood in two ways in Polish literature. According to first one, the networks are the relations. In this case, the following definition can be found: “the set of connections between two or more subjects, having interactions among them...” [Ratajczak 2010]. According to second one, the definition of networks is simple: “a set of connections between companies” [Leksykon zarządzania 2004]. According to the description given by A.Noga: “the business networks are groups of companies related to each other. Those links can be of vertical nature (such connections are identified by a permanent exchange of goods or services) or of horizontal one (in this case, they are understood as the mechanism to create and regulate the external effects within a group of objects” [Noga 2009]. The similar situation occurs in case of supply chains and supply networks. Some authors consider the supply chains as sets of organizations, others for sets of flows or interactions. J.Witkowski writes: “supply chains are various, cooperating with each other, companies (active in such areas like mining, production, commerce or services) and their customers, among them the goods, information and financial flows occur, starting at the mining of raw materials up to final customers” [Witkowski 2005]. Although such definitions can be found, which describe the supply chains as a set of flows and relations, the supply networks could be also both sets of flows or sets of companies. It is really difficult to understand the ambiguity of concepts. The issue is here only to clearly label circles and lines on the figure 1. The reference to the graph theory can be made here, where the organizations are the nodes and the relations are the lines.



Source: own work

Fig. 1. Network
Rys. 1. Sieć

The reason of this conceptual chaos is an important phenomenon. The issues related to networks are researched within the scope of the four (mainly) economic subdisciplines: marketing, logistics, strategic management and international economic relations. The researches and publications of these subdisciplines in Poland are poorly penetrated by each other as well as they do not refer sufficiently to the network theory, so-called network approach. (It would be interesting to determine whether such problems exist also in others key categories of modern economy, e.g. computerization, globalization,

customization). The above-mentioned conceptual confusion can be than related directly to the phenomenon, which requires in-depth researches. However, for now, only the expression “could be” is allowed to be used in this context. It seems that the concept of the network has not so far had the sufficient impact on the terminology and theories of these four subdisciplines, and maybe even on the entire field of economic sciences. What is even more important, the paradigms of these four subdisciplines have not been changed so far. It is very evident in the publications related to logistics issues. There are books about supply chains, where the business networks are not even mentioned. There are also publications in strategic management, which refer to some “networks in the logistics”, which are a kind of business networks.

The papers of the world literature indicate that there is a crisis of a traditional corporate organizational model, based on the vertical integration, the hierarchical functional management, the technological, social and exact system of the work-sharing in a company, the organization of “management and production line” type [Castells 2010a]. The future belongs to networks. There are many types of them: networks of companies, of different types, context or culture, based on a family, on Chinese community, of a type occurring in Northern Italy, emerged from the centres of technological development like Silicon Valley, hierarchical communities of Japanese *keiretsu* type, networks of decentralized corporate units, derived from old vertically organized corporations, which now are forced to adapt to the requirements of time, business networks of customers of a company and suppliers of this company together with this company and finally international networks developed from strategical alliances of companies and networks which support them [Castells 2010b]. It is also worth to reconsider the previously mentioned issue: whether the network approach has found an appropriate response in Poland in the form of a change of paradigms of already mentioned four subdisciplines.

The big interest of networks and partly of a change of part of a paradigm is observed in case of the logistics and marketing - but it concerns only distribution channels, marketing relations and supply chains. In case of two other subdisciplines, the networks are still treated as a novelty and the completion of paradigms, used for years. The various types of understanding of a network concept and a network approach can be easily found. Once these concepts refer to spontaneous relationships among companies and organizations and otherwise it is understood as a conscious creating and shaping of cooperation forms. In case of logistics, the researches refer mainly to such concepts like transaction, cooperation, configuration and such theories like: the theory of transaction costs, networks models, modular approach and business theories. The concepts of a product, a life cycle, relations and marketing mix are emphasized in the case of marketing.

The issue of the network is usually ignored in Polish literature in the field of a strategic analysis. Even the presentations of Porter’s model still emphasize the competitive attitude of companies, their suppliers and customers to each other, although the idea to make an advantage of vertical and horizontal corporate connections is clearly imposed. The issue of networks is even marginalized in publications on changes of paradigms of the strategic management [Witek-Crabb 2006]. However, the elements of network approach can be found in the value chain, the portfolio analysis and the strategic potential. It is missed in a strategy, a mission and a vision.

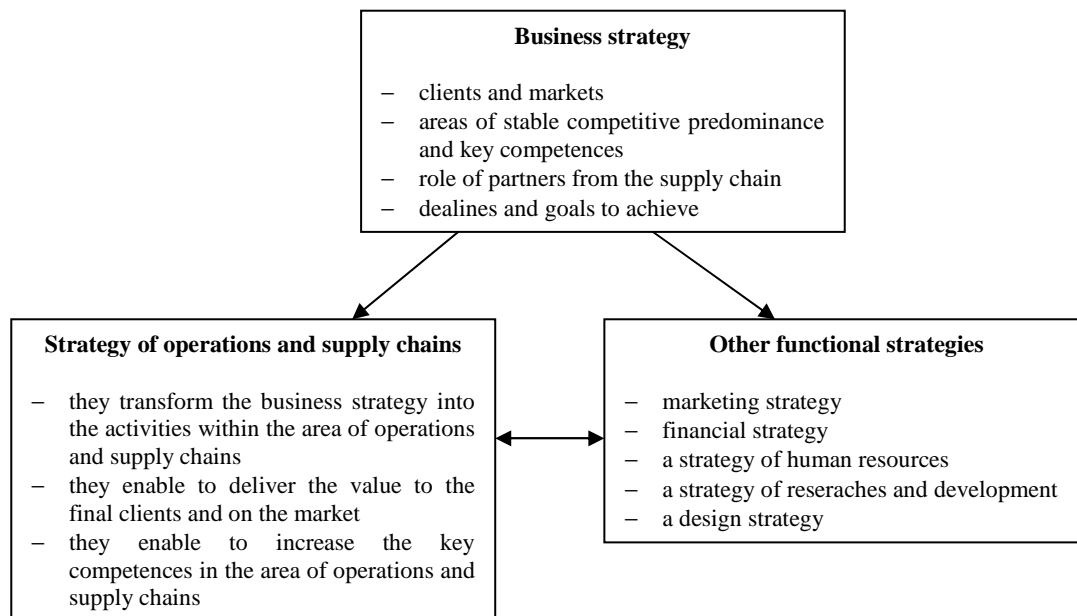
The network approach should be expected in the area of a subdiscipline related to international business relationships. However, the network is still not a permanent element of the internationalization theory in Polish publications. The networks are neither a part of paradigms of the theory of international exchange, nor the theory of direct foreign investments nor the theory of multinational company. The lack of a network approach is particularly strange to accept in the theory of internationalization. It is evidence that the network approach is described as a new concept even in the best Polish publications in this field [Gorynia, Jankowska 2007]. Of course, the networks are always connected with the concepts of globalization and internationalization. It can be concluded, that there is no network approach regarding their own paradigms in the discussed subdisciplines. Therefore, it is necessary to consider the benefits of the combined approach. The potential synergistic effects are enormous. It is enough to analyze the benefits of the connection of the knowledge from the paper “Theories of internationalization” with e.g. the knowledge in the field of supply chains.

Anyway, the logistics, as the newest subdisciplines among the discussed ones, should begin the process to connect stronger researches and theoretical considerations among those four subdisciplines.

STRATEGIES AND NETWORKS

The strategy is this area of the management, where the changes of a paradigm can be observed most strongly. As the world literature indicates, the network strategy can be in different relations concerning the strategy of a company: from the case where it is simply a developed logistic strategy of a company to the strategy of the highest level – the level of a network.

In the first case, the strategy of the supply chain/network (often together with an operational strategy) is treated as one of functional strategy of a company or a corporation. The relationships between a business strategy and a strategy of the supply chain as a multidimensional functional strategy are well described in the figure 2.

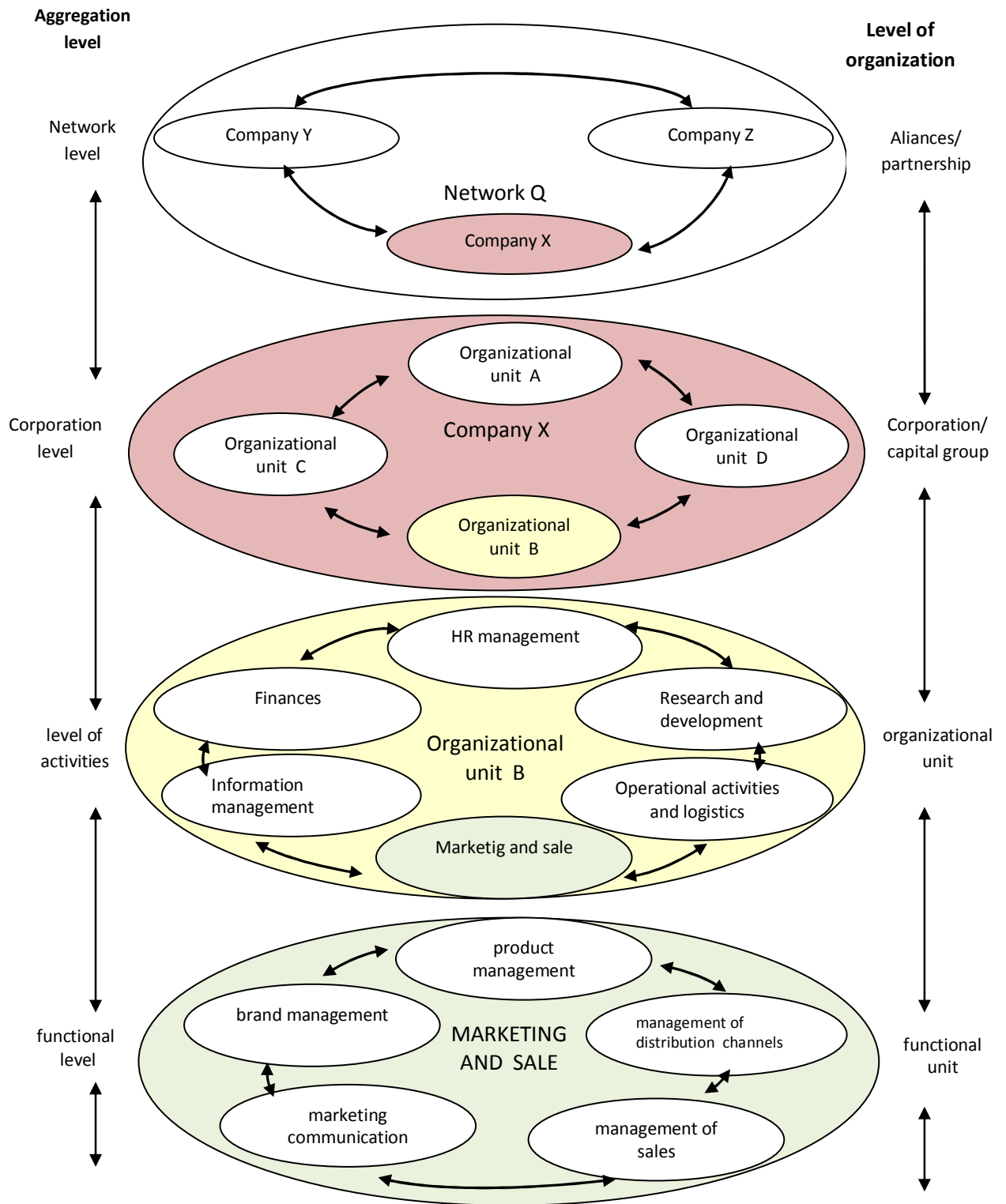


Source: Bozarth, Handfird 2007

Fig. 2. The strategy of the supply chain within the strategy of a company or a corporation
Rys. 2. Strategia łańcucha dostaw w strategii przedsiębiorstwa lub korporacji

It is worth to mention, that the idea of the strategy of supply chains emerged already in the models related to the autonomous company. And so J.Kay [1996] suggested in his strategy model, that the competitive advantage can arise from the relationships with suppliers.

The strategy of the supply chain means how the activities related to flows are conducted and how these activities are managed [Hines 2004, Flynn, Huo, Zhao 2009]. It includes also the management of the relations within the supply chain as well as the integration in the areas of management, IT and technology. However, as a concept of a supply chain can be referred to not only a flow of goods and information or other activities like marketing, production or finances, so the concept of the strategy of a supply chain can be extended to these areas.



Source: Wit, Meyer 2007

Fig. 3. The levels of a strategy
 Rys. 3. Poziomy strategii

There are three levels of a strategy according to a conventional approach: the level of a company, the level of a corporation and the level of a functional area within a company. However, the increase of the significance of business networks makes it necessary to distinguish the fourth level of the strategy – the strategy of a network. Bob de Wit and Ron Mayer [2007] write: “companies often merge into a group, consisting of two or more partners. This level is called the level of the network and the multi-organizational level. Such groups consist often of many members, like in case of strategical alliances, joint ventures or partnerships leading to create an additional value. They may be also networks, which consist of tens or even hundreds of organizations. Depending on the situation, the whole corporation or only a part of it can be joint to the cooperation with other companies. But the strategy developed for a group of companies is always called the strategy of networks, regardless of the nature or the extension of the cooperation”. Therefore, the existence of the network is taken into account in a strategic approach. The companies decide, for such type of the cooperation, to get some advantages of vertical and horizontal integration, without covering the costs associated to them. The concept “strategies of activities within a network” is sometimes used. They are related to vertical and horizontal relationships. The latter ones concern networks and supply chains. The strategies of whole networks and of networks members are the strategies at the level of networks (strategies of network activities).

Unfortunately, the network level is still often disregarded in Poland in researches and publications in the field of the strategic management. The network strategies are discussed very rarely, as well as the network within other subdisciplines. It applies mainly the logistics. The words “network” and “strategy” are met quite rarely in the publications related to the logistics. Better situation is within the marketing, maybe because this subdiscipline covers the whole management in its researches, including the company’s strategies. Obviously, both these words must be present firstly in international business relationships, but even in this area; Polish literature only now starts to connect the concepts and theories of networks with international strategies. The terminological mess and different places of the network in paradigms in above-mentioned subdisciplines can be regarded both as the reason and as the result of that disintegration, mentioned earlier.

CONCLUSIONS

The level of the integration between economic subdisciplines is low. It manifests in:

- significant differences among paradigms of various subdisciplines,
- the concept of network is treated in different way in different subdisciplines, and therefore, the concept of strategy is understood also differently. It is connected with the terminological mess.

It is easy to indicate the recommendations for the improvement. Firstly, the formation of interdisciplinary research teams should be intensified. Secondly, the methodological discussions on different levels (from the unification of concepts up to grouping and unification of paradigms) should be begun. It is important, that these discussions should be concluded by strict recommendations, accepted by the whole scientific community.

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ŁAŃCUCHY DOSTAW W KONTEKŚCIE WIEDZY O SIECIACH GOSPODARCZYCH

STRESZCZENIE. Wstęp: Łańcuchy dostaw są rodzajem sieci gospodarczych, aczkolwiek oba te pojęcia są ciągle różnie definiowane w Polsce. Wydaje się, że paradygmaty subdyscyplin ekonomicznych w różnym stopniu i w różny sposób zaabsorbowały wiedzę o sieciach gospodarczych. W Polsce w wielu obszarach nauk o zarządzaniu sieci są ciągle traktowane jako nowość.

Metody: Paradygmaty czterech subdyscyplin (logistyki, marketingu, zarządzania strategicznego i międzynarodowych stosunków gospodarczych) zostały poddane analizie i porównaniu.

Wyniki: Poziomą integrację między subdyscyplinami nauk ekonomicznych jest niski. Występują znaczne różnice w paradygmatach subdyscyplin, pojęcie sieciowości, i co z tego wynika, pojęcie strategii, w poszczególnych dyscyplinach jest traktowane inaczej.

Wnioski: Należy zintensyfikować proces tworzenia interdyscyplinarnych zespołów badawczych jak również wywołać dyskusje metodologiczne na różnych poziomach (od ujednoczenia pojęć po zespolenie paradygmatów).

Słowa kluczowe: sieć, łańcuch dostaw, logistyka, paradygmat

LIEFERKETTEN IM KONTEXT DES WISSENS VON BUSINESS-NETZWERKEN

ZUSAMMENFASSUNG. Einleitung: Lieferketten sind eine Art von Business-Netzwerken. Die beiden Begriffe werden aber in Polen immer noch unterschiedlich definiert. Es scheint, dass die Paradigmen der wirtschaftlichen Teilgebieten das Wissen von Business-Netzwerken in verschiedenem Maß und auf verschieden Art und Weise absorbiert haben. In Polen werden Netzwerke in vielen Bereichen der Management-Wissenschaften immer noch als eine Neuigkeit betrachtet.

Methoden: Paradigmen von vier Teilgebieten (der Logistik, des Marketings, der Strategischen Verwaltung und der Internationalen Wirtschaftsbeziehungen) wurden analysiert und verglichen.

Ergebnisse: Das Niveau der Integration zwischen den Teilgebieten der Wirtschaftswissenschaften ist niedrig. Es sind bedeutende Unterschiede zwischen den Paradigmen der Teilgebieten zu verzeichnen. Der Begriff des Netzwerkums und was daraus folgt, der Begriff der Strategie werden in einzelnen Disziplinen anders betrachtet.

Fazit: Der Prozess der Bildung von interdisziplinären Teams soll intensiviert werden. Es sollen aber auch methodologische Diskussionen auf verschiedenen Niveau provoziert werden (von der Vereinheitlichung der Begriffe bis zur Vereinigung der Paradigmen).

Codewörter: das Netz, die Lieferkette, die Logistik, das Paradigma

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