

## **SME in service cluster – A regional study**

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*Logistics is a booming sector driven by the growing global market having also a direct impact on the Baltic Sea Region. This paper will concentrate on the situation in Mecklenburg – Vorpommern representing the North-Eastern part of Germany which has been historically part of the former Eastern Germany. Even more than in Western Germany the Eastern German business structures are dominated by the SME. So the majority of the mainly international oriented logistics services in Mecklenburg-Vorpommern are realised by networks of companies mainly consisting of SME*

*Former studies on SME identified the international business as a real challenge for SME due to their limited resources and their lack of international experience. Wismar University is taking part in several European projects with a focus on the Baltic Sea Region. LogOn Baltic and InterBaltic are representing two INTERREGIIIB – projects focussing on logistics whereas BBDN is concentrating on internationalisation of SME within the Baltic Sea Region. Parts of the project results will be dedicated to the analysis of the region as a logistics service provider. So the projects will give an insight to logistical clusters and networks including also performance aspects.*

*This paper is aiming to reflect the results of the two logistics related EU – projects for the region of Mecklenburg-Vorpommern applied to the involved SME in existing logistical service networks. The results presented will be based on the outcome of empirical activities executed in the projects as well as own research activities of Wismar University. Furthermore the results will be presented in the context of the Baltic Sea Region.*

## Logistics in Mecklenburg – Vorpommern

Mecklenburg-Vorpommern, located between two of the largest cities in central Europe, Hamburg and Berlin, is Germany's gateway to the Baltic North. Its strategic location in the heart of Europe gives the region an important role as a hub for traffic to and from Scandinavia, Eastern Europe, and overseas (Figure 1).

Figure 1: Mecklenburg-Vorpommern in the BSR



The region is connected to other important ports in the BSR through several ferry and shipping lines. The improved and expanded traffic network as well as the modern seaports and airports offer efficient transportation links to the German and European hinterland.

Modern shipyards and their suppliers, as well as port-related and maritime industries are some sectors dominating the regional economy. Cargo transport and passenger traffic in the Baltic Sea is increasing rapidly. As a result, the ports in Wismar, Rostock, Stralsund, Sassnitz, Greifswald, Wolgast

and Ueckermünde have been tightly integrated into international logistics transport networks. Some figures should be mentioned in order to illustrate the regional locations of interest in the logistical sector:

Company	Employees	Services
Seaport Wismar	170	Cargo handling, storage
Seaport Rostock	250	Cargo handling, storage
Seaport Sassnitz	40	Cargo handling, storage
AIDA Cruises	2.400	Cruise line company
DE Seereederei	2.600	Shipping company
Laeisz	1.100	Shipping company
Scandlines	2.800	Ferry company
LIDL Logistics	250	Logistics Centre
Noris Zahn Logistics	130	Pharma Logistics

Due to the increasing importance of logistics for the whole region of Mecklenburg-Vorpommern Wismar University of Wismar is actively taking part in two EU projects – within the framework of the INTERREG III B Neighbourhood Programme – concerning regional development and the influence of Logistics and ICT in this development: LogOn Baltic and InterBaltic.

## Seaport Rostock

Of special interest is the port of Rostock because of its excellent geographic location as a Baltic port and its good hinterland connections especially to Central Europe. The growth rate for handled goods in Rostock increased in 2006 of approximately 10 % to a total volume of more than 25 Mio Tons making Rostock to an out performer among all German Baltic ports [OZ]. The handled goods liquid goods, bulk goods, piece goods and ferry related goods where ca. half of the handled goods are related to ferry operations in the Baltic Sea.

When it comes to passenger traffic within the Baltic Sea region Rostock ist he most important German port with about 2,3 Mio passengers in 2006. With more than 100 incoming cruise ships per year Rostock is furthermore the most important German cruise ship port where in 2006 in 138 visits of 37 cruise ships 143.000 passengers were handled.

But the seaport of Rostock is representing also the kernel of a maritime Cluster with a big number of enterprises and employees working mainly in the environment of logistics. After

the German reunification in 1990 this seaport cluster was heavily restructured and the impact can be regarded in the following figures:

	1989	1994	1998	2005
<b>Companies</b>	30	217	168	181
<b>Employees</b>	10.500	7261	4443	5472

The structure of company in the seaport cluster changes from a smaller number of large enterprises during the GDR time to a bigger number of smaller companies in recent days which is expressed by the average number of employees per company dropped from ca. 350 in 1989 to ca. 30 in 2005.

A number of analyses about the structure of companies and employees has been made by Rostock and Wismar University and some important results of an actual analysis can be found in [BP]. This paper is focussing more on the structure of the seaport cluster hosting companies in the following sector:

1. goods handling and storage
2. forwarders and broker
3. transport
4. sea pilots
5. shipping companies
6. ship supply companies
7. insurances and experts
8. repair and maintenance
9. travel agencies
10. harbour related business including trading and production companies and public authorities

## Seaport Cluster

The number of possible factors influencing the performance of clusters is huge. Furthermore the performance of companies inside a cluster can only be understood when their embeddedness is taken into account. The most complete measure for the performance of clusters is the value added generated in the cluster. The value added generated in the cluster is the sum of the value added generated by the members of the population.

In practice, the measurement of the performance of clusters is very complicated task because the necessary data for the analysis of the various variables influencing the performance of a cluster are not available. In his PhD thesis Peter De Langen [DL] developed a framework for the assessment of the performance of seaport clusters and considered a set of variables influencing the performance of a seaport cluster. He proposed 8 variables where 4 variables are focussing on the cluster structure and the other 4 variables are describing cluster governance:

### I. Cluster structure

<i>Element of cluster structure</i>	<i>Effect on cluster performance</i>
Agglomeration economies	<ul style="list-style-type: none"><li>• A shared labour pool attracts firms to the cluster.</li><li>• The presence of customers and suppliers attracts firms to the cluster.</li><li>• The presence of knowledge (spill-over) attracts firms to the cluster.</li><li>• Land scarcity and high land prices 'disperse' firms from the cluster.</li><li>• Congestion disperses firms from the cluster.</li></ul>
Internal competition	<ul style="list-style-type: none"><li>• Internal competition prevents monopoly pricing.</li><li>• Internal competition leads to specialization.</li><li>• Internal competition promotes innovation.</li></ul>
Cluster barriers	<ul style="list-style-type: none"><li>• Entry barriers (such as inaccessible networks) and start-up barriers (such as non-availability of local venture capital) reduce competitive pressure and prevent the inflow of (human) capital.</li><li>• Exit barriers (such as 'sticky labour' and cluster specific investments) reduce uncertainty for firms in the cluster.</li></ul>
Cluster heterogeneity	<ul style="list-style-type: none"><li>• Cluster heterogeneity enhances opportunities for innovation.</li><li>• Cluster heterogeneity enhances opportunities for cooperation.</li><li>• Cluster heterogeneity reduces vulnerability for external shocks.</li></ul>

### II. Cluster governance

<i>Elements of cluster governance</i>	<i>Effects on cluster performance</i>
The presence of Trust	<ul style="list-style-type: none"><li>• Trust lowers coordination costs because costs to specify contracts decrease.</li><li>• Trust increases the scope of coordination beyond price, because the risk of free riding decreases.</li></ul>
The presence of intermediaries	<ul style="list-style-type: none"><li>• Intermediaries lower coordination costs and</li></ul>

	increase the scope of coordination beyond price because they specialize in managing coordination.
The presence of leader firms	<ul style="list-style-type: none"> <li>• Leader firms generate positive external effects for firms in their network, mainly by encouraging innovation and promoting internationalization.</li> <li>• Leader firms generate positive external effects for firms in the cluster, mainly by organizing investments in the training and education infrastructure, the innovation infrastructure and the infrastructure for collective action.</li> </ul>
Quality of collective action regimes	<ul style="list-style-type: none"> <li>• The more resources are invested in collective action regimes, the better the performance of a cluster. Five variables influence the amount of invested resources: <ul style="list-style-type: none"> <li>○ role of leader firms,</li> <li>○ role of public organizations,</li> <li>○ presence of an infrastructure for collective action, the presence of a community argument</li> <li>○ use of voice.</li> </ul> </li> </ul>

Peter De Langen tested his analytical framework in a empirical part assessing the seaport clusters of Rotterdam, Durban and the Lower Mississippi Port Cluster [DL]. As a consequence he was able to provide a basis for an assessment of strengths and weaknesses of the structure and the governance of the considered seaport clusters and derived from their strengths and weaknesses recommendations for improving the performance of these clusters. The approach of De Langen was the starting point for a deeper analysis of the seaport cluster of Rostock and a consideration of the situation of SME in this cluster.

## **The Performance of the Rostock Seaport Cluster**

Between 2006 and 2007 a couple of empiric activities have been executed in the frame of the two INTERREGIIB – projects “LogOn Baltic” and “InterBaltic”. One study was dedicated to the assessment of the performance of the Rostock seaport cluster according to the methodology of De Langen [ML]. The main results of this study will be presented here together with other results related to the two EU-projects where the main focus is laid on the SME as a part of the seaport cluster.

All basic activities in a seaport are related to handling and transfer functions of cargo and passenger so the generic work in a seaport cluster are based on logistics and service activities. A closer view to the companies integrated in the Rostock seaport cluster is revealing that nearly all companies are belonging to the logistics related sector which is outlining that the seaport cluster can be considered as a service cluster.

Many of the companies are organised in associations which are also located inside the cluster and which are playing an important role as multipliers and political institutions for the sector that they are representing. The 5 most important regional associations inside the cluster are:

- Verband Spedition & Logistik Mecklenburg-Vorpommern
- Deutsche Seemannsmission Rostock e.V.
- Landesverband Hafenwirtschaft Mecklenburg-Vorpommern
- Verband Mecklenburg Vorpommersche Schifffahrtssachverständige e.V.
- Schiffsmaklerverband Mecklenburg-Vorpommern e.V.

These associations are representing the majority of all companies in the 7 sectors of seaport handling, transportation, logistics, seaport administration, services of sea pilots and experts, and ferry companies. In the performance study 13 senior managers of the seaport cluster have been interviewed according to the underlying concept of De Langen. The relative low number of interviewees is not giving a representative image of the situation inside the cluster but they are showing a trend which could be strengthened by results of other empiric activities.

A first result of the study is revealing the intensity of integration of the different service sector into the seaport cluster. The following table is giving an average value for the level of integration with a range between 1,0 (very weak) till 5,0 (very strong):

<b>Service sector</b>	<b>Integration into the Cluster</b>
Goods handling and storage	3,56
Transport	2,89
Forwarders and broker	3,00
Seaport administration	3,44
Sea pilots	3,11
Shipping companies	1,89
Shipping experts & insurances	2,67
Ship supply companies	2,89
Repair & maintenance	2,22
Travel agencies	1,56
Seaport related business	3,00

It turns out that the sectors which are related to passengers like travel agencies and cruise and ferry companies are not good integrated into the existing seaport cluster. Furthermore more

hardware oriented services like repair and maintenance are sharing a similar situation. So as a first result it can be stated that the kernel of the Rostock seaport cluster is represented by cargo related logistical service providers and navigation related services.

## **Structure Variables for the Rostock Seaport Cluster**

In accordance with the analytical framework of De Langen an analysis of the 8 structural variables of the Rostock seaport cluster was realised. Since the structural variables are ordered by the 2 categories cluster structure and cluster governance we stating first the strengths and weaknesses of the cluster structure:

### **I. Cluster structure**

#### **a. Strength of Rostock Seaport Cluster**

1. Strong potential of working power
2. High transportation volume
3. Low rent and real estate prices

#### **b. Weakness of Rostock Seaport Cluster**

1. Low variety of goods
2. Low variety in cluster population
3. Low presence of customers and suppliers

A surprising observation of the results of the study was that knowledge spill-over effects inside the cluster have been regarded by relatively unimportant which show together with the weaknesses in the variety of goods and in the cluster population a strategic disadvantage in the innovation field of the cluster. The high ranking of the available working power, the high transportation volumes and the low land prices are revealing an emphasis on operating topics in the perception of the cluster companies.

### **II. Cluster governance**

#### **a. Strength of Rostock Seaport Cluster**

1. Presence of Intermediaries
2. High quality in common problem solving

#### **b. Weakness of Rostock Seaport Cluster**

1. Low trust among cluster companies
2. Existence of central actors



The stated strengths in Rostock Seaport Cluster are focusing on freight forwarders and brokers who are generating and distributing the service tasks for the cluster companies. These intermediaries are competent and there is a high quality in problem solving inside the cluster. But again these mentioned strengths are emphasising more the operative level of business activities. When it comes to the weaknesses inside the cluster the existing level of trust is low revealing again a strategic problem for the future cluster development. The topic of trust not only assessed as being actually very low in the cluster also its importance for the cluster is regarded as low. This weak perception for trust as an important cluster dimension is also expressed in the second weak point concerning the existence of central actors. Central actors like the port administration are acting as a moderator between the different cluster companies and laying the ground for common cluster activities and is so fostering trust among the cluster population. So the neglect of the soft dimensions is indicating a strategic weakness of the cluster and a threat for the future cluster development.

## **Case Studies**

Already in the LEONARDO – project "International comparative studies and course development on SMEs" of the European Union the European SME – system was in the focus of a research project [GP]. From 2003 – 2006 ten partners from eight European countries, led by the Budapest Business School, develop a deep comparative study on the SME systems of eight Central European countries. Each participating country was represented by an academic institution responsible for the research work concerning its own country.

Four SME case studies from each participating countries have been considered by using empiric activities like questionnaires and interviews. For Germany Wismar University was participating in the project and the four German cases have been chosen so that one company was located in West Germany and the three other SME's were located in the East.

By taking a closer look at the results of the comparing study among the German SME's the case studies supported the conjecture of Wölf and Ragnitz that the network activities and structures in the East are substantially weaker than in the West. All three interviews with the Eastern CEO's showed a strong under emphasis of the networking for the daily business compared to the Western SME's representing the Western view about networking activities. Furthermore it should be mentioned that the results of the comparative study of the cases confirmed the results of the already mentioned Jena study. The biographies, the interviews

and the organizational structures of the Eastern SME's underlined the mental specifics stated by the Jena study.

The networking activities and the confirmation of the Jena study were not the only important results of the analysis of the case studies. By analyzing the case studies it turned out that the level of internationalization and the international activities among the Eastern companies reached a much lower level than in the Western case. This important result also fits to the general situation when it comes to exports and international activities. The reason of this difference can be found in the different biographies between Western and Eastern CEO's because Eastern CEO's were more or less forced to stay inside their country during the Soviet times which made it complicated to get familiar with foreign business structures and cultures. Similar cases studies have been executed recently in the Rostock Seaport [BP]. The two logistics companies Baltic Lloyd and Homtrans are representing typical SME in the logistics sector located in the area of the Rostock seaport cluster. Both companies were founded after the German reunification but having roots to the Eastern German times. Both companies enjoyed a constant growth of their turnovers, number of employees and their offered services of the last years. The case studied revealed that one important reason for their outperforming development as a part of the Rostock seaport cluster was due to their high integration in logistics networks and related network activities stressing the results already mentioned in the LEONARDO project.

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