

The impact of clustering on transport companies

Tina Cvahte¹, Darja Topolšek², Marjan Sternad³

1 Teaching assistant, University of Maribor, Faculty of Logistics, Mariborska 7, SI – 3000 Celje, tina.cvahte@um.si

2 Assistant professor, University of Maribor, Faculty of Logistics, Mariborska 7, SI – 3000 Celje, darja.topolsek@um.si

3 Lecturer, University of Maribor, Faculty of Logistics, Mariborska 7, SI – 3000 Celje, marjan.sternad@um.si

Abstract: The clustering of firms in the supply chain is rooted in the paradigm of the benefits of cooperation, rather than in the paradigm of competitive advantage. In transport companies, common problems such as empty loads, rising gasoline prices and demands for internationalization are growing and thus, companies are searching for solutions to adequately overcome these issues. The contribution of this paper is to further investigate the practical view of practitioners on clustering and its influence on the performance of transport companies. This will be achieved by an exploration of a case company from Slovenia, which will be undertaken through in-depth interviews with company representatives and their partners. The interview results showed that the benefits provided by interconnecting in the cluster bring a regularity and security which in today's economic world is very important. The disadvantages are virtually negligible when compared to the financial and organizational benefits of clustering, especially when looking from the perspective of financial stability and long-term performance. We can pinpoint this to their regulated functioning and contractual relationships, well managed operations and primarily, on the fair division of work among all partners, which is also the concluding recommendation to other transport clusters Europe-wide.

Key words – cluster, external integration, transport, retail, supply chain, performance

1. Introduction

Clustering in the supply chain means the participation of two or more autonomous companies, which together make plans and carry out activities in the supply chain. Collaboration and clustering of firms in the supply chain brings companies the possibility to share risks, access to complementary resources, reductions in transaction costs, an increase of productivity and profits, performance and competitive advantage over time (CAO M., ZHANG Q. 2011).

Clustering of firms in the supply chain is rooted in the paradigm of the benefits of co-operation, rather than in the paradigm of competitive advantage. In ac-

cordance with this, clustering in a supply chain consists of a sequence or a network of interdependent relationships that promote a strategic alliance and co-operation. This is a relational view on the overall competitive advantage. According to CAO M. AND ZHANG Q. (2011), the advantages of a clustering of firms in the supply chain results from relations, which produce a total benefit as a result of a bilateral search for mutually positive behavior, while competitive advantage encourages individual companies that consequently enhances the benefits of stakeholders.

Business clustering is a form of inter-company integration, which is typically still based on the common interests of all stakeholders of the integration. All

types of enterprise clustering have a common idea of geographical concentration, links between businesses and innovation. Various studies have shown that there is a positive correlation between business clusters and the business performance of stakeholders. Companies included in the cluster must be able to exploit synergies in various areas of horizontal and vertical integration (ZAKRAJŠEK G. 2010).

A central aspect of the position of the cluster is mainly the realization that the development of individual companies or companies in a group or cluster depends primarily on the development of the cluster as a whole (DE LANGEN P. 2004).

In the long term, competitiveness of the economy depends on the ability of industries and businesses to reward knowledge and develop new technologies. This can be achieved through the integration into clusters, as unique knowledge can be created due to a combination of competition and co-operation between businesses. Clusters enable companies to perceive opportunities and innovations more quickly and efficiently, and react appropriately. Innovations, consequently, increase productivity in their own way, which is essential to raise performance levels. It is also very important that clusters develop slowly, since such links between businesses require a lot of trust between partners, a good communication system and in particular a clear common interest and goal of all participants in the cluster (RODICA B. 2003).

Past experience has shown that successful clusters of businesses are those that diversify products for global markets and are adapted for different markets with various products. In their activities, clusters are seeking economies of product differentiation using a sensible choice of target markets, good knowledge of and compliance with information on the development of competition, organization of the production system around the joint production functions, development of structures to support technological innovation, integration of businesses in foreign partnerships for the production and marketing and management of information on markets and technology development (BARUCA R., 2003).

Key elements of the competitiveness of businesses in recent decades were a comparative advantage in the production factors (labor and capital) and economies of scale. Today, however, competitiveness can be de-

defined as a continuously changing framework, the limits of which are defined by new products, production processes, new market segments and new marketing approaches (BLATNIK S., 2005).

Co-operation and outsourcing has received serious attention in passenger and freight transport in the last decade. Logistics service providers are aware of the economies of scale to reduce costs and in this way are looking for ways to improve. Strategic alliances of transport companies are in agreement on their mutual co-operation, which is usually a medium to long term partnership that consists of two or more transport companies with a common goal of improving competitiveness.

When two or more transport companies form a strategic alliance, full participation and performance in a co-ordinated manner as a single entity is expected (ZHOU G., HUI V. Y., LIANG L. 2001).

Cluster and co-operation of transport companies represents an effective approach to reducing transport costs. The main element of clustering of transport companies is the expectation to combine sets of small packages or shipments, so that they can be shipped on the same vehicle at a lower cost, resulting in more economical operations. In practice, dispatch vehicles with empty space are a waste of transport capacity. Common elements of distribution policy in a cluster of transport companies are the quantity of the goods dispatched and the time of transport for the forwarded goods (ZHOU G., HUI V. Y., LIANG L. 2001). With appropriate controlling of quality, the optimal level of logistics services for the client can also be achieved with greater confidence due to focused process management (ULEWICZ R., VAŠKO A., KLIMECKA-TATAR D., 2014).

As shown, clustering is an important part of modern business operations. In transport companies, common problems such as empty loads, rising gasoline prices and demands for internationalization are growing and thus companies are searching for solutions to adequately overcome these issues. Based on the literature review, we can claim that clustering seems to be one of the potential solutions. Therefore, the contribution of this paper is to further investigate the practical view of practitioners on clustering and its influence on the performance of transport companies.

2. Methodology of research

The aim of the research is to examine an example of good practice in the field of clustering of transport companies in an interconnected supply chain. This will be achieved by an exploration of a case company from Slovenia, which will be done by in-depth interviews with the company representatives and their partners. The interviews were performed by researchers with the help of predefined topics to guide the interview.

The focal company is active in the field of international road transport and has over 30 years of experience in international and national transport. Their vehicle park for transport in Slovenia includes over 30 trucks of different sizes and capacities, which puts them into the category of medium sized transport companies. Therefore, external integration is even more important for their performance, and they achieve this by being a part of a transport cluster focusing on one of the largest retailers in Slovenia. In this cluster, they also perform the role of brokers and consequently manage up to 11 other transport companies daily.

The interview results will be analysed in order to extract the practitioner's view on clustering, focusing mainly on their activities in internal transport. The main findings are expected to result in defining advantages and disadvantages for the transport company and supply chain as a whole and to highlight fields that practitioners today mark as lacking and in need of improvements, especially in the field of co-operation and business operations of clusters and supply chains.

3. Results

The cluster functioning is based on a multi-step process. First, the retailer collects orders from all of their units and prepares a logistics plan and routes for the next day deliveries. Subsequently, they also begin preparations of consignments in their central warehouse. Then, all data is transferred to the transport cluster's main transport office, led by the focal company of our research. The office allocates transport routes among cluster partners, the selection is based on location, route, vehicle size and predefined contractual conditions of different partners.

Mutual co-operation in a transport cluster brings both positive and negative aspects of co-operation. This enables extremely good quality and competitive advantages of co-operation between partners, which from the point of the examined cluster, amounts to mainly the following:

- working together,
- regular and planned work with fair distribution among partners,
- guaranteed work,
- regular payment for their work,
- payment by kilometres travelled and not by load capacities.

Among the drawbacks which occur in their cooperation are:

- the role of backup for the next day's transport in case of reduced supply needs, therefore the need to be in preparation but not guaranteed to actually perform the transport operation,
- due to unprepared refundable packaging, the company can be subject to possible additional expenses,
- in case of unprepared or missing/lost refundable packaging, the drivers can be in debt to return them back to the distribution centre where it was loaded, even though it was lost or damaged by another partner or retailer in the supply chain.

Despite all the disadvantages that they are facing by co-operating in a cluster, the overall assessment is that the advantages outweigh them, which is the main reason for the subsequent and equally effective co-operation to continue in the future.

A part of the interview was also an assessment of the four main pillars of successful clustering, which were defined by DE LANGEN (2004) as trust, brokers, managers and group operations. The first component or variable is trust, which is very important among the members of the cluster and is regularly built upon, since the cluster as it is today only exists from 2012 but has not yet seen any major disputes among partners. The second variable is also met in the researched cluster, since our focal company is not only informally but also contractually the broker of the cluster and manages all contracts and communication with its main customer and their fixed contractual carriers. The third variable, a leading company, is less apparent but still present in the form of the main client, a large retailer. The last, but vital, variable is group participa-

tion in the cluster, which seems to be the basic underlying motive under the observed transport cluster and is evident in practices such as fair-share transport divisions and payment of all kilometres travelled.

Overall, an assessment can be made that the transport cluster is well developed and functioning in accordance with proposed guidelines, even though it is relatively small when compared to international clusters. We can pinpoint this to their regulated functioning and contractual relationships, well managed operations and mostly on the fair division of work among all partners.

4. Discussion

Interconnecting firms in clusters or in other forms of inter-firm linkages has become crucial for the further development and competitiveness of enterprises and the economy. Clustering of firms in today's economic world is certainly considered one of the most effective tools that companies can make use of to achieve their objectives, particularly of reduced costs and more efficient breakthroughs in the economic market. Primarily, interdependent entities have the potential for clustering, since they share common or similar production, service or process innovation. Consequently, it is a collaboration of companies that are specialized in certain branches and through mutual cooperation do not compete with each other, but work together to compete with other businesses outside their cluster. Benefits for companies, connected in the cluster, are the obtained specialization of production, joint development, education, and joint appearance on domestic and foreign markets. It is important to highlight that for the success of each cluster, it is mainly the willingness of companies to participate, their common goals and ways to achieve them that play an important role.

In the world of economics, the inter-company integration of enterprises in various forms of connections, such as clusters, have been strongly established and gained in importance. Today, there are already a lot of successful clusters, from wood, tools, IT and others, as well as clusters of transport companies operating in the supply chain. One of them we have also discussed in detail in this paper.

We believe that our study reached its fundamental objective, as we have thoroughly investigated and discovered an example of good practice in association of transport companies in the supply chain and connected transport cluster. This was achieved by addressing and exploring the cluster of a focal transport company. The interview showed that the benefits provided by interconnecting in the cluster brings a regularity and security which in today's economic world is very important. The disadvantages are virtually negligible when compared to the financial and organizational benefits of clustering, especially when looking from the perspective of financial stability and long-term performance.

We conclude that the involvement of businesses in clusters nowadays is very important and useful, therefore, the main output of this paper to all companies entering or already included in a cluster, should be the proverb of "together we can be better, stronger and more successful."

References

1. BARUCA, R. 2003. *Clustering of companies as a form of development* (in Slovenian). Ljubljana: Economic Faculty, University of Ljubljana.
2. BLATNIK, S. 2005. *Clustering and competitiveness of automobile industry suppliers in Slovenia* (in Slovenian). Ljubljana: Economic Faculty, University of Ljubljana.
3. CAO, M., ZHANG, Q. 2001. Supply chain collaboration: Impact on collaborative advantage and firm performance. *Journal of Operations Management*, 29, 163-180.
4. DE LANGEN, P. 2004. Governance in Seaport Clusters. *Maritime Economics&Logistics*, 6, 141-165.
5. RODICA, B. 2003. Cooperation and competition – clusters. *Les = Wood*, 55 (5), 165-167.
6. ULEWICZ, R., VAŠKO, A., KLIMECKA-TATAR, D. 2014. Controlling of the logistic processes. *Production engineering archives*, 3 (2), 26 – 30.
7. ZAKRAJŠEK, G. 2010. Clustering as a form of interfirm connectivity and status quo of Slovenia. *Proceedings of the 7th festival of economy and management research*. Koper: University of Primorska.
8. ZHOU, G., HUI, V. Y., LIANG, L. 2011. Strategic alliance in freight consolidation. *Transportation Research Part E*, 47, 18-29.