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Outsourcing in the context of the cluster business model

Abstract

The main goal of this paper is to present outsourcing as a tool supporting business model modification in cluster structures, which is one of the factors influencing increased competitiveness and success. The next section explores the issue of coopetition between business entities in terms of increasing their competitiveness and achieving business success. A brief presentation of business models and strategies in the context of clusters, as well as outsourcing as business model conversion, is provided. The importance and role of outsourcing in cluster structures is discussed, and examples of implementing outsourcing elements in domestic and international clusters are presented. These considerations are supported by research findings, thus enriching the subject matter. The paper proposes the research thesis that implementing outsourcing in clusters enables cost optimization, increased efficiency, and a focus on core competencies. Due to its complexity and importance, this issue constitutes a premise for further research in the future.

Keywords: cooperation, competition, innovation, coopetition, business model, outsourcing.

Outsourcing w kontekście klastrowego modelu biznesu

Abstrakt

Głównym celem niniejszego opracowania jest próba ukazania outsourcingu jako narzędzia wspomagającego modyfikację modelu biznesu w odniesieniu do struktur klastrowych będącego jednym z czynników wpływających na wzrost konkurencyjności i osiągnięcie sukcesu. W dalszej części przybliżono zagadnienie koopetycji podmiotów gospodarczych w aspekcie podniesienia ich konkurencyjności, jak też osiągania przez nich sukcesu biznesowego. Dokonano krótkiej prezentacji modeli i strategii biznesowych w kontekście klastrów i outsourcingu jako konwersji modelu biznesu. Poddano rozważaniom znaczenie i rolę outsourcingu w strukturach klastrowych oraz

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przybliżono przykłady implementacji elementów outsourcingu w klastrach krajowych i zagranicznych. Rozważania poparto wynikami badań, wzbogacając tym podjętą problematykę. W opracowaniu postawiono tezę badawczą, że wdrożenie outsourcingu w klastrach umożliwia optymalizację kosztów, zwiększenie efektywności i koncentrację na swoich kluczowych kompetencjach. Z uwagi na złożoność i ważność niniejsza problematyka stanowi przesłankę do podjęcia kolejnych badań w przyszłości.

Słowa kluczowe: współpraca, konkurencja, innowacje, koopetycja, model biznesu, outsourcing.

JEL: D41, F20, L20, 019, R11.

Introduction

The increasing integration of the global economy, on the one hand, fosters the development of all forms of interconnection, and on the other, stimulates businesses to compete with each other, including globally. External economic conditions force businesses to seek ways to counteract intensified competition. One such approach is to seek synergies resulting from collaboration with other entities and institutions in the business environment, particularly with research and development facilities. Business practice confirms the significant importance of business connections in generating innovation. Ties and contacts between companies and their contractors, institutions, and universities constitute a system within which companies with limited access to knowledge acquire it from outside sources, which in turn enables them to generate innovative ideas (Górzyński, Pander, Koć, 2006, p. 5).

An increasingly popular and, as international experience indicates, effective form of such cooperation is the creation of cluster structures. Enterprises operating in such structures, usually through specialization, increase their competitiveness and productivity. In a broader sense, creating a cluster initiative means a change in the philosophy of operation for the companies operating within it. It is a shift from the classic offering of products and services to functioning in a cooperation network that offers potential to customers. This is no longer a product offered by an individual enterprise, but the ability to flexibly and quickly respond to market needs through cooperation and competition among entities associated in the cluster (Dobrzyński, Dziekoński, Jurczuk, 2013, p. 76). It is worth emphasizing that in the globalization of the world economy and the knowledge-based economy, where the key factor guaranteeing high competitiveness is the ability to implement innovative solutions, leveraging the positive effects of cluster cooperation to create enterprise value is extremely popular (Kuczewska, 2014, p. 227).

Phenomena and trends currently occurring in organizations' environments, such as the development of communication and information technologies, the increasing prevalence of cooperation, and the ubiquity of networks, necessitate

modifications to enterprise business models and organizational boundaries (Chorób, 2022, pp. 86–89; Drzewiecki, 2014, p. 317). As a result, the ways in which management methods and techniques are used are also changing. Outsourcing, one of the most common management methods used in Polish enterprises, deserves particular attention in this context (Kłos, 2009, pp. 140–149; Lisiński, Sroka, Brzeziński, 2012, p. 28). The features of this method, such as: versatility, the ability to achieve diverse organizational goals, taking into account the structural aspect of the organization and the processes of cooperation and collaboration, mean that modern outsourcing should be treated as a method supporting the process of modifying the business model and shaping the boundaries of the organization (Nogalski, Waśniewski, Kalicki, 2012, p. 117).

The main goal of this paper is to present outsourcing as a tool supporting business model modification in cluster structures, which is one of the factors influencing increased competitiveness and success. In light of the importance of cooperation, particular attention is paid to the initiation, operation, and development of innovative forms of integration links, which cluster structures are considered to represent. The next section explores the issue of coopetition between economic entities in terms of increasing their competitiveness and achieving business success. A brief presentation of business models and strategies in the context of clusters, as well as outsourcing as business model conversion, is provided. The importance and role of outsourcing in cluster structures is discussed, and examples of the implementation of outsourcing elements in domestic and foreign clusters are presented. The research methods used included analysis of existing data and analysis of the subject literature. These considerations are supported by research findings, thus enriching the subject matter. The study presents a research thesis that the implementation of outsourcing in clusters enables cost optimization, increased efficiency and concentration on core competencies.

Coopetition as a prerequisite for clusters' competitiveness

Collaboration between cluster-member companies and research and development institutions and local government units contributes to increased company credibility. Collaboration within a cluster lowers entry barriers to the sector in which the cluster operates, while a well-functioning cluster improves the flow of information between members. A jointly defined strategy and goals streamline information flow and collaboration between cluster members. Furthermore, cluster members often engage in export activities, which directly impacts the region's financial situation and its international image. This also facilitates the acquisition of higher financial resources for the development of local entrepreneurship (Adamiak, 2013, p. 156).

Coopetition, the subject of this section, is the merging of competition and cooperation into a single type of relationship and interaction. However, the literature offers various approaches and research perspectives explaining this phenomenon. Despite this, there is agreement that this type of strategy is intended to bring specific benefits to the enterprise. These benefits also constitute the fundamental motivations for coopetitive activities. It should be emphasized that globalization and the shifting boundaries of organizations also have a significant impact on these activities (Cyfert, 2012; Luo, 2004; Zakrzewska-Bielawska, 2013, pp. 420–422).

Coopetition therefore focuses on the processes of value creation and deriving benefits from it, not only on the essence of the relationships between the parties. Therefore, it is defined as a strategy of joint value creation under competitive conditions in the division of these values, with partial convergence of goals and a variable structure of a positive-sum game (Jankowska, 2009, p. 5). In the concept of coopetition, enterprises simultaneously become customers, suppliers or service providers, competitors, and partners. They undergo mutual co-evolution, both in terms of competition and cooperation. Co-evolution involves sharing the same vision, forming alliances, negotiating agreements, and establishing comprehensive relationships at the level of management and administration. It is worth emphasizing that coopetition can occur at various levels in the hierarchy of economic systems. Coopetition can be discussed at the macroeconomic, mesoeconomic, and microeconomic levels (Balicka, 2014, pp. 13–15; Stanienda, 2012, p. 185).

The essence of coopetition is that enterprises strive to gain a competitive advantage through specific resources, competencies, and a defined market position, while simultaneously attempting to integrate their strengths with those of rivals, suppliers, customers, and other business partners. It should be emphasized that enterprises wishing to benefit from coopetition must recognize the importance of both competition and cooperation. In coopetitive relationships, creating conditions conducive to fair cooperation and rivalry is particularly important, and managing trust in business partners is a crucial skill. A key challenge is developing management skills that will allow for combining these opposing strategic approaches and protecting each company's business secrets (Chorób, 2013, pp. 86–87; Jankowska, 2012, pp. 58–61; Benchmarking…, 2025, pp. 90–94).

Business models and strategies in the context of clusters

A holistic approach to a business model combines business strategy, business organization, and business systems (Osterwalder, Pigneur, Tucci, 2005, p. 9). Business strategy expresses the company's long-term goals and the

resources necessary to achieve them. Business organization involves dividing the business into units, defining their competencies and tasks, and coordinating and controlling their activities and outcomes. Business systems, on the other hand, are coherent courses of action undertaken by the company to achieve a specific effect.

Constructed business models can be more or less detailed, i.e., present a greater disaggregation of individual components. It should be emphasized that the current business model should take into account the changes that have occurred in the contemporary globalized economy, such as the development of the knowledge-based economy, internet communications, e-commerce, outsourcing and offshoring, and the emergence of new types of financial instruments and methods of financing transactions, sometimes very complex and risky (Goliński, 2018, pp. 183–187; Rymarczyk, 2017, pp. 144–145).

The shape of a company's business model (Banaszyk, 2006) depends primarily on the sector, as it is the way in which it conducts its business within the identified and diagnosed state of the environment. This method is a specific configuration of resources, activities, and offered products or services that ensures the creation of value for the customer and the generation of profit for the company's owners. Due to the volatility of the environment, the company's strategic business model should also be subject to periodic change (redefinition). Its change constitutes an adequate response of the entity to the ongoing changes in the conditions of its operation, which is referred to as strategic renewal (Nogalski, 2009, p. 8).

The need to develop cluster development strategies that would clarify the goals to be achieved and establish the role of various entities in implementing activities for cluster expansion is indicated by Klimczuk-Kochańska (2012, p. 171). The opportunities for regional development based on smart specializations depend on supporting existing and emerging clusters through co-financing the activities of coordinators, including the cluster initiatives they lead. This enables the functioning of institutions that play a key role in the development of cooperation, interactions, and knowledge flows within clusters of economic activity, thus increasing their competitiveness and innovation (Borkowska-Niszczota, 2019, p. 121; Ropęga, 2016, p. 102).

In the typology of clusters, they can be divided according to their country of origin, meaning that certain forms are characteristic of specific countries and these types are also becoming widespread in other countries (Dworzecki, Żłobińska, 2002, pp. 310–311; Gorynia, Jankowska, 2007, pp. 329–332). One of them is the Italian model, characterized by: lack of a formalized structure, lack of capital ties, lack of a separate management (coordinating) structure, relationships between companies initiated by owners, strong family ties within and between companies, a high level of regional identity, a long tradition of strong craft guilds, and significant independence from the central government. Another type of

cluster, based on informal ties, is the Danish model. A network broker plays an important role in this model, initiating contacts between partners and coordinating cluster activities. The Danish model was also implemented in Hungary, and modified versions that took into account cultural and economic differences were implemented in the United Kingdom, the United States, Canada, Australia, and New Zealand. Another type of cluster is the Dutch model, characterized by close cooperation between enterprises and a research institution.

A review of the roles of enterprises within a cluster allows us to identify leading entities capable of making largely independent strategic choices that influence the activities of other companies. These criteria are primarily met by network leaders, followed by specialized enterprises, system integrators, and branches of transnational corporations. In addition to their relative independence of choices and ability to influence the strategies of other entities, these companies are also characterized by the cross-border reach of market and business relationships and a level of competence that allows them to compete internationally (Gancarczyk, Gancarczyk, 2011, pp. 64–65).

Outsourcing as a business model conversion

Dynamic changes taking place in the environment of currently operating enterprises, i.e.: virtualization of organizational structures, increasing diversity of forms of cooperation between entities, business networking, and the increasingly frequent occurrence of cooperation, mean that strategy in its classic form is increasingly no longer an adequate tool for describing an organization (Drzewiecki, 2014, p. 318). Its place is taken by a business model, used as a tool for organizational management for strategic planning, designing and implementing organizational changes, describing and analyzing the enterprise, identifying competitive advantages, strategic resources, and verifying strategies (Drzewiecki, 2013, pp. 69–71).

One example of a business strategy is outsourcing, which refers to the practice of delegating certain tasks, functions, and company processes to external providers rather than performing them internally. This practice is often used to reduce costs, increase efficiency, gain access to specialized knowledge, access to financial resources, and more. Examples of outsourcing include customer service, accounting, production, IT, research and development, management, organization, and more. Companies choose outsourcing for various reasons, but it's always important to manage the process well and choose the right external partners to achieve the intended benefits (Dominguez, 2009; Foltys et al., 2024, p. 94).

The widespread nature of outsourcing and its growing importance stem from the fact that decisions taken at the interface between the organization and the

environment are becoming increasingly important for the success of an organization, including decisions regarding, among others, the value chain structure, the adopted forms of cooperation (e.g. joint capital ventures), cooperation (e.g. whether and how to organize cooperation with competitors), the position of the enterprise in the network (e.g. the heterarchy dilemma) and formal and informal relations with stakeholders and network participants (Drzewiecki, 2014, p. 318).

The motives for using outsourcing include: the client making a make or buy decision (to produce or buy); analyzing the main reasons for using outsourcing each time and deciding on the form of cooperation with a specific outsourcing partner (Byrski, 2018, pp. 3–4). In economics, the make or buy decision is defined as a compromise between additional management costs related to vertical integration on the one hand (make decision) and transaction costs resulting from searching and incomplete contracts (expenditures on finding suitable outsourcing partners) on the other hand (buy decision) (Grossmann, Helpman, 2002, p. 118).

In light of the above, an alternative to the make decision may be outsourcing, i.e., abandoning or limiting one or more types of internal activities in favor of using the services of external contractors (outsourcing partners). Outsourcing, however, is not an ordinary assignment, as it results in deeper changes in the organization, involving the company's focus on core activities that determine competitive advantages. This means establishing a long-term and permanent partnership, in which the process was previously handled in-house (Kupczyk, Koralewska-Mróz, Czerwonka, 1998, p. 96).

The variety of outsourcing projects makes it, on the one hand, a versatile method that allows for the achievement of diverse organizational goals, and on the other, demanding in terms of decision-making. The available literature on the subject provides numerous examples of how outsourcing can be implemented (Bravard, Morgan, 2010; Dominguez, 2009; Essinger, Gay, 2002; Niemczyk, 2006; Trocki, 2001; Wodecka-Hyjek, 2011).

THE IMPORTANCE AND ROLE OF OUTSOURCING IN CLUSTER STRUCTURES

In light of the above meaning and forms of outsourcing, it is worth emphasizing that in cluster structures, it plays a significant role in shaping the competitiveness and innovation of enterprises and the entire cluster. The application of outsourcing in the definition, construction, and operation of clusters remains extremely interesting. Outsourcing in clusters, as indicated by research results, influences competitiveness, operational efficiency, access to knowledge and resources, and supports enterprises in general, particularly the SME sector, in the following areas (Foltys et al., 2024, pp. 103–104; Zorska, 2012, pp. 30–32; Liu, Feils, Scholnik, 2011, p. 568):

1. Increasing competitiveness: outsourcing in clusters allows enterprises to use external services, which can contribute to increasing their competitiveness. Access to high-quality services at competitive prices can help companies in an industrial cluster stay in the market.
2. Increasing operational efficiency: Using outsourcing in clusters can enable companies to focus on their core competencies and business processes, while other tasks are handled by external service providers.
3. Accessing specialized knowledge and resources: Industrial clusters often accumulate specialized knowledge, experience, and resources in a specific field. Outsourcing in clusters allows companies to access these specialized resources by collaborating with companies located in the cluster.
4. Stimulating innovation: Collaboration between companies in a cluster can stimulate innovation through the exchange of knowledge, experience, and ideas. Using external services can also contribute to the introduction of new technologies and innovative solutions.
5. Creating synergies: Outsourcing in clusters can create unique opportunities for collaboration and synergies between different companies in the cluster. Using external services can foster the formation of business partnerships and the exchange of know-how between companies.
6. Support for small and medium-sized enterprises: Industrial clusters often provide a conducive environment for the development of small and medium--sized enterprises. Outsourcing can provide SMEs with access to specialized services and resources they do not have internally.

As a result, outsourcing plays a significant role in supporting the development of industrial clusters by increasing their competitiveness, operational efficiency, innovation, and inter-company synergies. By collaborating with external service providers, cluster companies can more effectively respond to changing market conditions and remain leaders in their respective industries. It's also worth noting that outsourcing can be used by cluster companies in various areas and disciplines to achieve diverse benefits. The primary applications of outsourcing within a cluster can be IT, meaning that companies often outsource IT services such as software development, IT infrastructure management, technical support, and IT security. Outsourcing IT services can help companies gain access to specialized knowledge and skills, increase operational flexibility, and reduce operating costs.

It's worth emphasizing that, in addition to the benefits of outsourcing, there are also noticeable limitations and challenges for businesses (see Kuźmicki, 2025; Kocot, Błaszczak, 2025). Figure 1 presents strengths and opportunities, as well as weaknesses and threats, in the form of a SWOT analysis.

STRENGTHS	WEAKNESSES
– Focus on key activities: the company can focus on its core business – Savings: reduced operating costs, staff retention, and resource costs – Access to expertise: utilizing the knowledge and experience of external specialists – High quality: guaranteed standards and professionalism from specialized partners – Flexibility and scalability: quick adaptation to changing needs	– Loss of control: reduced oversight of outsourced processes – Vendor dependency: risks related to vendor stability, decisions, and quality – Data loss risk: potential cybersecurity threats and information leaks – Hidden costs: potential additional costs associated with contract management
OPPORTUNITIES	**THREATS**
– Innovation: faster implementation of new technologies thanks to an external partner – Expansion: easier entry into new markets with the supplier's support – Optimization: continuous process improvement thanks to specific knowledge	– Concentration risk: excessive dependence on a single supplier – Market situation: legal, economic, or political changes affecting the supplier; – Cultural incompatibility: conflicts between the company's culture and the partner's – Changing requirements: difficulty adapting services to changing needs

Figure 1. SWOT analysis for outsourcing

Source: own study.

SWOT analysis for outsourcing assesses the company's internal Strengths and Weaknesses as well as external Opportunities and Threats related to entrusting tasks to an external supplier, which allows you to identify benefits (such as focus on goals, savings, access to knowledge, flexibility) and risks (such as loss of control, supplier dependence, cyber threats) and make strategic decisions on whether and in what form outsourcing is profitable and safe.

A SWOT analysis (or the related TOWS analysis) aids in strategic decision--making. It identifies whether outsourcing is profitable, what risks should be minimized, and what opportunities should be maximized to ensure a favourable and secure decision for the company, especially in the case of critical services. This analysis helps make informed outsourcing decisions, maximizing benefits and minimizing potential losses, which is crucial especially when outsourcing functions of significant importance to the company.

EXAMPLES OF IMPLEMENTATION OF OUTSOURCING AS A BUSINESS STRATEGY IN CLUSTERS

In the current economic reality, as mentioned in the introduction, there is a noticeable increase in the importance and role of cooperation between entities.

A special type of cooperation is cooperation concerning innovative forms of integration links, such as the analysed clusters. Cooperation, as emphasized, plays an important role in knowledge transfer, which is a fundamental element in growth theory and in the concept of (national and regional) innovation systems (Chorób, 2016, p. 30).

In the practice of family businesses, for example, specific examples of these companies cooperating within cluster structures using outsourcing can be found. This applies both to Poland and other countries. In the Polish economic environment, such examples include: the Podkarpackie Aviation Cluster, the "Dolina Ekologicznej Żywności" Food Industry Cluster, the "Lubelski Klaster Zaawansowanych Technologii Chemicznych" Chemical Cluster, the Masovian ICT Cluster, the Pomeranian ICT Cluster INTERIZON, the North-South Logistics and Transport Cluster, the Lower Silesian Automotive Cluster, the "Białostocka Meblarnia" Furniture Cluster, the "Łódzki Klaster Tekstylny" Clothing Cluster, and the "Zielone Mazowsze" Tourism Cluster (Foltys et al., 2024, p. 133). Due to the volume, below we present a brief description of only a few selected clusters related to the region of south-eastern Poland.

The Podkarpackie Aviation Cluster. This cluster comprises family-owned companies specializing in the production of components for the aviation industry. Collaboration between companies often involves outsourcing processes such as machining, painting, and quality control. A family-owned company producing aircraft structural components outsources the production of certain metal parts to other cluster members specializing in high-precision metalworking. This allows the company to focus on final assembly and product testing.

The "Dolina Ekologicznej Żywności" Food Industry Cluster. Family businesses in this cluster specialize in the production of healthy and organic food. Instead of investing in full production lines, many companies outsource certain stages of production, such as packaging and logistics, to other companies in the cluster that have the appropriate infrastructure. A family business producing organic fruit preserves outsources the packaging and labelling of finished products to a company in the cluster that has a modern packaging line. This allows the company to focus on producing high-quality products, while packaging costs are significantly reduced.

The "Lubelski Klaster Zaawansowanych Technologii Chemicznych" Chemical Cluster. In the chemical cluster, family businesses collaborate on the research and development of new chemical products, outsourcing some specialized research to external laboratories. A company producing paints and varnishes outsources the testing of its products for durability and safety to the laboratory of another family business in the cluster, which specializes in such testing. This allows the company to reduce research costs and bring its products to market faster.

Examples of family business clusters using outsourcing operating in other countries include: the Furniture Cluster in Arnsberg (Germany), the Agro-Food Industry Cluster in Parma (Italy), the Information Technology Cluster in Bangalore (India), the Wine Cluster in Rioja (Spain), the Bicycle Manufacturing Cluster in Taichung (Taiwan), the Cosmetics Cluster in Grasse (France), the Maritime Cluster in Norway, and the Fashion Industry Cluster in Milan (Italy) (Foltys et al., 2024, pp. 135–136).

Arnsberg Furniture Cluster (Germany). Arnsberg is known as a key center for furniture production, home to numerous family-owned businesses. In this region, family businesses cooperate within the cluster, outsourcing various aspects of furniture production. Arnsberg furniture companies often outsource services such as hardware production, furniture surface finishing, and logistics. This allows companies to focus on design and sales, while specialized entities within the cluster handle selected production processes. Outsourcing final assembly or transport to specialized logistics companies within the cluster allows for savings and greater flexibility in order fulfilment.

Parma Agrofood Cluster (Italy). Parma is the centre of the Italian food industry, particularly known for its production of Parmigiano Reggiano and Parma ham. The region is home to numerous family-owned businesses that collaborate within the food industry cluster, outsourcing various processes, including processing and packaging tasks, to other companies in the cluster that have modern production lines. This collaboration also includes logistics outsourcing, particularly in the export sector, where specialized companies manage transport and distribution of products to foreign markets.

CONCLUSION

Contemporary business conditions require the search for and implementation of new solutions. A cluster structure is one example of a business model. Almost all definitions of a cluster (cluster, cluster) refer to networked collaboration and the spatial proximity of cooperating entities. These structures take various forms, most encompassing companies producing finished goods or services, suppliers of specialized production resources, machinery, and services, financial institutions, and entities in related sectors. Based on an analysis of their functioning, it is possible to identify models of cluster structure solutions. One example of a business strategy is outsourcing, which can be successfully implemented within these structures.

The presented discussions and examples demonstrate that outsourcing allows clustered companies to access resources and technologies that would normally be beyond their reach, as well as to collaborate in ways that enhance their competitiveness

and innovation. Outsourcing within clusters abroad allows companies to optimize costs, increase efficiency, and focus on their core competencies. This confirms the research thesis adopted in the introduction. Therefore, outsourcing not only reduces costs but also enables flexible scaling of operations and faster market introduction of innovative products. Cluster structures create favourable conditions for cooperation between companies and specialized entities, which strengthens the competitiveness of enterprises in local and global markets.

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