CLUSTER POTENTIAL IN INDUSTRIAL SECTORS OF SAMSUN: KUTLUKENT FURNITURE CLUSTER STUDY

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I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

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ABSTRACT

CLUSTER POTENTIAL IN INDUSTRIAL SECTORS OF SAMSUN:
KUTLUKENT FURNITURE CLUSTER STUDY

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The present study investigated whether cluster potentials could be identified in the geographical area within the boundaries of Samsun province, and if identified, how such a potential could be promoted through corresponding support measures. Development of policy recommendations for promotion of identified cluster potential was the principal goal of the study. The course of the study was characterized by a cluster-based policy-making process in the policy environment, i.e. Samsun province. The process includes a descriptive part, i.e. cluster analysis, and a prescriptive part, i.e. determining policy goals and designing policy instruments. In the literature review, a guide to the field study was developed by review of various approaches to cluster concept; common features of clusters and the competitive advantages these give rise to; various practices in cluster-based policy development, and various cluster analysis methods. The field study starts with the initial identification of need for policy intervention, at which stage the rationale for pursuing a cluster-based policy in the specific conditions of Samsun and Turkey was discussed. The "clusters as sectors" approach was utilized in the identification of region's (potential) clusters and selection of the cluster as the subject of analysis and policy development. The analysis of industrial sectors in Samsun's economy was followed by selection of the target sector via employing various criteria assessing the importance of these sectors in terms of value added to the regional economy, and the

clustering potential. Accordingly, furniture sector was selected, and the agglomeration of furniture sector enterprises in Kutlukent locality was identified as the potential cluster to be the subject of analysis and policy development. Following the identification of the potential cluster, the descriptive part was completed by second-stage micro-level analysis of the identified potential cluster, by which detailed information about the potential cluster was presented. At that phase, cluster potential of the structure was assessed by examining the elements in cluster value and production chain; public and private business support infrastructure; the flow of materials and goods in the chain; untraded relationships between the elements; characteristics of enterprises and workforce; and innovation performance. This comprehensive in-depth analysis of the cluster provided the required information to identify the specific needs of the cluster for cluster-based policy intervention. In the last part of the thesis, i.e. prescriptive part, cluster-oriented policy recommendations were developed including the determination of policy goal and the design/selection of policy instruments.

The necessary information was collected by two-stage expert interviews, and by overall scan of the enterprises involved in the cluster via enterprise survey, which was realized in interviews with all of the enterprises. Six experts and 283 enterprises participated in the study. The results of the analysis showed that, while Kutlukent furniture cluster had some features, which are common in effective cluster models, the cluster lacks some critical features, which are crucial for effective functioning of a successful cluster. Hence, Kutlukent furniture cluster was defined as a “potential” cluster, which should be promoted by utilizing the existing potentials and strengths, and by addressing the weaknesses and obstacles identified in the analysis of the cluster, via appropriate cluster-oriented policy measures, which were proposed in the prescriptive part of the policy-making process. By these measures, the elements of Kutlukent potential cluster would be able to realize competitive advantages associated with clustering as in successful cluster models.

Keywords: clusters, cluster analysis, cluster policy, SMEs, cooperation, competitiveness

ÖZ

SAMSUNUN SANAYİ SEKTÖRLERİNDEKİ KÜME POTANSİYELİ:
KUTLUKENT MOBİLYA KÜMESİ ÇALIŞMASI

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Yüksek Lisans, Bilim ve Teknoloji Politikası Çalışmaları
Tez Yöneticisi: Prof. Dr. Metin Durgut
Aralık, 2004, 246 sayfa

Bu çalışma Samsun ili sınırları içindeki coğrafi bölgedeki küme potansiyeli varlığını, ve eğer tanımlanabilirse bu potansiyelin uygun destek mekanizmaları ile nasıl geliştirilebileceğini araştırmaktadır. Çalışmanın ana hedefi tanımlanan küme potansiyelinin geliştirilmesi için politika önermeleri oluşturmaktır. Alan çalışmasının akışı bir küme tabanlı politika yapım sürecini içermektedir. Süreç betimsel kısım, yani küme analizi, ve politika amaçlarını belirleme ve politika araçları geliştirme kısımları olmak üzere iki aşama içermektedir. Yazın taraması kısmında küme kavramına çeşitli yaklaşımları; kümelerin ortak özellikleri ve bu özelliklerin beraberinde getirdiği rekabet avantajlarını; çeşitli küme politikası geliştirme tecrübelerini; ve küme analizi yöntemlerini işleyen ve saha çalışması kısmında yol gösterici nitelikte bilgiler sunulmuştur. Saha çalışması, ilk aşama politika müdahalesi ihtiyacı belirlenmesi ile başlamaktadır. Bu adımda Samsun ve Türkiye'ye özgü koşullarda küme tabanlı politikalar izlenmesinin uygunluğu ve gerekçesi tartışılmıştır.

Araştırma bölgesinin özgün koşulları ve araştırmanın kısıtları, bölgenin muhtemel kümelerinin tanımlanması ve hedef kümenin seçilmesi sürecinde "sektör olarak kümeler" yaklaşımının benimsenmesini beraberinde getirmiştir. Araştırma

bölgesindeki sektörlerin incelenmesinin ardından bölge ekonomisine kattığı değer ve taşıdığı küme potensiyeli ölçütlerine göre hedef sektör seçilmiştir. Buna göre, mobilya sektörü seçilmiş ve Kutlukent yerleşim yerinde gözlenen mobilya sektörü işletmeleri kümelenmesi analizin ve politika önermelerinin konusu olacak potansiyel küme olarak tanımlanmıştır. Sürecin izleyen aşamasında, Kutlukent mobilya kümesi ikinci-faz mikro-seviye küme analizine tabi tutulmuş ve küme ile ilgili ayrıntılı bilgiler sunulmuştur. Bu aşamada, potansiyel kümenin değer ve üretim zincirindeki elemanlar incelenmiş, bu elemanlara destek sağlayan kamu ve özel sektör kuruluşları tanımlanmış, değer zincirinde materyal ve ürün akışı incelenmiş, küme elemanlarının ticari olmayan ilişkileri değerlendirilmiştir. Bu aşamada bunlara ek olarak küme dahilindeki işletmelerin ve işgücünün karakteristik özellikleri saptanmış ve işletmelerin yenilik performansları incelenmiştir. Toplanan bu bilgilerle yapının küme potansiyeli hakkında bir değerlendirme sunulmuştur. Kümenin bu geniş kapsamlı analizi yapının küme tabanlı politika müdahalesi ihtiyaçlarının tespit edilmesine olanak sunan bilgileri sağlamıştır. Çalışmanın son kısmında politika amaçlarının belirlenmesini ve politika araçlarının tasarlanmasını/seçilmesini içeren küme tabanlı politika önermeleri geliştirilmiştir.

Küme analizi için gerekli veri iki aşamalı uzman mülakatları ve küme içinde tanımlanan tüm işletmelerin tarandığı birebir anket uygulaması ile toplanmıştır. Mülakatlara 6 uzman katılmış ve 283 işletme sahibi ile anket yapılmıştır. Analizin sonuçları, Kutlukent mobilya kümesinin etkin küme modellerinin taşıdığı bazı önemli özellikleri taşımasına karşın, diğer birtakım önemli özellikleri taşımadığını göstermiş ve dolayısıyla Kutlukent mobilya kümesi “potansiyel” bir küme olarak tanımlanmıştır. Kümenin ortaya konan küme potansiyeli, çalışmanın son aşamasında önerilmiş olan küme tabanlı politika uygulamaları yoluyla, analizde tanımlanmış olan potansiyellerinin ve güçlü yönlerinin değerlendirilip geliştirilmesi ve zayıf yönlerinin ve önündeki engellerin giderilmesi sureti ile geliştirilmelidir. Böylelikle potansiyel kümenin elemanlarının etkin küme modellerinde gözlenen rekabet avantajlarını yakalaması sağlanacaktır.

Anahtar kelimeler: Kümeler, küme analizi, küme politikası, küçük ve orta ölçekli işletmeler, işbirliği, rekabetçilik.

To My Family

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CFCU	Samsun Chamber of Furniture-makers, Carpenters and Upholsterers
GTZ	Gesellschaft für Technische Zusammenarbeit
HRM	Human Resources Management
I/O	Input/Output
KIT	State-owned Economic Enterprise
KOSGEB	Small and Medium Industry Development Organization
KSS	Small Industrial Estate
KUSGET	Enterprise Development Centers
LQ	Location Quotients
ORTKA	Common Usage Workshops
OSB	Organized Industrial Zone
SAMSIAD	Samsun Industrialists and Businessmen Association
SCIC	Samsun Chamber of Industry and Commerce
SME	Small and Medium-sized Enterprise
SPO	State Planning Organization
TAIF	Turkish Wood Works Federation
UNIDO	United Nations Industrial Development Organization

CHAPTER 1

INTRODUCTION

Growth and success of small-firm industrial districts, which are characterized by groups of geographically concentrated interlinked firms that tend to collaborate technologically and/or strategically, in Europe – particularly in Italy during the 1960s and 1970s (Becattini, 1990) – has been subject to intense scrutiny by researchers and policy-makers responsible for industrial and regional policy (Isaksen, 1998). This new type of industrial organization seemed to flourish despite the predominance of SMEs in the structure and the trends of globalization. These agglomerations, or *clusters* of firms, have gained broad attention for their competitive characteristics forming the basis for the competitiveness of these areas. The regionalization concept, defending the idea that "the enduring competitive advantages in a global economy are often heavily localized" has arisen as an explanation to the competitive characteristics (Porter, 1998a). Rise of the "knowledge economy" concept, putting innovation at the centre stage of the economic development and competitiveness, and putting the interaction between the "elements producing and using knowledge" (Roelandt & den Hertog, 1999) at the centre stage of the innovation process, has caused a more increased interest in the cluster concept, as the clustering provides effective interactive environment essential for the innovation process. What is more, the predominance of small and medium-sized enterprises (SME) in these competitive structures attracted the attention of the policy makers and researchers interested in developing SME support policies. Because, in spite of the great importance attributed to SMEs worldwide, SMEs are considered disadvantageous at the global market invaded by large enterprises. With all these inspirations "cluster approach" has been

utilized for designing regional economic development policies, industrial development support programs, SME support policies and innovation policies (see European Commission Enterprise Directorate-General, 2002; Nadvi, 1995; OECD, 1999; World Bank, 2000).

The broad attention to this industrial organization type has resulted in the analysis of the properties of successful clusters and the factors contributing to their competitiveness. A vast body of theoretical research has come along with the examination of successful practices as an input to policy-making process. The policy-makers are interested in identifying and promoting industrial structures carrying a potential of being turned into clusters similar to successful practices. Identification process basically entails the investigation of presence of the common features of clusters in the policy target. The identification of the cluster potential is followed by the development of cluster-oriented assistance measures to promote the potential to develop these structures into a cluster in the sense of the theory. The identification and promotion processes represent two common basic stages of cluster-based policy-making process, while the applications of cluster-based policy-making are highly varied.

1.1. Objectives and Method

The present study, using the same point of departure, investigates whether clustering potential could be identified in the geographical area within the boundaries of Samsun province, and if identified, how such a potential could be promoted through intervention measures. Development of policy recommendations for promotion of identified cluster potential is the principal goal of the study.

Above statement includes two basic questions of the cluster-based policy-making practices. Hence, the present study comprises a cluster-based policy-making process. The general goal statement of the policy is presented as “to develop a business environment that facilitates clustering, and to improve the conditions of the potential cluster by addressing bottlenecks, needs and missing parts of the structure that hinders the realization of the advantages associated with clustering. The policy-

making process includes a descriptive part, i.e. cluster analysis, and a prescriptive part, i.e. determining policy goals and designing instruments. The policy-making process starts with the initial identification of need for policy intervention, at which stage the rationale for pursuing a cluster-based policy in Turkey and Samsun-specific conditions is revealed by the assessment of the appropriateness, and prospective effectiveness of the cluster-based policy intervention under these conditions. In the following stage, "clusters as sectors" approach is utilized for the identification of region's (potential) clusters and selection of the (potential) cluster as the subject of analysis and policy development. Accordingly, the analysis of industrial sectors in Samsun's economy is followed by selection of the target sector. In the selection process, the applied criteria is basically developed to assess the importance of these sectors in terms of (potential) value added to the regional economy, and the clustering potential, which is identified by the existence of the common features of clusters in these sectors. Accordingly, furniture sector is selected, and the agglomeration of furniture sector enterprises in Kutlukent locality, which comprises three small industrial estates and an organized industrial zone, is identified as the potential cluster to be the target of policy-making. Following the identification of the potential cluster, the descriptive part is completed by second-stage micro-level analysis of the identified cluster, by which detailed information about the potential cluster is given. At that phase, clustering potential of the structure is assessed by examining elements in the cluster's value and production chain; public and private business support infrastructure; flow of materials and goods in the value/production chain; other traded and untraded relationships between the elements; characteristics of enterprises and workforce; and innovation performance. This comprehensive in-depth analysis of the cluster provides required information to identify specific needs of the cluster for cluster-based policy intervention. In the final stage of policy-making process, i.e. prescriptive part, cluster-oriented policy recommendations are developed including the decision of policy goals and the design/selection of policy instruments.

The main source of extensive information used in the analysis is the information gathered by two-stage expert interviews, and by overall scan of the enterprises involved in the cluster via enterprise survey, which is realized in

interviews with all of the enterprises. The first-stage expert opinion interviews are utilized for analysis of the sectors in Samsun's economy; selection of sector; and identification of potential cluster to be targeted by the cluster-based policy intervention. In the first-stage expert opinion interview, five experts from Samsun Chamber of Industry and Commerce, Small and Medium Industry Development Organization (KOSGEB), Samsun Industrialists and Businessmen Association (SAMSIAD), Organized Industrial Zone Directorate, and Kutlukent Municipality are interviewed. The information collected at the second-stage expert opinion interviews, in which two experts from Samsun Chamber of Furniture-makers, Carpenters and Upholsterers and Kutlukent Municipality are interviewed, is used for in-depth analysis of the selected sector and identified cluster. The basic instrument used in the cluster analysis is the enterprise survey, which entails overall scan of the cluster. In the enterprise survey, 283 of totally identified 377 (potential) member enterprises of the cluster are surveyed. The information gathered via the survey is utilized for in-depth analysis of the identified cluster.

1.2. Structure of the Thesis

The subject of the thesis is the cluster-based policy-making process, entailing cluster analysis and the development of corresponding cluster-oriented policy recommendations, in the policy environment, i.e. Samsun province.

The thesis is made up of two main parts; literature review in chapter two, which provides the theoretical framework for the field study, and the field study covered in chapters 3 to 5, whose logical sequence is given in section 1.1. above.

Chapter 2, the literature review, includes review of various approaches to the cluster concept; common features of clusters and competitive advantages these bring about; various cluster analysis methods, and practices of cluster-based policy development. The overall picture obtained from the review provides us an insight into the cluster concept and a guide to make use of in our fieldwork, i.e. the cluster analysis, and development of corresponding policy recommendations. The review starts with a discussion on the rise of the cluster concept in the research and policy-

making fields. Working definitions of clusters are investigated to create a list of features characterizing the cluster formula. These common features include the interaction and cooperation between the elements, the presence of supporting institutions and tailored infrastructure, specialization, and spatial concentration. These features are analyzed in detail as they form the basis for the claimed competitive advantages clustering brings about, and as they represent the basic measures in the identification of clustering potential. Similarly, the competitive advantages associated with these features are discussed in detail, as they draw the picture of the expected results of the policy initiatives, or the vision of these initiatives foreseen as the outcome of the cluster-oriented policy responses. Therefore, the study of these features and associated advantages provides a tool to be utilized in the study of cluster-based policy-making approaches. After clarifying the basic features and competitive characteristics of cluster structures, we investigate various approaches in cluster-based policy-making, which entails a diagnosis or the analysis of existing situation with a cluster approach, and developing policy responses to fill the gap between the existing and desired situation.

The review of cluster-based policy-making starts with the examination of different practices. A policy definition is developed to be utilized in the field study. Following this, various practices in descriptive phase of cluster-based policy-making are reviewed. The practices, which are characterized by the stages of initial determination of the need for policy intervention; an analysis of the economy (at the decided level) in terms of its clusters; identification and mapping of clusters; the selection of target cluster(s); and identification of the policy needs, vary according to the intention, starting point and cluster interpretation of the researcher/policy maker. The diagnosis phase, or cluster analysis, is the main focus, as it provides the ground for development of policy responses. After proposition of a general line of activity in the diagnosis, the policy responses and instruments developed in various practices to address the issues identified in the diagnosis are examined in a comprehensive manner. The policy responses are basically oriented towards promoting clustering potentials, and addressing the needs and problems using the cluster approach. The examination of cluster policy applications and instruments is again conducted using a similar classification of common properties of clusters, as the environment that

facilitates the realization of the identified advantages, and the advantages delivered by clustering represents the vision for policy-making initiative. Accordingly, the issues to be addressed by policy responses are analyzed under the headings of missing crucial elements; lack of a qualified labor pool; deficits in the knowledge base; lack of tailored infrastructure; and lack of identity and cooperative relations. Finally, general lessons drawn from various cluster policy applications are specified.

With the logical framework constructed and the guide developed in the Chapter 2 on hand, through Chapters 3 to 5, the field study is presented. In the field study, basically, we adapt and implement cluster policy-making process to our research environment by making use of the logical framework constructed and practical lessons drawn in the review of various practices; and we design tailored diagnosis tools and develop policy recommendations based on our state of the art.

Chapter 3 starts with a comprehensive presentation of the purpose of the study, which is followed by an outline of the tailored cluster-based policy making process and the research method. Moreover, the methods of data collection, which comprises the design and application of two-stage expert interviews and the enterprise surveys, are explained in Chapter 3.

In Chapter 4, the descriptive part of the cluster-based policy-making process is given, that is, the results of the research conducted in the field are presented in accordance with the logical sequence of the cluster based policy-making process as explained in the section 1.1. Accordingly, initial identification of the need for policy intervention is carried out by reviewing industrial data for Turkey and Samsun about SMEs, previous related studies, cluster potential and existing policies. That stage is followed by the successive stages of: analysis of Samsun's economy in terms of its potential clusters (sectors); the selection of the target sector; and identification of the potential cluster to be the subject of analysis and policy development. The descriptive part is completed by in-depth analysis of the identified potential cluster (Kutlukent furniture cluster). The relevant background information that is required for the descriptive phase, including clusters and Turkey; research environment: Samsun; furniture production; and global and Turkey-specific conditions of furniture sector, is also given in chapter 4.

The analysis of the identified potential cluster conducted in Chapter 4 provides the necessary information to identify the policy needs and to develop policy recommendations and instruments. In the conclusion chapter, i.e. Chapter 5, findings of cluster analysis are discussed in accordance with the objectives of the study. Accordingly, the cluster potential of the identified potential cluster is assessed by a discussion of the presence/absence of the common features of clusters in the structure. As the strong and weak aspects in the cluster potential of Kutlukent furniture cluster are identified, the discussion is completed by development of policy recommendations comprising identification of policy needs, determination of corresponding policy goals, and the design/selection of policy instruments. After giving the concluding remarks, which presents the highlights of results of analysis and their policy implications in accordance with the objectives of the study, drawn from our research, in the last section suggestions for further research are presented.

The overall organization of the thesis is provided in Figure 1.

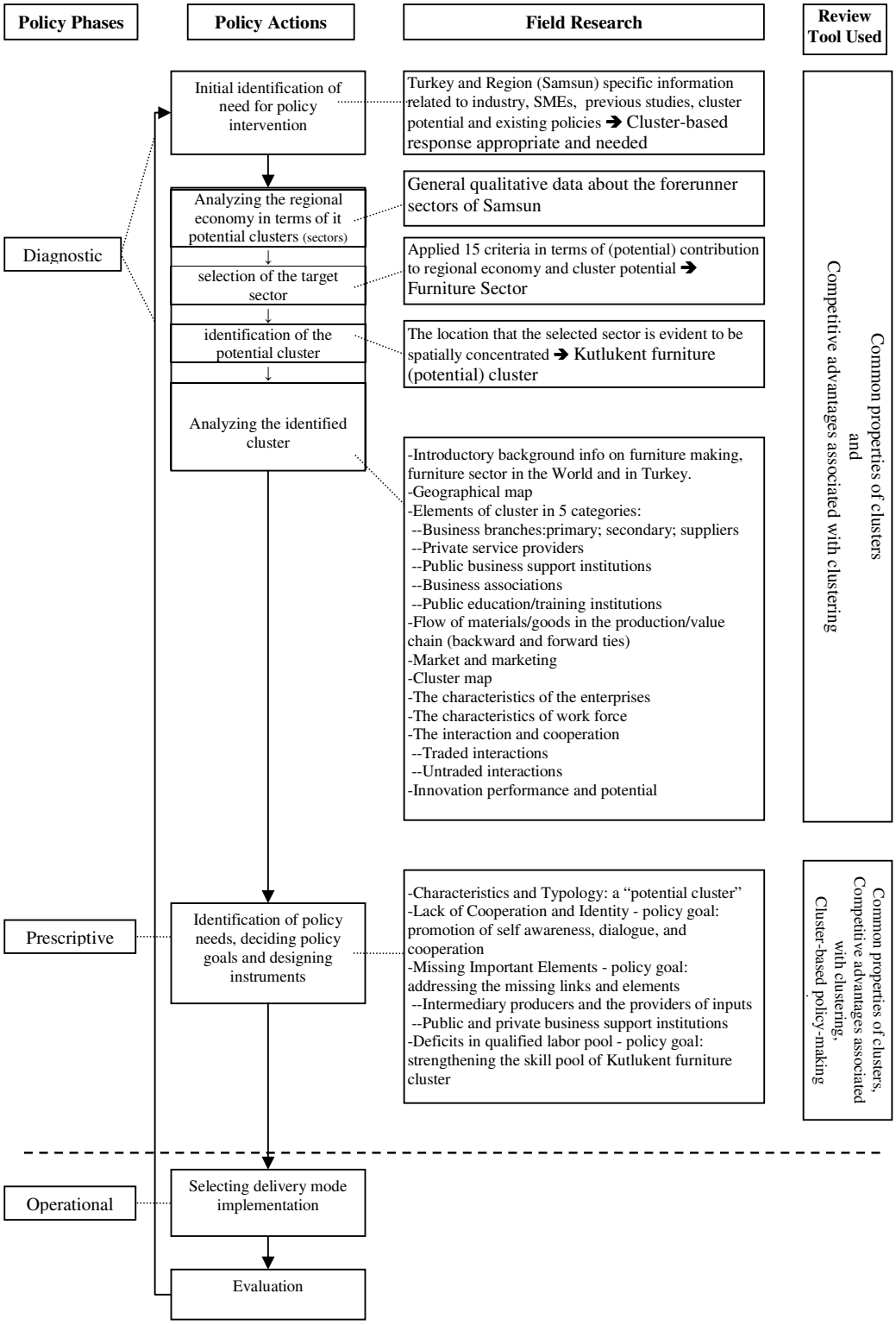


Figure 1. Overall organization and logical framework of the thesis. Dashed lines show where the process included in field study ends.

1.3. The importance of the study

The literature on clusters indicates that the cluster approach has been valued as an important analytical tool in regional economic development, industrial development, SME support and innovation policy-making (Martin & Sunley, 2001). It provides a means of understanding the processes underlying regional development and the sources of an industry's competitiveness in greater detail, as well as being an effective source of general policy information (Raines, 2002). More detailed and useful intelligence about a region/sector can be gathered using the cluster approach, to be utilized in the design of policies to support regional development and improve the competitiveness of the businesses/sectors/industries/regions (Bergman & Feser, 2002). Under the conditions of globalization, particularly for developing country economies, cluster-oriented assistance policies are utilized for provision of assistance to SMEs to address the disadvantages of small scale and to make them stand global competitive forces (Nadvi & Schmitz, 1994). Finally, the literature on the subject reveals that cluster policies have been proven successful in very different initial conditions.

While the successful applications of cluster analysis and cluster-based policy-making initiatives are evident under different economic and industrial conditions, the subject is still a new topic for Turkish researchers. On the other hand, design of support policies for Turkish SMEs represents a very important agenda for the public industrial policy-makers, who are seeking effective ways to integrate Turkish SMEs into the global economy. There are a few recent attempts employing cluster approach as a tool to develop SME support polices in Turkish public policy initiatives. Moreover, some initial attempts, which are inspired from mega-level cluster analysis applications, aiming at studying the regional concentrations of industries in Turkish economy are noted in the literature (see Akgüngör 2002; Akgüngör, 2003). While these initial studies provide valuable information for regional development policy-making, the research should be expanded in order to explore and analyze the clusters at the micro level. Therefore, these efforts should be complemented by micro-level studies to provide concrete region/locality specific information to be utilized for the

development of cluster-based assistance policies to address cluster/industry/region specific issues explored. It is expected that, complementary micro-level cluster analysis applications will soon emerge, and the cluster approach will gain an important place in the public policy-making practices in Turkey. Our field study is among the pioneering attempts for a micro-level study in the specific name of "clusters". Finally, for Samsun, by our cluster study, we gain an effective understanding of the processes underlying Samsun's regional development and the sources of the subject sector's competitiveness, and design policies tailored to particular conditions of the region and sector, to enhance the competitiveness of SMEs and to support regional economic development.

CHAPTER 2

CLUSTERS, CLUSTER-BASED POLICY MAKING, CLUSTER ANALYSIS

The economic consequences of globalization often depicts itself in the idea that by the creation of borderless markets, the hypermobility of finance, the rise of transnational firms, and the transition to an information economy, the importance of the location in economic activity is diminishing. Various researchers considered that issue using different terms, such as “end of geography” (O’Brien, 1992), the “death of distance” (Cairncross, 1997), and the “delocalisation” of economic and social relationships (Gray, 1998).

There is, however, disagreement on the extent and consequences of globalization. Many authors support the opposite view that, on the contrary, globalization is actually increasing rather than reducing the importance of location (Coyle, 2001; Fujita, Krugman and Venables, 2000; Porter, 1998a, 1998b; Scott, 2001; Storper, 1997). Porter puts that opposition in his well-known work “Clusters and New Economics of Competition” as:

> In a global economy – which boasts rapid transportation, high speed communications and accessible markets – one would expect location to diminish in importance. But the opposite is true. The enduring competitive advantages in a global economy are often heavily localised, arising from concentrations of highly specialised skills and knowledge, institutions, rivalry, related businesses, and sophisticated customers (Porter, 1998a, p.90).

In various valuable works, being in agreement with the idea of increasing significance of location, the idea is recognized as an alternative trend in the international economy (Isaksen, 1998), and that new trend is named as “regionalization”, putting into the term more than Porter did to localization. Regionalization refers to economic activity dependent on resources, which are

specific to individual places (Storper, 1997). In these places, “interactive learning occurs in which asymmetric information and unique knowledge is created and absorbed in a way that creates competitiveness for firms and local production systems” (Isaksen, 1998, p.13). All these indicate the point that, “region” with its various advantageous aspects constitutes a conducive ground for economic development policy-making to enhance the position of different regions with different competency and capabilities, in the global economy.

As the regions are recognized as the true level for economic development policy-making, regionalization has gained increased interest in regional and local level studies of industrial development. With the interest of designing development strategies based on regionalization for creating internationally competitive firms and business groups in regions, the importance of local factors in explaining success stories of successful regions is highlighted. Factors put forward as success criteria include mutual trust and co-operation between and within firms; local traditions in the establishment and running of small enterprises; work-force competence gained through long term experience of a particular production processes; collective learning processes, and the free flow of information between firms (Storper, 1997). All these factors emphasize the way in which agglomerations of firms are anchored in local economic, social and cultural structures; structures which have a bearing on their competitiveness (Isaksen, 1998).

In fact, main driving reason for importance attributed to local and regional conditions is the emergence of many studies examining the conditions characterizing some surprisingly competitive industrial locations. From around 1970, many geographically bounded concentration of inter-related firms in Western Europe and the US experienced growth, at a time when manufacturing employment declined in these countries as a whole (Isaksen, 1998). In the 1970s and 80s, a number of these areas established themselves as strong players on the global market, both with regard to more traditional products as well as high-tech products. (Industrial districts in Central- and North-eastern Italy may provide the best examples of the former, Silicon Valley in California is the best known example of the latter.) In a number of manufacturing sectors, these regional concentrations of often small and medium-sized enterprises were considered more competitive than their larger counterparts.

These concentrations, or sectoral agglomerations, or *clusters* of firms, have gained broad attention of researchers and policy makers by their characteristics forming the basis for their competitiveness.

Moreover, with the recognition that this new type of industrial organization was mainly composed of small and medium-sized enterprises (SMEs), the attention paid by the researchers and policy makers to the concept increased more and more. SMEs in these successful regions were able to stand the global competitive forces and showed a considerable export success, and this type of organization "appeared to defy forecasts of the demise of small firms" (Albu, 1997, p.2).

Until the recognition of this type of industrial organization, there was a vast body of literature on the disadvantages of small scale, foreseeing the end of small-scale firms due to their scale disadvantages and globalization threat, while it is a well-known fact that SMEs constitute the majority of the industrial base in both developing and industrialized countries. Widespread economic deregulation and liberalization, coupled with rapid reduction in transportation costs and advances in ICT, are spurring the emergence of large international production and trading networks, which are reaching out into poor and remote countries (Caniels & Romijn, 2001). Many local SMEs are beginning to be exposed to global competition, either through direct integration into large commodity chains, or, indirectly, through penetration of their traditional home markets. Moreover, small producers are either marginalized by large-scale business or subordinated in ways, which prevent them appropriating the benefits of technical change. They tend to be squeezed into constricting economic spaces where cutthroat competition undermines any prospect for developing their human or technological resources (Albu, 1997). In addition to these, particular set of problems are prevailing, which characterize SMEs, related to their size. Individually, SMEs are often unable to capture market opportunities, which require large production quantities, homogenous standards, and regular supply. For the same reason, they experience difficulties in achieving economies of scale in the purchase of inputs, such as equipment, raw materials, finance, consulting services, etc. Small size also constitutes a significant hindrance to the internalization of functions such as training, market intelligence, logistics, and technology innovation - all of which are at the very core of firm dynamism (Ceglie & Dini,

1999). Furthermore, small scale can also prevent the achievement of specialized and effective internal division of labor, which fosters cumulative improvements in productive capabilities and innovation. Finally, because of the continuous and fierce struggle to preserve their narrow profit margins, small-scale entrepreneurs in developing countries are often locked in their routines and unable to introduce innovative improvements to their products and processes and look beyond the boundaries of their firms to capture new market opportunities.

In spite of their disadvantages explained above, there is a general consensus that the performance of SMEs is important for both the economic and the social development of developing and industrialized countries (Levy, Berry & Nugent, 1999). The economic and social contributions of SMEs suggest that it is clearly in the public interest for SMEs to thrive. Therefore, SME support policies have always been an essential element of the industrial development policies of all economies. Moreover, they are claimed to have some advantages over the large firms. Small producers, it is argued, tend to use technology better suited to local resources and relative factor prices; and they operate on a scale more appropriate to the size of local markets, and the depth of available managerial and institutional capabilities (Albu, 1997). In addition, expansion of the small enterprise sector is believed to have dynamic long-term benefits in terms of developing indigenous entrepreneurial and management capabilities; and increasing opportunities for training and human resource development at a lower cost than otherwise available through formal institutions or large firms (Steel & Webster, 1992, p.426). Furthermore, SMEs have greater flexibility in responding to changing opportunities, or ability to serve small and specialized niche markets (Albu, 1997).

As the awareness that, SMEs are integral to industrial development and they can play a key role in triggering and sustaining economic growth and equitable development, is growing, and their disadvantages, advantages and threats they face are recognized, the importance of well-established policy and strategies to support them is laid bare. Given this scenario, it is not surprising that a great deal of interest was raised when the examples of this new type of internationally competitive industrial organization, which is composed of predominantly small and medium-scale firms, began to be highlighted in the 1970s.

The attention of the policy makers and researchers on the clusters increased more, as the concept has become increasingly associated with the so-called 'knowledge economy'. The processes driving the new 'knowledge-based economy' are technological know-how, innovation and information creation, whose basis is found in the modern innovation theory. According to that theory, as Roelandt and den Hertog (1999) state, "innovation and the upgrading of productive capacity is a dynamic social process that evolves most successfully in a network in which intensive interaction takes place between those 'producing' and those 'purchasing and using' knowledge" (p.9). That process appears to be most favorable precisely in localities where the entities involved interact intensively "in a value adding production chain" (p.9). Finally, these conditions contributing to innovation process are claimed to be embedded in this new type of industrial organization called "cluster".

The broad attention to this industrial organization type has resulted in the analysis of common properties of successful clusters and the factors contributing to the competitiveness of the structure. These competitive characteristics were identified differently by various researchers from different scientific fields. A vast body of theoretical research has come along with the examination of successful practices as an input to industrial and regional development policy-making initiatives. The policy makers are interested in identifying and promoting industrial structures carrying a potential of being turned into structures similar to successful practices. With these interests, various policy-making initiatives are started to invade the policy-making field. Cluster-based policies, or cluster-oriented support programs has become among the principal subjects of policy makers responsible for regional economic development, industrial development, SME support, and innovation policies in both industrialized and developing countries (see European Commission Enterprise Directorate-General, 2002; Nadvi, 1995; OECD, 1999; World Bank, 2000).

In this chapter, we will review various approaches to the cluster concept; the common features of clusters and the competitive advantages these bring about;

various cluster analysis methods, and practices of cluster-based policy development. The whole picture drawn in the review will provide us an insight into the cluster concept and a guide to make use of in our fieldwork, i.e. the cluster analysis, and development of corresponding policy recommendations for our field. In the following section, we will study several definitions of clusters and making use of those, we will create a list of features that clusters have in common. These features are analyzed in detail as they form the basis for the claimed competitive advantages clustering brings about, and as they represent the basic measures in the identification of clustering potential. In the second section, similarly, the competitive advantages associated with these features are discussed in detail, as they draw the picture of the expected results of the policy initiatives, or the vision of these initiatives foreseen as the outcome of the cluster-oriented policy responses. After comprehensively making the desired situation clear, in the following section, we investigate various approaches in cluster-based policy-making, which entails the diagnosis or the analysis of existing situation according to the cluster approach and developing policy responses to fill the gap between the existing and desired situation. The general stages of the cluster policy-making will be investigated in detail according to different initial conditions and intentions. The diagnosis phase, or cluster analysis, is the main focus as it provides the framework for the policy-making. After proposition of a general line of activity in the diagnosis, the policy responses and instruments implemented in various cluster policy applications to address the issues identified in diagnosis are examined in a comprehensive manner. Then, general lessons drawn from the various cluster policy practices are specified. Finally, in the last section of the review, the conclusions are given with an introduction to the fieldwork part.

2.1. Definition, Typologies, and Common Features of Clusters

2.1.1. Cluster Definitions

Many studies on the cluster concept conducted in different environments by researchers and policy makers from different scientific fields, have created a myriad of definitions for clusters. Although this is the case, here our concern is not coming out with an exact definition or judge on the approaches. We will analyze the different definitions and synthesize them to come up with general characteristics or common properties, which give rise to claimed competitive advantages of clusters. These common features will provide us a tool for identifying a cluster potential, analyzing it, and acting on the structure, i.e. cluster analysis and policy.

What are "clusters"? Since the early 1990s, this question has intrigued many academics and policy makers. The term was first used by Porter (1990) in 'The competitive advantage of nations'. Then it became part of a busy, fascinating tour, through which clusters have became associated with 'competitiveness', 'innovation', 'restructuring', 'spatial agglomeration', 'supply chains', 'small firm networks', 'industrial districts', 'local productive systems', 'the role of industrial associations', and more (Lagendijk, 1999). Academics in their research, policy makers in addressing structural economic problems, business support agencies in devising more tailored services, consultancies in developing new services, businesses confronted with questions of alliances and supply chains: a highly diverse group of people and organizations has emerged trying to come to terms with, the concept of clusters, but which, in doing so, is also producing new definitions and approaches. While some analysts base the definition of clusters on traditional agglomeration economies, some analysts focus on single-industry clusters stressing the key supply and demand linkages, on the other hand some others base the definition of clusters on the extent to which collaboration and trust exists among firms that co-locate (Rey & Mattheis, 2000). As a result, it is evident that there has been little consistency in the definition of clusters across different applications.

Boekholt and Thuriaux (1999) summarize the debate as "the term 'cluster' is used to describe very distinct types of interlinked systems" (p. 388). In fact, as

Rosenfeld (2001), especially concerning the applications in the US, puts it, the concept is applied freely to almost any problem that can benefit from a collective solution.

A cluster, as intensively used in a broad array of disciplines, basically means "a close group of things". However, in an economic context, the "things" as well as the link that makes them "close" vary between articles and theories (Hoen, 2001). Porter (1998b, p.199), as the father of the name, defines a cluster as "a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities". Another widely cited definition by Roelandt and den Hertog (1999, p.9), notes about clusters that: "economic clusters can be characterized as networks of strongly interdependent firms (including suppliers) linked to each other in a value-adding production chain." Therefore, we may conveniently conclude that, most definitions in the theory about clusters seem to agree to some extent that the "thing" in clusters are firms (or institutions) that are "close" to each other due to interrelations and interdependencies between these firms. The list of different definitions of clusters in the literature, which is given in Appendix A, also verifies above conclusion.

While definitions have some common points, the differences among the definitions indicate different interpretations of the concept and represent different typologies to study clusters as described below.

2.1.2. Typologies of Clusters

The various studies of cluster concept producing different definitions of clusters, give rise to the different typologies of clusters according to scale composition, stages of development, level of aggregation, depth, presence/absence of institutions, manufacturing specialization, kind of inter-firm relationships etc. Some clusters consist primarily of small and medium-sized firms, while other clusters contain both small and large firms. Some have a higher dependency on the proximity of universities, science parks, and research institutions, while some have no connections to those. Another differentiation of the clusters can be due to their manufacturing specialization (mature sectors or high tech sectors) or their 'depth', indicating the number of involved different and complementary

branches/sectors/industries. Some studies of clusters may focus on a single sector (sectoral clusters); some may include multiple sectors or industries in the value chain. Different kind of inter-firm relationships can characterize different types of cluster. The differentiation of relationships can be based in the degree of formalization (formal or informal), the coordination mechanism (market-like or hierarchy-like), and the aim of the relationships (capacity subcontracting, specialization subcontracting, joint innovation processes) (Albino, Carbonara, & Schiuma, 2000; Carbonara & Mitra, 2001). The different levels of aggregation points to different interpretation of clusters as such: clusters at mega level, which encompasses interlinked industries in the economy as a whole; meso level, which covers interrelated branches/sectors/industries in a value chain; and micro level implying the study of the network of individual firms in a production chain (Roelandt & den Hertog, 1999). Moreover, according to evolution of clustering process, there are emerging clusters, established clusters and declining clusters (Martin & Sunley, 2001). Finally, according to development stage, Rosenfeld (1997), for example, distinguishes three types. “Working” or “overachieving” clusters are “self-aware” and produce more than the sum of their parts. On the other hand, latent or “underachieving” clusters present opportunities that have not yet been fully exploited. “Potential” clusters have some of the key conditions but lack some inputs and critical mass.

Each typology of clusters developed in different applications is characterized by a different degree of competitiveness and dynamism and follows different development trajectories, as a consequence, requires different (cluster) policy measures to support and promote. The essence of the different typologies lies in their effect on policy planning, as it is necessary to adjust the criteria for the identification of cluster approaches and planning of assistance strategies to the conditions in different types of clusters.

2.1.3. The Common Properties of Clusters

While the various interpretations of clusters entail differences, the different definitions of clusters indicate the point that, clusters have some common properties too. We will analyze those common properties of clusters under the headings of

"interaction and cooperation between businesses", "specialization", "presence within a system of supporting institutions and tailored infrastructure" and "spatial concentration" (Isaksen, 1998; Lagendijk, 1999).

2.1.3.1. Interaction and cooperation between businesses

Clusters are made up of interconnected companies and associated institutions linked by commonalities and complementarities (Porter, 1998a). The commonalities may be shared labor pool, common technologies and other production factors, common buyers or distribution channels, common culture, common location, common opportunity and threats. The complementarities can be expressed in buyer-supplier relationships, the production of complementary goods and sharing of complementary resources. The common and complementary aspects bring about the high-level interaction, which is either trade or non-trade based, between the elements involved. Hence, a dense network of inter-firm relationships is evident in a cluster structure. The networks include firms (customers, suppliers, also multisectoral) and public and private organizations with supporting functions (training and upgrading, industry-related services, promotional agencies, research institutes, administration, etc.). The relationships in the network are characterized by features such as competition, cooperation, and interdependence (Bergman & Feser, 2002). Moreover, as the high-level interaction is the basic element of clustering, it is not surprising that, in practice, identified clusters are either sectorally specialized or may sometimes include several sectors linked to each other by trading patterns or other types of interaction.

The interactions within the network can be of different types:

Vertical links: refer to links between firms at different production and marketing levels of a production chain. The relationships can be simple buyer-seller relationships as well as initiatives of inter-firm learning along the supply chain, such as developing products together or cooperative relationships of firms with customers or suppliers through which improved services or more favorable conditions are achieved.

Horizontal links: refer to links between firms at the same level of a production chain. The relationships, which may be informal or formal, are on the basis of complementary assets or the opportunity to learn from 'peer' firms (Lagendijk, 1999). The examples may be exchange of information, experiences and possibly machinery and equipment between cooperating firms at the same stage of the value-added chain. Formal horizontal links may include cooperation between a limited number of firms for joint implementation of activities (e.g. procurement of machinery and equipment and production factors, collaboration in order to offer larger quantities for sale, joint logistics, and marketing) (Albu, 1997).
Lateral links: refer to links between firms at different sectors/branches.

These relationships between the elements could be formal, i.e. formalized by way of agreements or contracts, or in the form of formal member unions, trade unions, or network groups; or informal, i.e. informal agreements based on mutual trust (Lagendijk, 1999).

Consequently, firms in clusters are enmeshed in more or less complex networks of inter-firm relationships (Albu, 1997). The interactions between the elements, as the basic feature characterizing the cluster formula, is the most critical factor in the competitiveness of a cluster, as we will discover later. The economic success of these interactions, and hence of the cluster, is mainly based on the trustful social relations and collaborative attitudes of the elements involved. Therefore, another characteristic of the ideal type successful regional cluster is close cooperation between the economic agents acting within the cluster. Any close co-operation between firms and institutions, as well as within firms, demands the establishment of a certain degree of mutual trust between people, and that the area is characterized by an "us-and-them" attitude, a common vision of the future and shared identity. In addition, suitable "meeting-places" are important, i.e. institutions that unite people and make possible the informal exchange of experiences and ideas (Isaksen, 1998). This point is emphasized as a particularly important criterion for the success of Silicon Valley (Saxenian, 1994). A typology of joint action between the elements is noted in Humphrey and Schmidtz (1995) as, individual firms cooperating

(for example, sharing equipment or developing a new product) and groups of firms joining forces in business associations, producer consortia and the like.

Therefore, we may say, binding the cluster together are these commonalities, complementarities, interdependencies and trustful interrelations. However, it should not be forgotten that, although the role of trust and cooperation among cluster's firms is great as emphasized by many scholars, economic self-interest is ultimately the glue that binds the cluster together. In the end, a "cluster" comprised of enterprises that gain no real economic advantage from their presence in the group loses all conceptual meaning from a theoretical and policymaking perspective (Bergman & Feser, 2002).

2.1.3.2. Specialization

The networks of firms (including suppliers of goods and services) and organizations linked to each other by the above explained types of linkages in a value adding production chain, leads to the another common property of clusters: specialization. Together with the high level of interaction, the presence of the spatially concentrated demand leads to opportunities of specializing on a specific stage of the production or distribution chain, which firms have their core competency on. Therefore, firms in industrial clusters tend to specialize in carrying out particular processes or stages in the production and distribution channel. The picture of the production system in a cluster, then, is characterized by the production processes broken down into segments, each carried out by different elements in the structure. Two types of specialization could be distinguished in a cluster structure: vertical and horizontal specialization. Vertical specialization could be explained by the vertical disintegration of production process. For example, in a furniture making cluster, some firms may process and supply the rough timber, others may saw and plane the timber to standard dimensions, the next may carry out the detailed joinery and assembly of furniture, while a different group of firms may be responsible for surface finishing and final marketing. This *vertical disintegration* of production may well be complemented by *horizontal specialization*. Such as, among the timber suppliers may be firms, which specialize in making panel-board or plywood; and among the joinery firms may be those dedicated to making just tables or just beds. In addition to

this horizontal and vertical specialization, one may also find other highly specialized firms providing inputs and services, which contribute to the cluster's operation as a whole: financial services, trading agents, toolmakers, and suppliers (Albu, 1997). The contribution of that specialization to the competitive advantage of clusters is a common issue that the analysts comment on, leading to the rise of the flexible specialization theory, which we will describe in the next section.

2.1.3.3. Presence within a system of supporting institutions and tailored infrastructure

The linkage dimension of the clusters involves not only the interaction and interdependence between businesses but also the linkages between businesses and various organizations. These organizations could be called as business support organizations, either private or public, and may include universities, vocational training schools and agencies, testing labs, research centers, standard setting agencies, quality centers, consultancies, law offices, banks and other finance organizations, marketing agencies, human resource organizations, or other kind of information and technical support providers. The role of support organizations in clustering is particularly stressed by Steiner's definition of clustering:

> Clusters are sets of complementary firms (in production and service sectors) as well as public, private and semi-public research and development institutions characterised by close interrelations and a regional dimension (Steiner, 1997 p.17).

The essential point in the existence of such a support system is that, support organizations tailor their activities to particular sector or sectors included in cluster, and offer a wide range of services based on in-depth knowledge of that sector or sectors. That is, these business support organizations develop specialization in the operations in the cluster and become an integral part of the cluster contributing to its competitiveness. In addition, by close and continuing interaction with their customers, such organizations contribute to the forging of relationships between firms as well as increase in the innovation capacity of the cluster as a whole. By including such institutional linkages, a cluster can be conceived as a particular structure of sectoral governance (Lagendijk, 1999).

However, the formation of such a structure does not happen in an instance, instead, it is a process that accelerates as the size of the cluster grows. Porter (1998a)

explains that acceleration process as “self-reinforcing cycle” model, that is, “as a cluster begins to form a self-reinforcing cycle promotes its growth, especially when local institutions are supportive and local competition is vigorous. As the cluster expands, so does its influence with government and with public and private institutions” (Porter 1998a, p.84). Rosenfeld (1995) explains the same issue using scale economy logic: “As industry concentration increases, individual businesses benefit from the development of sophisticated institutional and physical infrastructure tailored to the needs of specific industry” (p.20). We will explain the development of the support structures by distinguishing the private part and the public part. For the private part of the infrastructure, the major driving force for the formation is the identification of a profitable business opportunity stemming from the existence of an accumulated customer base, while for the public part, the investment decision is based on the level of aggregated demand being over a critical mass. Therefore, it is understandable that as the size of the agglomeration increases so does the amount and quality of the facilities in the infrastructure. That process depicts a developing cluster and in time, as a critical mass of businesses accumulates; the cluster tends to become a structure that is *self sufficient*, with its tailored business support structures and dense interactions. Such a structure assures the existence of variety of resources and competencies within reach of involved businesses, which is a very essential point in the success of the cluster formula.

Above examined common properties of clusters, which we may call institutional dimension of clustering using Lagendijk’s (1999) terms, corresponds to an industrial organization, though composed of, formally, independent and mostly small-scale elements, working as a single large-scale production system. Such that, each part of the system is specialized on a specific segment of the production chain, and works in an interactive environment with other elements, and every element is supported by a support system tailored to the needs and specificities of the production system. Such a structure is strong and self-sufficient in the sense that, though some interdependence on the outside of the system is real especially on the technology, marketing distribution channels, the system produces a range of products independently. Moreover, as the links between the elements are not formal, the

effectiveness of the relationships between the elements increases. This advantage informal links offer to the cluster is named in the literature as “strength of weak ties”, as we will explore in the following advantages of clustering section.

While the institutional dimension has taken a prominent position in recent literature on clustering, many analysts start their observations by pointing to what are seen as “classical” factors behind clustering: the role of the labor market, the existence of specialist suppliers, and spillovers between firms, especially in the area of technology (Lagendijk, 1999). These factors go back to the original ideas about spatial agglomeration and economic clustering formulated by Alfred Marshall, which are still considered by many researchers as constituting the basic explanation for clustering and agglomeration phenomena (Lawson, 1997; Krugman, 1991). This leads to the last feature of clusters: spatial concentration.

2.1.3.4. Spatial concentration of involved elements

For many analysts, the crux of clustering lies in spatial concentration of the business and organizations involved (Lagendijk, 1999). This emphasis is evident in Rosenfeld’s (1995) definition of clusters:

> A cluster is a loose geographical bounded agglomeration of similar, related firms that together are able to achieve synergy (p.12)

The significance of spatial concentration lies in the fact that all the features mentioned before benefit from spatial proximity. The kind of interaction that facilitates clustering is not easily done over long distances, despite all the spectacular improvements in communication technologies (Morgan, 1997; Malmberg, 1996). Creating the right environment for sharing resources, for creating trust and institution building, requires the exchange of tacit knowledge and hence proximity. In addition, the development of the right business environment for clusters in terms of tailored infrastructure and supporting institutions benefits from co-location. As the geographical concentration of businesses and tailored infrastructure elements forms a space of attraction for the entrepreneurs, the proximity is a crucial factor in the self-reinforcing cycle, which is critical for the success of cluster formula. Furthermore, spatial concentration of businesses and organizations gives rise to an environment characterized by a pool of specialized skills, a pool of suppliers and customers as

well as sector specific knowledge base readily available to be improved and disseminated by interactions between entities involved. These factors, called external economies are analyzed by many scholars inspired from the Marshall's externalities arising from agglomeration of businesses concept. We will explore these externalities arising from spatial concentration of businesses in the advantages of clustering section.

While by many scholars the spatial concentration of businesses is recognized as an essential element in the cluster formula, some scholars do not recognize that feature as critical. That point is also revealed in the different definitions of clusters that we examined in the previous section.

Different interpretations of cluster concept created different definitions of clusters according to geographic dimension of the concept. At one extreme, the term has been used to refer to national groups of industries and firms that are strongly linked (in terms of traded interdependencies), but dispersed over several different locations within a country, with no obvious major geographical concentrations (Martin & Sunley, 2002). Roelandt and den Hertog (1999, p. 9) defines clusters as, "networks of production of strongly interdependent firms (including specialized suppliers) linked to each other in a value-adding chain" with no reference to spatial concentration. At the other extreme, the term is used to refer to a local grouping of similar firms in related industries within a highly spatially circumscribed area. Therefore, in different studies, clusters' location and geographic parameters vary from relatively confined areas, to clusters that transcend local planning authorities' areas and even regional and national boundaries, resulting in the types of national, regional or local clusters (Martin & Sunley, 2002). These different interpretations lead to the question that "where the border of the cluster lies", as this question is a critical one in targeting clusters and designing cluster-based policies. While in many applications of cluster analysis and cluster policy, the concentration of inter-related businesses is accepted as an indicator of potential, the major criteria in specifying the boundaries of cluster is the strength of linkages between the (prospective) economic agents in the structure. Porter comments on that issue as "cluster boundaries should encompass all firms, industries and institutions with strong linkages", whereas "those with weak and nonexistent linkages can safely be left out" (1998b, p.202). While the

answer to the question of "where the boundary of a cluster lies" is in the strength of linkages, the practices of cluster identification mostly show that spatial concentration of the involved elements is a very common property.

Therefore, we can summarize the common properties that characterize a successful cluster as:

- a dense network of inter-firm relationships, in which the firms cooperate and compete at the same time, based on market and non-market exchanges of goods, information, and people,
- common cultural and social background forming a dense network of social relationships between economic agents,
- the specialization of elements on specific segments of the value chain within the cluster,
- presence of public and private local institutions supporting the economic agents acting within the cluster by intense networking relations,
- the presence of a tailored infrastructure,
- geographically concentrated businesses which are often sectorally specialized.

2.2. Explaining the Competitive Advantage of Clusters

The presence of all these features explained in the previous chapter within a cluster contributes to the strength of the cluster formula. We could see these features as the inputs to the cluster formula. Now, it is time to explore the output side i.e. benefits or outcomes of clustering.

In broadest terms, for the elements involved, being a part of a cluster is a condition that enhances their competitiveness. In addition, at a higher level, clusters have proved to be attractive to the regions hosting them as they contribute to economic growth and social wealth. In the following, we will examine how clustering contributes to the competitiveness of the involved elements by using a similar systematic as constructed in the previous section.

Various analysts used different theories to explain the competitive advantage of clustering. We will not give an exhaustive list of the theories and explanations. Our analysis will be based on how the involved businesses and hosting regions benefit from clustering practically. Before we go onto the analysis, we will make a differentiation between the passive and active advantages of clustering, being inspired by the "active and passive collective efficiencies" introduced by Schmidtz (1995), since the existence/absence of these passive/active success factors will be used as a tool in identification and promotion of clusters that we will describe in following sections. By passive advantages, we mean that the benefits that accrue to firms by virtue of being part of a cluster while active advantages representing the advantages that materialize only as a result of purposive actions aimed at generating them (Caniels & Romijn, 2001), mostly as a result of the cooperative actions of the elements involved.

2.2.1. Spatial concentration of businesses and presence within a tailored infrastructure of business support structures

That common feature of clusters gives rise to both passive and active advantages. First, we will examine the passive advantages observed.

The passive advantages can be defined as advantages that "fall into producers' laps without deliberate efforts to bring them about" (Schmitz & Nadvi, 1999). These advantages have been analyzed by different analysts working on the spatial clustering of enterprises under headings of business externalities, agglomeration economies, labor pooling, and knowledge spillovers.

Alfred Marshall (1920) in his Principles of Economics, recognized that the grouping together of firms involved in related activities resulted in externalities, which is called *Marshallian externalities* in the literature. These are defined as cost advantages due to agglomeration, including availability of a pool of specialized workers; easy access to suppliers of varied and specialized inputs; and quick dissemination of new knowledge and ideas. As firms expect these types of benefits to be generated through agglomeration and co-location, they are induced to locate in a cluster. In this way, a cluster grows and the expectations materialize, which leads to emergence of a successful cluster.

Marshall's first externality, the presence of a labor pool with specialized skills, points to transaction cost savings for firms in their search for qualified labor. Obviously, a cluster will attract workers with specialized skills, as there is an aggregated demand for the labor with specific skills in a specific activity sector. Moreover, evidenced high mobility of employees constitutes a tool for transfer of information between the elements involved, which is also a critical condition for success of cluster. In addition to this, the presence of a qualified labor pool eases the formation of new businesses by reducing start-up costs and lowering barriers to entry. Then, as the cluster grows, the benefits it provides to its elements increase, pointing to self-reinforcing cycle we explained in the previous section.

Marshall's second externality, easy access to suppliers of varied and specialized inputs, also points to the reduced transaction cost for the businesses involved. The cost reduction could be stemming from lowering need for inventory, lower shipping costs and communication costs or elimination of delay costs. Moreover, the availability of alternative suppliers in proximity, repeated interactions between firms, and ease of conveying information on cheaters also considered as an advantage for lowering transaction costs in clusters. These suppliers may include raw material suppliers, intermediate good producers, machinery and equipment producers or sellers.

In addition to these suppliers, there are specialized public and private service providers and institutions forming an environment conducive to the competitiveness of the elements. These service providers and institutions may include repair facilities, transportation, marketing, consultancy, legal support, accounting, finance, human resource management, training, catering, warehousing facilities, foreign sales offices or distribution centers; universities, research centers, vocational training schools, testing labs, standard setting agencies, quality centers, local product showrooms, common waste treatment facilities, either private or public. The presence of these business support institutions forms the tailored infrastructure, whose quality and amount increases as the cluster expands, which is explained by self-reinforcing cycle in the previous section. The presence of suppliers of varied and specialized inputs and the business support structures makes the cluster self-sufficient in its operations; as such a structure assures the existence of variety of resources and competencies

within reach of involved businesses, which is a very essential point in the competitiveness and success of the cluster formula.

In addition to this, as the presence of a qualified labor pool does, the presence and easy access to specialized suppliers and business support structures eases the formation of new businesses by reducing start-up costs and lowering barriers to entry.

Marshall's third externality, quick dissemination of new knowledge and ideas, or namely technology spillovers (usually used interchangeably with knowledge spillovers), point to heightened diffusion of industry-specific knowledge and information within the agglomeration. While this diffusion of knowledge is mainly maintained by networks in the agglomeration, and hence will be explained under next heading, the part of that advantage falling under spatial concentration feature is that, being part of a cluster, the businesses benefit from a spatially accumulated industry specific technical know-how or market information waiting to be diffused among the economic agents. Albu (1997) argues on that point by stating; "firms in clusters have access to a local industrial atmosphere in which relevant technological know-how and ideas are "in the air", and readily available to all" (p. 18).

Here, to assess the contribution of the proximity to the knowledge spillovers effect, the question we should answer is "why short geographical distance facilitates knowledge spillovers between firms?" The literature mentions five 'stylised facts' stemming from the nature of the innovative process (Dosi, 1988; further developed by Feldman, 1994; and Baptista & Swann, 1998). These are uncertainty, complexity, reliance on basic research, importance of learning-by-doing, and cumulativeness. The first two refer to the process of generating innovation out of ideas, which is a highly uncertain and complex activity. It is hardly possible to forecast whether an idea will be technically viable and whether it can be developed into a commercial success. In order to reduce this uncertainty, people (firms) try to access information by communicating. Communication is facilitated by personal interactions, and therefore people (firms) tend to group together. Freeman (1991) states that networks frequently tend to be localized. The third stylized fact refers to heavy reliance of innovation upon sources of basic scientific knowledge such as universities and

government-funded research and development (R&D). Face-to-face interaction with university scientists can make it much easier for a firm to convert information (from scientific publications) into directly applicable knowledge (Nelson, 1990). Jaffe (1989) and Acs, Audretsch and Feldman (1992) have shown empirically that knowledge spillovers from university research to private firms are facilitated by geographical proximity. The fourth stylized fact has to do with new technological knowledge being informal and uncodified in nature (Pavitt, 1987). Therefore, it should flow more easily locally than across great distances. The underlying idea is that knowledge can be acquired through practice. Possibilities for learning-by-doing and learning-by-using arise from direct contacts with competitors, customers, suppliers, and providers of services (Von Hippel, 1994). Finally, innovative activity is cumulative in nature; such that, new innovations build upon scientific knowledge generated by previous innovations. The concept of 'cumulativeness' is highly relevant in the context of geographic clustering. The underlying idea is that geographic areas that have accumulated high levels of innovative activity have assembled information that facilitates the generation of new innovations (Grossman & Helpman, 1992). Therefore, the particular advantages stemming from knowledge spillovers are fundamentally important to competitiveness, especially through their effects on activities that foster technological change and innovation (Stewart & Ghani, 1991). Therefore, the physical proximity of the elements in a cluster is crucial for the improvement of innovation capacities by the effect of resultant knowledge spillovers. The generation of knowledge spillovers will be examined further later in this section.

The other passive advantages that businesses benefit just because of being part of a cluster, other than Marshallian externalities are examined below:

Firms in clusters benefit from increased *market access*, referring to the fact that clusters often attract the attention of buyers, which improves the chances for clustered firms to sell their products. The reason for that attraction is the presence of many producers in a specific area. This will provide the buyer to select among a wide span of choices of quality, price, and other factors, which could effect his decision. Moreover, some clusters are preferred and well known, as they are able to develop a

brand name, which represents a valuable tool to market their products and services. That is, the cluster turns out to be a brand in its specific industry segment. While that brand could be virtual in customers' minds, a formal brand, indicating that the product is produced in that cluster, was created in some practices. One example of that is given in Rosenfeld (2001) such that, in Oregon, USA, the Wood Products Cluster established a common "Made in Oregon" brand for their products by the collective initiative named Wood Products Competitiveness Corporation.

Spatial concentration of businesses leads to *formation of a customer base* either for suppliers of materials, equipment, and services; or producers of intermediate goods. The presence of concentrated customer base stimulates the formation of new businesses by entrepreneurs from outside of or inside the cluster. Especially, in practice, it is evident that the new businesses are mostly established by entrepreneurs working within the cluster, who are able to perceive gaps in products or services around which they can build businesses (Porter, 1998a). In addition to this, the presence of customers each demanding various inputs for producing various products, and high level of interaction between the producers and customers increases the ability of producers to perceive innovation opportunities that will have a market value. Therefore, innovation capabilities of the involved elements and the cluster increase.

As we explained in the previous section, the presence of the spatially concentrated demand leads to opportunities for firms of specializing on a specific stage of the production or distribution chain, which they have their core competency on. Therefore, the picture of the production system in a cluster is characterized by the production processes broken down into segments, each carried out by different elements in the structure. In each segment, a number of small and medium-sized firms are engaged. Therefore, the production processes in clusters characterized by systematic combination of different inputs that are the outputs of a great number of small and medium-sized firms ("*Generic Features*", n.d.). The advantage of that structure that contributes to the competitiveness of a cluster structure is explained in "*flexible specialization*" theory. That structure leads to a specific production model in clusters characterized by a high level of division of labor among firms, and allows achieving the advantages of large scale, such as adaptability (Rabellotti, 1995). On

the one side, production efficiency increases due to the high specialization of the firms on their core competencies, which allows them to maximize the use of both the equipment and workforce so that increases their return on investments. On the other side, owing to the division of labor, and the dense network of relationships among firms, the clusters' firms are highly adaptable and can easily meet the needs for elasticity (posed by quantitative changes in demand) and flexibility (requiring qualitative changes in output). However, it should not be forgotten that the basic ingredient for the emergence of flexible specialization in the cluster structure, is network of inter-firm relationships, rather than the spatial agglomeration of the businesses, though the latter forms the appropriate environment for the network to form and flexible specialization to arise. Because, the coordination of the different firms engaged in one or more phases of the production process is obtained through a dense network of inter-firm relationships (*"Generic Features*", n.d.), which we will examine in the next sub-section in detail.

The observed structure of segmented production system also results in *easier start-ups*. Such that, since clusters consist of manufacturers as well as suppliers focused on specialized inputs, a firm starting up within the cluster can start small and focus on a particular stage of the production (Porter, 1998a). This significantly reduces start-up costs and lowers barriers to entry.

Spatial concentration of businesses tied to each other with commonalities including the common problems, needs, opportunity, and threats increases the chances of *receiving public support* as the concentration indicates an aggregated demand. However, the presence and the level of public support highly dependent on the joint identification and declaration of the needs of the cluster, pointing to the importance of the active advantages, which will result from cooperation of businesses. The resultant ease of contact established with public authorities, allows the authorities to adapt the public infrastructure of the cluster to the involved businesses' needs.

Spatial concentration of businesses forms a business environment, characterized by *intense rivalry* stemming from co-location of multiple companies competing on the same playing field and battling for the same market. That structure ensures continued pressure for the businesses to upgrade technologies, minimize

costs, innovate and so forth (Bergman & Feser, 2002). That is, intense rivalry increased by the geographical proximity of competing firms has a positive influence on the competitiveness of the cluster.

While above mentioned passive advantages stemming from spatial concentration and the presence of tailored infrastructure is highly critical factors for the competitiveness of a cluster, the major contribution of spatial concentration to the success of the cluster formula is its contribution to the interactive business environment conducive to the emergence of collaborative and cooperative activities. That is, the presence of the passive advantages stemming from the spatial concentration forms the ground conducive to the *realization of active advantages.*. The proximity of the elements involved furthers the creation of formal and informal linkages and networks among firms, higher education and research institutions, financial establishments, public agents and other local organizations, where information can easily flow and propagate (European Commission Enterprise Directorate-General, 2002). Furthermore, creating the right environment for sharing resources, for creating trust and institution building, requires the exchange of tacit knowledge and hence proximity (Lagendijk, 1999). Moreover, as we will discover later on, these interactions stimulated by geographical proximity are crucial input to the innovation process. The contribution of the spatial proximity to the innovation process was also discussed in the knowledge spillovers concept in the previous paragraphs. Therefore, we may conclude that the geographical proximity of the involved elements forms a conducive ground for the creation of "social proximity" (Storper, 1997). However it should not be forgotten that in the formation of "social proximity" some other factors enter into the equation such as social, cultural and political factors, including trust, business customs, social ties, and other institutional considerations (Bellandi, 1989).

Two points should not be forgotten in the advantages stemming from spatial concentration and the tailored infrastructure. First, while these advantages could be perceived as a natural consequence of clustering, the advantages explained above should be thought as the success factors of an idealized model that is drawn from the

successful practices of clustering, such as Italian industrial districts model. The existence of these are still dependent on the evolution phase a cluster is in. That is, a mature cluster is the one that possibly experience these advantages, while an emerging cluster may not benefit from all. Second, the existence of these advantages is highly dependent on the elements of the cluster. That is, as the cluster grows in size and depth, the possibility of experiencing these advantages increases, though this is dependent on the opportunity identification capabilities of businesses and employees, and the sensitivity of public administrations and local institutions. Therefore, although these advantages seem to bring about themselves naturally, there is still a room for policy makers to improve these advantages and promote clusters by cluster-based development policies.

We examined the contribution of the spatial concentration of businesses and the presence of tailored infrastructure to the competitiveness of clusters, by analyzing the passive advantages these features give rise to and active advantages, of which these features contributes to the realization. Under the heading below, we will analyze the contribution of another feature of clusters to the competitive advantage of the firms involved and of the cluster as a whole, which mainly falls under the active advantages category defined before. These advantages are expressed as the main factors contributing to the success of the cluster formula in vast body of literature.

2.2.2. Interaction, collaboration, and cooperation between the elements

We analyzed the main property that clusters have in common, the interaction between the elements involved, in the previous section, and claimed that that feature of clusters is the main factor contributing to the competitiveness of the businesses involved and the cluster. Here it is time to explain the competitive advantage arising from interaction, and specifically, collaboration and cooperation between the elements involved.

Clusters are characterized by a dense network of inter-firm relations, and these relations are the glue that binding the cluster together (Bergman & Feser, 2002). These interactions between the businesses are characterized by commonalities

and complementarities between the involved elements. These commonalities and complementarities between the elements could give rise to either simple sell-buy trade relations or non-trade based relations arising from the collaborative attitude of the "socially proximate" firms. That social proximity indicates common social and cultural conditions such as common culture, history, ethnicity, residence, family ties, shared identity and values, business customs, local work ethos, which brings about the major ingredient of effective inter-firm relations, the "mutual trust". These trade or non-trade based relationships among the elements of a cluster, could be the relationships along the production value chain (vertical), the relationships between the entities at the same level of value chain (horizontal) or relationships between the elements from different related sectors (lateral). Moreover, these relationships between the elements could be formal, i.e. formalized by way of agreements or contracts, or in the form of formal member unions, trade unions or network groups, or informal, i.e. informal agreements based on mutual trust.

The contribution of above summarized interactions to the competitiveness of clusters is analyzed by many researchers from different fields in the vast body of literature. Here again, we do not intend to analyze different approaches one by one, rather, we will explain the advantages in practical terms.

In the previous sub-section, we made a distinction between the passive advantages and active advantages of clustering. The competitive advantages delivered by the previous common feature of clusters, as we explained, are mainly passive, meaning that, they are external effects of the feature, and it is not needed to pursue a considerable conscious action aimed at generating them. However, the advantages we will analyze below are mainly the active advantages, which necessitate purposive actions aimed at generating them to materialize. They include advantages arising from deliberate joining of forces between parties to achieve certain common goals, as well as benefits from market-mediated interactions, where parties collaborate to some extent with the purpose of pursuing their own objectives (Caniels & Romijn, 2001).

Here, our question is that, how the inter-firm interactions characterized by market mediated relationships and cooperation contribute to the competitiveness of the businesses involved in the cluster structure.

2.2.2.1. Increased innovation capacity

Clustering of businesses and support institutions gives rise to the formation of an environment conducive to the improvement of the innovation capabilities, which stems from increase in learning capabilities of the involved elements (Caniels & Romijn, 2001). Innovation capability is the main factor contributing to the competitiveness of the economic agents in today's knowledge based economy. If this fact is placed at the center stage, it is understandable that the contribution of clustering to the innovation capabilities being the central issue of the clusters debate.

Different interpretations of the innovation process within clusters have been presented in existing literature. All of these interpretations can be associated with learning mechanisms, which forms the basis for the enhancement of innovative capabilities, contributed by clustering of businesses (Albu,1997).

The interactions and the cooperation within clusters are analyzed as the main factor contributing to the formation of an innovation environment by facilitating the inter-firm learning. According to Roelandt and den Hertog (1999, p. 1):

> In modern innovation theory the strategic behavior and alliances of firms, as well as the interaction and knowledge exchange between firms, research institutes, universities and other institutions, are at the heart of the analysis of innovation processes. Innovation and the upgrading of productive capacity is seen as a dynamic social process that evolves most successfully in a network in which intensive interaction exists between those 'producing' and those 'purchasing and using' knowledge.

Therefore, the interaction between different actors in the innovation process, particularly between users and producers of intermediate goods, and between businesses and the wider research community, is crucial for successful innovation. Hence, the ideal cluster structure, characterized by dense network of inter-firm and firm-institution relations in spatial proximity, is the manifestation of such an interactive environment crucial for innovation process.

The means of such an interaction in a cluster structure could be collaboration of businesses along the production value chain (vertical) and between the businesses at the same level of value chain (horizontal). The vertical collaboration may include

the product or production process improvement between producer and user or seller. Moreover, through vertical cooperation (with other SMEs as well as with large-scale enterprises along the value chain), enterprises can specialize on their core business leading to flexible specialization of the production system in the cluster, which contributes to increased innovation capabilities as it will be explained later on in this section. On the other hand, the horizontal collaboration between the individual businesses can be in the form of the horizontal sharing of specialist production factors, exchange of ideas with face-to-face contacts, collective investment in specialized infrastructure, collective efforts to solve joint production problems of competing firms etc.

The other kind of cooperation, groups of firms joining forces in multilateral institutions, such as business associations, producer or sales consortia, political lobbies and the like, also contributes to the successful innovation process (Humphrey & Schmitz, 1995). The ways of contribution stemming from collectively inspired action may include, organizing trade fairs, joint foreign market search, and joint export promotion as a mean to open up new markets, which will constitute the demand-pull for the innovation, and which also contributes to the interaction among the actors in the region as well as with the ones in other regions. Moreover, collective publishing of trade journals is another mean of the knowledge diffusion. The innovative collective action may also include collaborative initiatives for improving local infrastructure contributing to innovativeness of the businesses, such as public R&D, design, advertising facilities; and organizing technical training in order to improve the productive and innovative capacities of the employees.

The collaboration for innovation leads to cost efficiency at the cluster level via avoiding the wasteful duplication of technological efforts (Lagendijk, 1999).

Industry-wide accumulation of skills and sector-specific knowledge, which is analyzed in the previous sub-section, will contribute to the innovativeness of the cluster structure, if the diffusion and improvement of this knowledge is provided by dense inter-firm interactions. Moreover, another mean of diffusion of knowledge and information contributing to learning and innovation capabilities, could be the labor mobility within the cluster.

As it is mentioned and explained in the previous sub-section, the basic ingredient for the emergence of flexible specialization in the cluster structure is the network of inter-firm relationships. The main result of the flexible specialization for economic agents is the increase in innovation capabilities. Isaksen (1998) explains the increased innovation potential due to flexible specialization as such:

> …as firms concentrate on core activities and allow their neighbouring firms to carry out complementary activities. This kind of specialisation may lead to high levels of competence amongst groups of firms, within relatively narrow fields, which in turn increases the chances of identifying new, cost-efficient solutions. A high level of competence amongst firms also makes it easier for them to be demanding customers and partners to R&D institutions and suppliers. High levels of competence at all levels within firms can also lead to smaller, incremental innovations, where employees discover better production methods, or identify new product solutions. (p.21)

The interactive environment contributes to the increased ability to perceive innovation opportunities that will have market value, hence decrease the risk associated with innovation (Porter, 1998a). This increases the innovation capacity of the structure.

The innovative activities may necessitate amount of financial support such as credits and funds, which individual enterprises could not reach. In that sense, collaboration in accessing financial support could be considered as a contribution to innovativeness.

The presence of multiple suppliers, complementary information, specialized services, and institutions, and cooperative actions between them facilitates the easy and cheap access to specialized inputs needed for technological effort and knowledge creation (Caniels & Romijn, 2002). For example, ease of experimentation given locally available resources (R&D institutions, laboratories etc.) together with collaboration of actors with complementary skills in experimentation leads to the innovation increased innovation capacity in the cluster structure.

The high level of interaction together with the spatial concentration also leads to the demonstration, contagion, and emulation effects, which stimulates the demand for technological effort in individual businesses, which forms the basis for the improvement of innovation capabilities (Caniels & Romijn, 2002).

Therefore, density of inter-firm relations and cooperation gives rise to a collective learning space, an “invisible college”, where ideas are exchanged, developed and knowledge shared in a collective attempt to improve operations and

occupy more profitable market segments (Best, 1998). That collective learning space constitutes the right environment stimulating the innovation process.

2.2.2.2. Other forms of collaboration and benefits

While the contributions of dense interaction and collaboration to the innovative capabilities of clusters and involved elements are widely analyzed and emphasized in the vast body of literature, the other advantages it delivers, especially to address the disadvantages of small scale, is also considered as important.

Addressing the disadvantages of small scale:

As it is emphasized in different definitions, clusters are mainly composed of SMEs, though in some practices existence of large companies and great importance attributed to them is among the concerns.

The importance of the performance of SMEs to the economic and social development is a consensus of researchers and policy makers worldwide (see Fisher & Rauber, 2000). While this is the case, with the effect of globalization and large-scale companies, most SMEs suffer disadvantages in markets due to their size. To eliminate the disadvantages of small scale, clusters are seen as an effective tool and cluster initiatives are designed and supported by many public policy makers. Accordingly, the basic rationale for the support to clusters could be summarized as such: the groups of SMEs acting collectively can overcome some of the limitations that individual enterprises have in acquiring services, goods or market information (Fisher & Rauber, 2000). On account of the common problems and needs they all share, and common opportunity and threats they all face, small enterprises in clusters are in the best position to help each other (Ceglie & Dini, 1999).

The high-level interaction and cooperation between the individual SMEs within clusters helps them to address the problems related to their size and to improve their competitive position. While vertical, horizontal and lateral types of cooperation is observed between the individual enterprises, the cooperation could also be in the form of groups of firms joining forces in multilateral institutions, such as business associations, producer or sales consortia, political lobbies and the like. The cooperation between the individual businesses, either horizontal or vertical,

could include various kinds of cooperative activities. We will explore commonly observed forms of cooperative activities.

The enterprises can collectively achieve scale economies beyond the reach of individual small firms, and can obtain bulk-purchase supplies, which leads to cost savings. They can achieve optimal scale in the use of machinery and pool together their production capacities, such as labor and machinery, to satisfy large-scale orders (Pyke, 1992). They can collectively purchase machinery and equipment, or specialized services, such as consultancy and other forms of technical support, which individual businesses cannot afford. They can collectively develop and pursue quality improvement and cost reduction strategies to be able to meet the international standards and conquer international markets. The businesses can collectively invest in R&D activities, establishment of quality centers and testing laboratories or they may collectively purchase R&D support, which is beyond individual reach. Moreover, if the results of R&D can be shared by a large set of companies, diffusion of knowledge will speed up, which will enhance the innovative capabilities of cluster structure.

Most of the time the individual small enterprises underinvest in training of the workers, since the owners are concerned that they will not receive the benefits equal to training costs, or high mobility of workers in SMEs avoid them to invest (Fisher & Rauber, 2000). In such a case, organizing or purchasing training collectively may considerably reduce the costs incurred and improve the quality of the training. The enterprises may also collectively speak out their common training needs to related public authorities and may receive support, as the aggregated demand increases the chances of receiving support.

Another synergy effect that eliminates the disadvantage of the scale is joint action for marketing, advertising, and distribution. Such a joint action may be in the form of bilateral or multilateral cooperation of SMEs, or groups of firms joining forces in multilateral institutions (Albu, 1997). The involved SMEs may invest in joint marketing or advertising through arrangement of or collective participation to trade fairs, joint foreign market search, joint export promotion, joint hiring of marketing experts, and joint rent of showrooms. At an extreme, the groups of firms

producing complementary products may establish a common brand and sell their goods under that brand name.

Moreover, due to their scale, SMEs are generally not able to receive credits easily. The collaboration can contribute to that bottleneck through the creation of mutual credit guarantee associations or collective application for credits.

Other forms of interaction and collaboration benefits:

The collective declaration of needs and problems to the public authorities increases the chances of gaining public support. Such a support may include elimination of common bottlenecks in infrastructure; provision of training or technical and market information; taking groups of local producers to foreign trade fairs in the search for new markets; transmission of the demands to the upper level government, etc. Moreover, collectively established business associations may defend local producers in disputes with government

The high-level interaction together with spatial concentration and social proximity of businesses in customer or suppliers position to each other, give rise to another advantage of clustering. A cluster constitutes a local social atmosphere, which encourages a mixture of competitive spirit and social responsibility from the working population (Albu, 1997). In such an atmosphere, firms in clusters, engaging in multiple sophisticated transactions involving complex components, goods and services, do so without the expense of formal contractual arrangements, which advantage is named in the literature as *strength of weak ties*. Instead, they rely on mutual trust and social institutions, such as; traditional conventions, which prescribe the quality and form of goods; behavioral rules, which govern financial transactions; and socially imposed sanctions against opportunistic behavior (Albu, 1997). The presence of local reputation concept eliminates possible problems like overpricing and acting against commitment, and forces the enterprises hold their promises. Thus, while on the one hand they eliminate the costs involved in maintaining internal bureaucracies etc., they do not incur, on the other hand, the normal costs associated with the uncertainty and risk of anonymous market transactions. Moreover, the competitive spirit of that atmosphere points to peer-pressure and motivation by

intense local rivalry in the shared local community, which will push forward the competitiveness of overall cluster (Bergman & Feser, 2002).

Here again, it should not be forgotten that, another common feature of successful clusters, the "social proximity" is a basic ingredient for the successful coordination of inter-firm relationships. The social proximity indicates common social and cultural conditions such as common culture, history, ethnicity, residence, family ties, shared identity and values, business customs, local work ethos, which brings about the major ingredient of effective inter-firm relations, the "mutual trust". Besides these factors, the presence of public or private institutions acting as an interface role between the businesses, such as network broker agencies, also contributes to the quality of inter-firm relations and hence leads to increase in the advantages delivered by interaction and cooperation between the enterprises.

Therefore, being inspired by Upton and McAfee's (1996) Virtual Factory, we may conclude, a cluster is a community of number of firms focused on what they know and they do better, linked each other via economical interdependencies and social relations that allows them to work as a single firm, in a flexible, efficient and innovative way, most of the time, in a specific geographic location.

The common properties and competitive advantages these properties give rise to are summarized in the Table 1 below. The table is constructed just to summarize above discussion. We consciously avoided giving direct relations between the property and the advantage it delivers, since the relations between these are not linear. Instead, complex correlations exist, as it is explicitly discussed above. That is, the competitive advantages presented in table are mostly stemming from the compound effects of the various common properties. Moreover, the nonlinearity between the features and advantages asserts various attributes feeding into each other. Furthermore, the realization of various advantages is a part of positive feedback loop, that is, competitive advantage upgrades as the advantages materialize further, and as the cluster grows in size, which is explained in Porter's 'self-reinforcing cycle' concept.

Table 1. The common properties of clusters and associated competitive advantages

INPUT SIDE	**OUTPUT SIDE**		
COMMON PROPERTIES OF CLUSTERS	**COMPETITIVE ADVANTAGE**		
	Passive Advantages	**Active Advantages**	
		Improvement of innovation capabilities via interaction and learning	*Elimination of disadvantages of small scale*
Interaction and cooperation between businesses Specialization Presence within a system of supporting institutions and tailored infrastructure Spatial concentration of involved elements	Easy access to specialized workers Easy access to providers of varied and specialized material and immaterial inputs Reduction of start-up costs and lowering of barriers to entry Reduction of transaction cost Easy access to specialized public and private service providers and institutions Access to spatially accumulated industry specific technical know-how or market information Increase in market access Increase in the ability to perceive innovation opportunities having market value Flexible specialization and associated production efficiency increase Increase in visibility to government Intense rivalry pressure to upgrade in the shared geography contributes to emergence of social proximity and *realization of active advantages*	Avoid wasteful duplication of technological efforts Diffusion of knowledge Decrease the risk associated with innovation Easy access to specialized inputs needed for knowledge creation Demonstration, contagion, and emulation effects stimulating the demand for technological effort	Collective action to acquire services, goods or information which is beyond the individual reach of small firms Collectively obtain bulk-purchase supplies leading to cost savings. Collective action to satisfy large-scale orders Collectively invest in R&D activities, the establishment of quality centers and testing laboratories Collective action to ease access to credits
		Strength of weak ties and elimination of costs associated with bureaucracy and uncertainty peer-pressure and motivation in the shared local community	

2.3. Cluster Policy

In the introductory section, it was mentioned that the main factor in the rising interest in clusters was the success of some regions characterized by groups of geographically concentrated interlinked firms that tend to collaborate technologically and/or strategically. This new type of industrial organization seemed to flourish despite the predominance of SMEs in the structure and the trends of globalization. Therefore, these concentrations, or sectoral agglomerations, or *clusters* of firms, are gained broad attention by researchers and policy makers from all over the world. Many studies have been conducted on the competitive characteristics that form the basis for the competitiveness of these areas, with an interest in repeating these success stories (Boekholt & Thuriaux, 1999). In different policy applications conducted at state level, regional level or local level, cluster-oriented assistance strategies or, cluster policies, has become an integral part of the wider policy initiatives, such as, industrial policy, innovation policy, regional economic development policy, and SME policy, with the principle goal of improving the efficiency of the economy and competitiveness of firms, sectors, regions using the cluster approach.

Therefore, the idea of "clusters" is not only promoted as an analytical concept, but also as a key policy tool. Policy-makers all over the globe, from the OECD and the World Bank, national governments, regional development agencies, to local and city governments, have become eager to promote regional clusters. Nor has this policy interest been confined to the advanced economies: cluster policies are also being adopted enthusiastically in an expanding array of developing countries (see Doeringer & Terka, 1996; World Bank, 2000). As the celebrated architect and promoter of the idea, Porter himself has been consulted by policy makers from all over the world to help them identify their nation's or region's key business clusters or to receive his advice on how to promote them (Lagendijk, 1999).

These studies of policy makers, analysts and researchers, as it is emphasized before, gave rise to different definitions of clusters, and different typologies to study clusters. The diversity of these interpretations brought about the diverse applications of cluster policy. While some applications focused on the innovative characteristics

of the cluster type industrial organization and acted to promote the environment of clusters to improve the characteristics of that environment stimulating innovative capacities; others emphasized the scale economies clustering offers to address the disadvantages of SMEs. While the former are the typical of the applications in industrialized countries, the latter is observed mainly in developing countries.

On the other hand, Lagendijk (1999) differentiates two applications of cluster policy: cluster approach *as-a-method*, and *as-a-target*. The policy makers are using the cluster approach either as a tool for designing policies to assist businesses by offering tailored support and encouraging inter-firm learning (as-a-method), or as a tool for designing policies to shape groups of networked businesses in targeted/identified sectors/structures (as-a-target). However, as Lagendijk (1999) notes, most initiatives show a mix between these two objectives. The essential point in the diagnosis phase of the two approaches is the identification of cluster potential, and they share the same notion of enhancing the competitiveness of the structures/regions being inspired from the successful cluster initiatives.

Almost all of the applications share the notion of promoting inter-firm cooperation within identified clusters. This fact is evident in different definitions of cluster policies in different applications, as we will discover below. Basically, the generalized policy question of variety of cluster policy applications could be stated as: "whether the cluster potential (is present or could be) identified in the industrial structures of the economy, particularly, whether the first signs of company cooperation and networking identified, actually are sufficient to allow them, through corresponding assistance measures, to develop into a cluster in the sense of the theory." and "how the existing or potential clusters in the economy could be assisted to allow them to develop into a successful cluster."

2.3.1. Different Definitions of Cluster Policy

We will look at some definitions of cluster policy in different applications. In the Final Report of the Expert Group on Enterprise Clusters and Networks (2002), the definition of cluster policy is given as:

> …cluster policy embraces all policies that affect the development of clusters, taking into account the synergies and interchanges between these policies. Many policies labelled under different headings (regional policy, industrial policy, innovation policy,

> etc.) are in fact cluster policies in the sense that they try to make basic framework conditions favouring an environment conducive to business stakeholders work together on the local and/or regional level. (p. 15)

Boekholt and Thuriaux (1999) defines the common goal of different set of cluster policy activities as:

> Cluster policies comprise the set of policy activities that aim to: stimulate and support the emergence of these networks; strengthen the inter-linkages between the different parts of the networks; and increase the value added of their actions. (p. 381)

On the other hand, Gesellschaft für Technische Zusammenarbeit (GTZ) (n.d.) in its practices of cluster policy conducted in transition countries summarizes its approach as "…[aims] in a structural sense, to make a contribution to the further development of branch concentrations or networks into clusters or to the further development of existing clusters."

Inspired by the last approach, we will define our view to cluster policy-making as such: cluster policy should aim to develop a business environment that facilitates clustering, and improve the conditions of existing or potential clusters by addressing bottlenecks, needs and missing parts of the structure that hinders the realization of the advantages associated with clustering". Therefore, the provision or the improvement of the environment by appropriate cluster policy measures will cause our (potential) cluster prosper by exploiting the claimed cluster benefits as much as possible.

In the previous sections, observing successful cluster models, we analyzed the common properties of clusters and the advantages these properties give rise to. The common properties of clusters could be considered as the general features of the environment, in which the clustering is likely to exist, and in which the involved enterprises are likely to benefit from the advantages clustering offers.

Therefore, in our discussion of the cluster policy, the conditions, or general features of the (successful) clusters, and the improvement of them is the central issue, as they constitute the environment that gives rise to advantages of clustering. We analyzed these *conditions* i.e. common properties of clusters, and associated *advantage,* and we will use the same systematic developed in Section 2.1 and 2.2, to analyze the different cluster policy applications in the following sections.

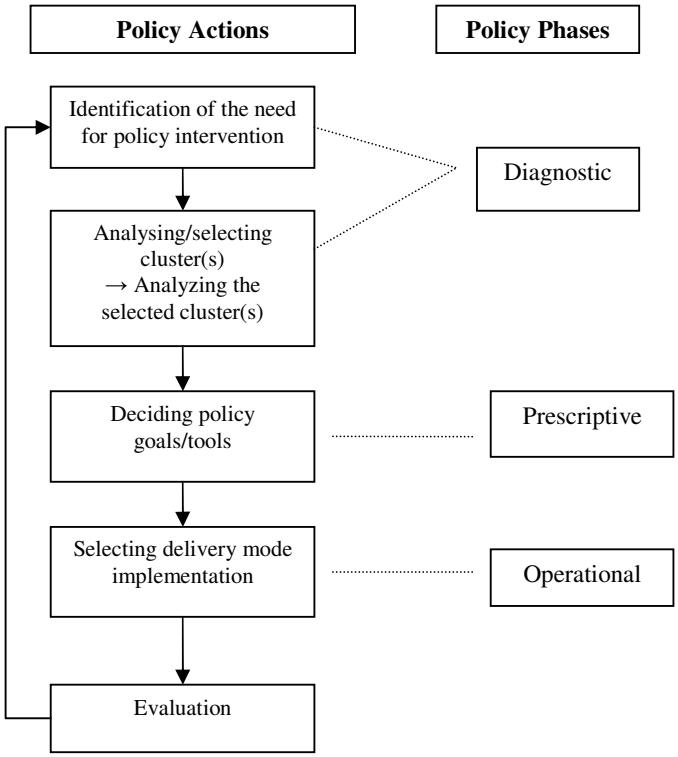


Figure 2. Cluster Policy-making Cycle (source: Raines, 2002, slightly modified)

2.3.2. The Stages of Cluster Policy-making

While the diversity of the interpretation of clusters and the policy responses to promote them is an obvious fact, the cluster policy-making process is characterized by three successive phases of a policy's development: 'diagnostic', 'prescriptive' and 'operational' (see Figure 2).

2.3.2.1. Diagnosis (or cluster analysis)

Cluster analysis is the first phase of the cluster policy-making, which constitutes the most important part of a policy-making process, "the diagnosis" of the environment that is the target of the policy. At that stage, the relevant information is collected and the picture of the existing situation of the policy environment is drawn in accordance with policy intentions utilized in the design of the policies.

Particularly, the cluster analysis as a tool for cluster policy-making entails the analysis of the policy target (state, region, locality etc.) in terms of its clusters by using the common features of the cluster structure (linkage, commonality, complementarities, spatial concentration, specialization, tailored infrastructure), and determination of the policy needs of the identified (potential) clusters by using the competitive characteristics of the effectively functioning cluster structures.

That phase of cluster policy-making generally consists of four stages (based on Raines, 2002):

- Initial determination of need for policy intervention,
- Analysis of the economy (at the decided level) in terms of its clusters; identification and mapping of clusters,
- The selection of target cluster(s), and
- Second stage in-depth analysis and identification of the policy needs of those cluster(s).

2.3.2.1.1. Initial determination of the need for policy intervention

In most of the cluster policy applications, the major motive of the policy makers for utilizing the cluster approach is the success stories of clustering, the competitive advantage clustering offers in the right circumstances, and the evident room for policy action to promote those circumstances facilitating clustering and enhancing the benefits delivered by clustering. While the benefits of clustering in terms of enhanced innovative capacity and competitiveness of SMEs, industries and regions are evident, the policy makers pursuing traditional subsidy-based sectoral policies to support their industries are convinced about the superiority of the cluster approach, especially when the changing character of the market-based capitalism is concerned and the innovation systems and new economy concept pervade the research and policy-making area (Dunning, 1997; Roelandt & den Hertog, 1999). Therefore, we may claim that, the policy makers interested in increasing their businesses', industries', regions', and nations' competitiveness, is eager to utilize the

cluster approach due to some common consciousness of the usefulness of the approach as a starting point.

We defined our cluster policy approach in generalized terms as “cluster policy should aim to develop a business environment that facilitates clustering, and improve the conditions of existing or potential clusters by addressing bottlenecks, needs and missing parts of the structure that hinders the realization of the advantages associated with clustering”. The motive of most policy makers is defined in that statement. The following stage waiting the policy makers is deciding at what level the cluster concept will be studied and which definition of clusters will be utilized in the analysis.

Following successive stages of the cluster analysis are: an analysis of the economy (at the decided level) in terms of its clusters and identification of the clusters; the selection of target clusters; and identification of the policy needs of those clusters.

Following initial determination of the need for policy intervention, the second stage is deciding on the level at which the cluster concept will be studied and how clusters will be defined. As we explored in the cluster typologies section, at three levels of aggregation the clusters could be studied; micro (the network of individual firms in a value chain), meso (interrelated branches/sectors/industries in a value chain), and macro (interlinked groups of industries in the economy as a whole) (Roelandt & den Hertog, 1999). The choice of level of aggregation to study clusters depicts different definitions of clusters. The choice depends mainly on the aim of the policy maker and the question to be addressed, and each level of aggregation requires a different policy approach using different policy tools. A policy maker at the national level probably will be interested in the macro level, while a policy maker at regional/local level will be interested in the meso and micro level applications.

2.3.2.1.2. Identification

Setting the intention for policy intervention, cluster analysis starts with the identification of clusters in the economy, according to the chosen level of aggregation and the definition to study the concept. However, whichever level of aggregation the concept will be studied at, the basic feature of clusters, basically,

"commonalities and interdependencies" between the "entities" involved, is at the centre stage in the definition and identification process. While, in micro level studies, the entities are the individual firms linked to each other by trade based or non-trade based relations, in meso level studies the "entities" become branches or industries in a region linked to each other by commonalities and complementarities. On the other hand, in macro level studies, the entities are the industry groups in the whole economy. Finally, the linkages and interdependencies are at the heart of the cluster analysis, as they constitute the essence of cluster concept.

In the identification (and analysis phase following it) of clusters, different kinds of applications are distinguished. Here the ingredient to the identification process, other than the decision of the level of aggregation, is the intention or starting point of the analyst. We will distinguish three kinds of starting points making use of the classification developed by Bergman and Feser (2002): i) the analyst or policy maker have become aware of the state's/region's/locality's leading industries/branches/business groups, but desire an understanding of how the competitiveness of firms within those industries might be improved by cluster approach; ii) they are aware of their principal industries, but want to identify unseen complementarities and cooperation potentials between those; iii) they have little knowledge of their core strengths and potentials, apart from what can be gleaned from single-sector trends.

Moreover, in addition to these three approaches, another application of cluster analysis is defining clusters as sectors. In these, belonging to the same sector of an economy is defined as the sign of cluster potential, and clusters are defined as spatial concentration of businesses belonging to the same sector.

*Starting with pre-determined structure***:**

The major differentiation between the second-third categories and first category is that: for the second and third categories, a comprehensive investigation of virtually all sectors (or business groups in a production chain and/or businesses producing similar/complementary products – according to the used definition of cluster) in the economy are needed (Bergman & Feser 2002). On the other hand, the applications falling into the first category, that investigation is not included. Instead,

the pre-identified industry, branch, or business groups are used as the target of the analysis and the policy. That approach entails such a definition of clusters "geographically proximate group of interrelated companies and institutions in a particular field", and belonging to the same industry or similar sector is used as an indicator of interconnections between entities forming the essence of cluster concept. Therefore, that approach uses the predefined structure of the clusters (the maps/charts) (Viitamo, 2001) and is most frequently observed type of micro-level applications. That approach is the characteristic of the applications conducted by or inspired by Porter. The production chain is at the core of the map, and the industries related to the development of the target industry is also identified according to the strength of the linkages and included in the map of the cluster. Their possible contribution to the development is assessed too.

The pre-determination of the policy target is complemented by the search to truly identify evidence of clustering behavior are called for (Bergman & Feser, 2002). The selected industry/branch/business group, which is the object of the analysis and policy-making, is analyzed by making use of the common features and competitive characteristics of cluster structure (either depicted in Porter's competitiveness diamond [see figure 3], or another way depending on the researchers' insight and ability to identify the actual determinants of competitiveness). *Location quotients* (LQ) and qualitative methods such as *surveys*, *expert opinion*, or *business focus groups*, are the most frequently applied method to identify high relative concentrations of interactive industrial activity, which in these studies are taken as evidence of industrial clusters (Bergman & Feser, 2002). Mostly used criteria in the identification of cluster potential are: spatial concentration of related businesses (measured by location quotients of number of firms or employment); competition as well as collaboration through close supply-chain relationships; shared set of business values and cultural attitudes among local/regional players. Moreover, input-output analysis may also be utilized in these applications as input-output data can provide hints of cooperative relationships between local companies, or perhaps the most likely suspects among which such relationships might be organized (Bergman & Feser, 2002).

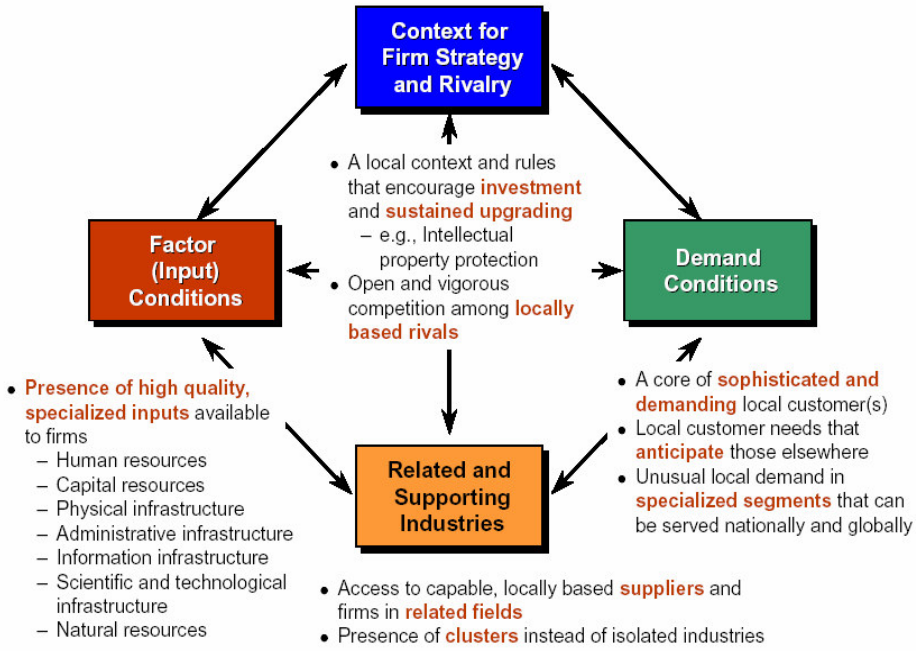


Figure 3. Porter's adapted diamond – competitiveness and microeconomic business environment (source: Porter, 2000)

No pre-determination – with an overall scan of the economy:

As discussed above, one approach does not start with the identification of clusters in the whole (national/regional) economy. However, applications in the second and third categories entail a comprehensive investigation of virtually all sectors (or business groups) in the economy. In these applications, different definitions of clusters could be distinguished in various cluster analysis applications according to the level of aggregation studied and policy concerns. The analysis could be macro, meso or micro level. In these applications conducted in state/regional/local level, the general cluster feature used to identify the clusters is the linkage dimension. In that sense, the cluster analysis in these applications is defined as the analysis of linkages and interdependencies among the actors (interrelated businesses, branches or industry groups) in a value chain at different levels of analysis with

different techniques depending on the questions to be answered (Roelandt & den Hertog, 1999).

In the Table 2 below, the levels of analysis, the variation of the cluster concept used according to level and the different focus of analysis depicting different policy questions are presented.

Table 2. Cluster analysis at different levels of analysis (source: Roelandt & den Hertog, 1999, p.14)

Level of analysis	Cluster concept	Focus of analysis
National level (macro)	Industry group linkages in the economy as a whole	• Specialisation patterns of a national/regional economy • Need for innovation and upgrading of products and processes in megaclusters
Branch or industry level (meso)	Inter- and intra-industry ölinkages in the different stages of the production chain of similar end product(s)	• SWOT and benchmark analysis of industries • Exploring innovation needs
Firm level (micro)	Specialised suppliers around one or more core enterprises (inter-firm linkages)	• Strategic business development • Chain analysis and chain management • Development of collaborative innovation projects

In these cluster analysis applications, as the definition shows, the techniques used to identify and analyze clusters basically explore the interaction and similarity patterns between the actors. We will mention just four of the methodologies although there are some others used less commonly. The Table 3 presents techniques, primary data used, and the focus of analysis.

Table 3. Main cluster methodologies and associated techniques (Modified from Roelandt & den Hertog, 1999)

Methodology	Technique	Primary data	Focus
Quantitative	Input-output analysis	Input-output tables, innovation interaction matrices	Trade linkages between industries in the value chain in the economy
Quantitative	Graph analysis	Input-output tables, innovation interaction matrices	Cliques and other network linkages between firm and industry groups
Quantitative	Correspondence analysis	Innovation surveys	Groups of firms or industries with similar innovation styles
Qualitative	Case studies conducted in the framework of Porter's diamond model	Qualitative data combined with trade statistics and national accounts	Factors affecting the competitiveness of industries and nations (diamond)

The first two approaches focus on linkages between (dissimilar) actors in networks or value chains to identify network linkages of production or innovation using input-output tables or innovation interaction matrices. The third approach, correspondence analysis, is a general quantitative cluster technique to detect objects with similar characteristics (Meeuwsen & Dumont, 1997). It is used to identify different styles of innovation and division of labor in innovation. Therefore, in quantitative analysis, clusters are determined by measurable linkages or similarities between industries and companies (Roelandt & den Hertog, 1999). Finally, the case study approach, relying on the qualitative information provided by interviews, focus groups, expert opinion, surveys etc., has been utilized in most of the applications, most of the time together with the statistical techniques. It uses various approaches as framework for analyzing the competitive characteristics of the local production structure (e.g. Porter's diamond, or other current situation analysis tools); in that sense, it is used in meso and micro level studies. Case study material can provide more in-depth information and can be used to interpret the results of statistical analysis (Bergman & Feser, 2002). The techniques of case studies and input-output (I/O) analysis have dominated the empirical research, Viitamo (2001) states.

In most of the applications, the quantitative statistical techniques are firstly utilized to distill the industrial complexity of a given region by an initial scan of the regional economy by using detailed quantitative sources to identify regional clusters or potential regional industry clusters and their core industries (Bergman & Feser, 2002). Following the quantitative analysis, a qualitative case study is applied for detailed investigation of specific industrial features/groupings and relations between them, identified in the scan. While the quantitative part avoids the fault of predetermining the (potential) clusters in the economy, which may result in the exclusion of some important actors in the cluster, the qualitative part lets the analyst observe non-trade based interrelations such as social, cultural, and political factors, which are also important attributes of clusters contributing to competitiveness. Input-output based derivations cannot fully capture the set of those interrelationships specified in the modern industry cluster concept (Bergman & Feser, 2002). Starting with the quantitative method, one may identify a set of enterprises and industries that constitute the most likely candidates (or "suspects") for non-trade-based dependencies.

Therefore, the statistical techniques mainly based on I/O data is utilized to identify the potential clusters of the economy using one of the basic common feature of clusters "trade linkage" and it is complemented by other, mostly qualitative techniques analyzing the presence of other common characteristics of clusters that lead to competitive advantage of the identified structure. In that sense, the qualitative case study part may include the investigation of the institutional structure, the organizational infrastructure, specialization patterns, as well as non-trade based relations to recognize the cluster potential in the identified structures by means of surveys, expert opinion, or business focus groups. Location Quotients is also used to assess the spatial concentration property, following the I/O analysis, in some cluster analysis applications. Therefore, it probably makes most sense to conceive that type of cluster analysis as a two-stage process: 1) an initial scan of the regional economy, using detailed quantitative sources; 2) then a detailed investigation of specific industrial features/groupings identified in the scan. The two-part approach implies that the analyst is beginning with a "clean slate", that is, no restrictions or a priori

predilections of the sectors that are of most importance (Bergman & Feser, 2002). The superiority of the approach lies in this rationale.

Clusters as sectors:

Another application of cluster identification is using the classical sectoral classification of the national/regional/local economy. That is, the sectoral cluster concept, which defines clusters as groups of firms within one industry located in a specific geographical area, is utilized in the analysis. While the sectors are accepted as the cluster potentials, as in the applications above, the assessment of the cluster potential is also included in the analysis before the selection of the sectors that merit cluster-oriented assistance (GTZ, n.d.). In the assessment of the cluster potential, the same tools, such as LQs and qualitative case studies, used in previous applications, are mostly applied ones. The investigation of cluster potential includes the assessment of the existing initial structures of business cooperation, networks, or regional business concentrations as well as the assessment of the current situation of sector-relevant institutions, organizations, and services delivered by them. Since the focus of analysis is the network of individual firms in a sector, the level of aggregation is essentially the micro level. Following the identification of cluster potential, the following phase is the choice of economic sectors to be assisted to promote existing clustering potentials, as we will discover later on in this section.

Therefore, we identified three approaches to cluster identification. First one, pre-determined industry/branch/business group (belonging to one or a few related sectors) is used as the target of the analysis and the policy. Second, there is no a priori determination or definition, identification of clusters of the economy is made by a comprehensive investigation of the linkages (and similarities) between virtually all sectors (or sector/business groups) in the economy. Finally, in the last approach, the sectors of the economy are taken as the potential cluster structures. Although, in first and third approaches, it is not possible to talk about the identification of the cluster structures in the economy, as they include a pre-determination, all of the approaches include an assessment of the cluster potential in the determined/identified structure(s). Although, the tools for the identification of cluster potential may differ,

each shares the notion of examining the presence of common properties of clusters giving rise to the clustering advantages. Therefore, at that phase, existing or potential clusters in the economy is identified as well as the potential for current group of activities to turn into clusters with some policy support (GTZ, n.d.). Moreover, in some applications, the analysis of the cluster potential in the identified (or pre-determined) structures (or potential clusters) is complemented by the assessment of the sources of competitive advantage in the structure, SWOT (strengths, weaknesses, opportunities and threats) analysis of the structure, assessment of growth potentials and historical background of the structure. The expert interviews, local expert panels, surveys, and business focus groups are the mostly used methods for obtaining qualitative data in these areas, while the quantitative indicators used could be I/O data, current employment, export shares, and measures of growth potential. The future market and technology trends (foresight) are also an important ingredient in some of the cluster analysis applications conducted at different levels of aggregation (OECD, 1999).

2.3.2.1.3. Mapping

Another common application observed in all three approaches is the mapping of identified cluster structures. This map could be a geographical map or other kind of map indicating the cluster value-chain or production chain. Different practices of mapping techniques observed in three approaches. In the first case (the pre-determination case), the map of the predetermined clusters is mostly drawn based on the Porter's competitiveness diamond (see figure 3). The map typically includes a core, which is the core industry of the cluster, related sectors, service providers and upgrading agencies, customers, related public institutions, and other related clusters. The map could also be based on the production chain of the cluster and each stage in the chain might be presented in the map (see figures 4 and 5).

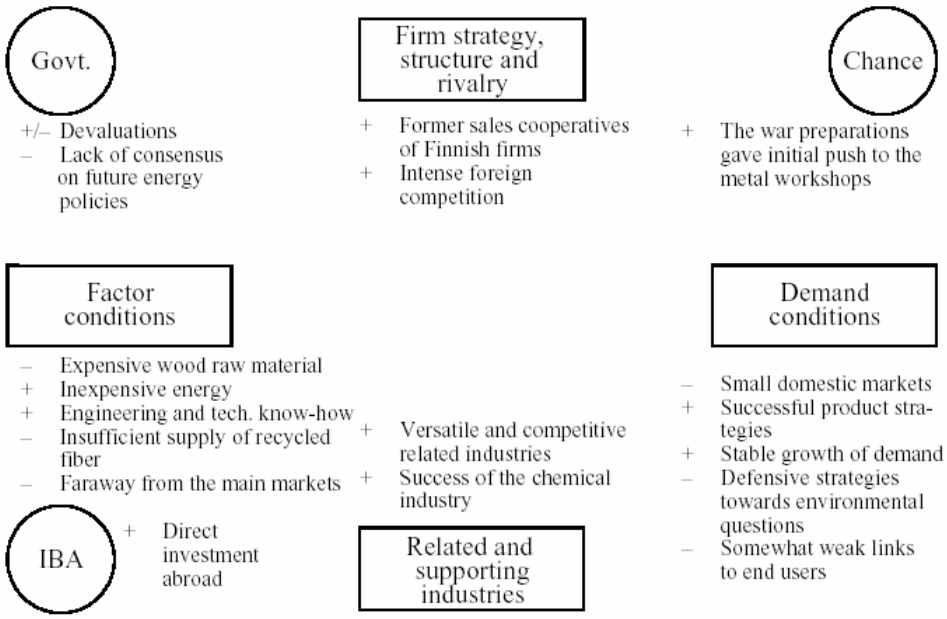


Figure 4. The map of the finnish forestry cluster on Poter's diamond (source: Hernesniemi, H., M. Lammi, P. Ylä-Anttila & P. Rouvinen, 1995, cited in Ylä-Anttila & P. Rouvinen, 1999)

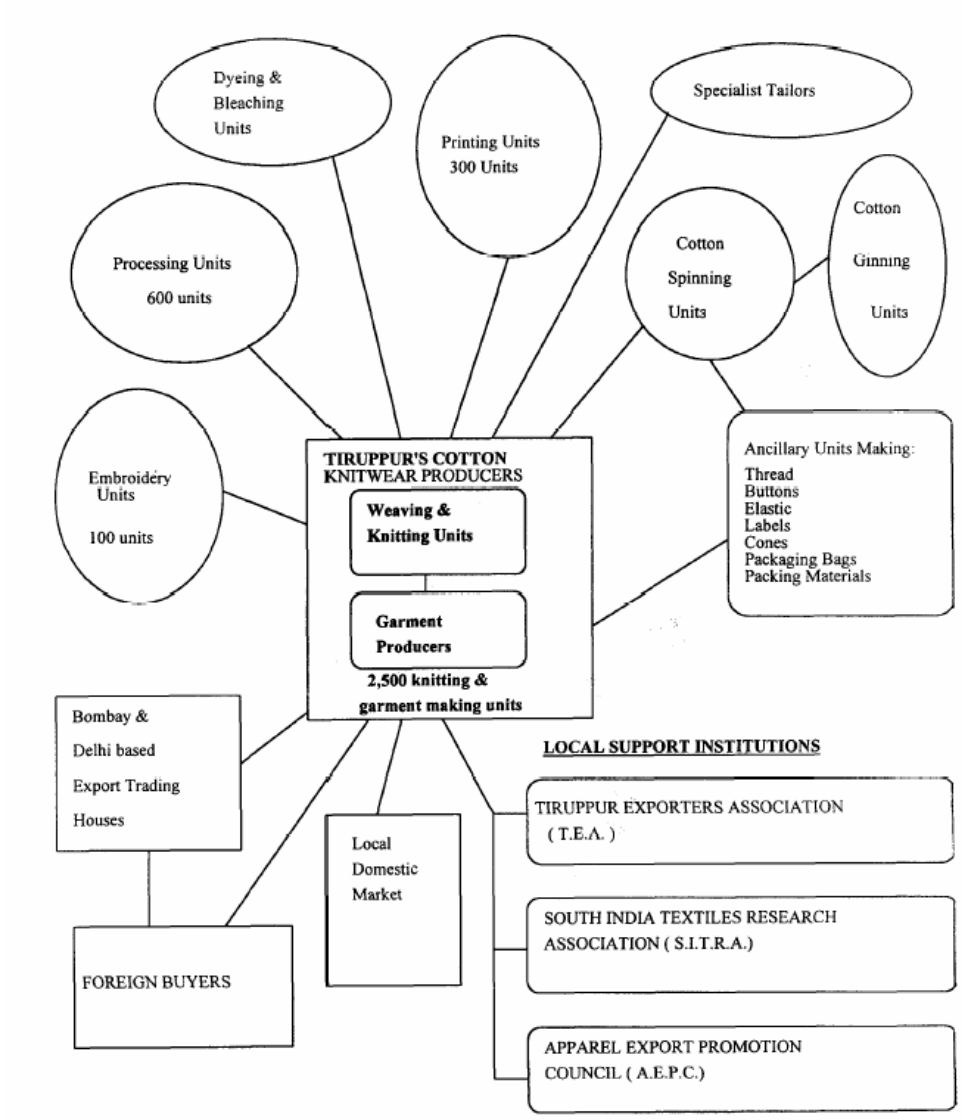


Figure 5. Cluster map of the Tiruppur cotton knitwear cluster, India (source: Nadvi, 1995)

In the second approach with the overall scan of the economy, the map is mostly based on the I/O analysis results. The linkages between industries in the value chain in the economy are drawn on the map, using different lining style depending on the strength of the linkage (see figure 6).

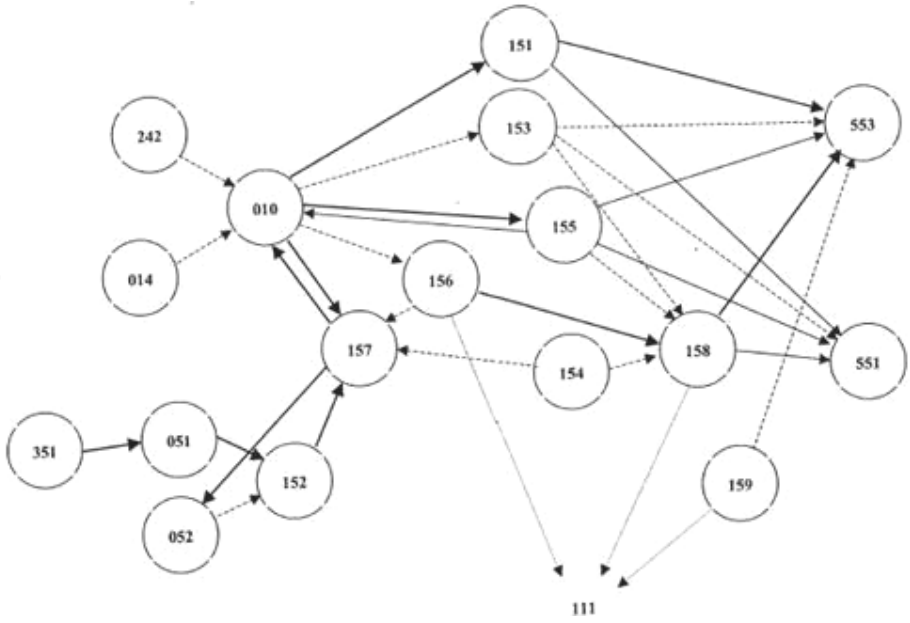


Figure 6. The map of agrofood cluster based on I/O data, Norway (source: Hauknes, 1999)
Note: the numbers in circles represent the SNA production sector

2.3.2.1.4. Selection of clusters for policy support

After the identification and mapping phase, the second step in cluster analysis (if not pre-targeted as in the case of starting with pre-determined structures) is the selection of the cluster(s) to be targeted by policy. Not all the clusters identified in a region likely to be subject of the policy action. Limits may be due to budget restrictions, or desire to test the approach on a few clusters initially (Raines, 2002). Moreover, some clusters could be mature and effectively functioning that no policy intervention is foreseen necessary. At the other end, in some cases, the identified potential could be so weak (e.g. no critical mass of enterprises and skills identified that outside assistance can hook into, a widespread mistrust in the environment depicting no willingness to cooperate etc.) that the structure is not recognized as promotion worthy or no positive impact of cluster-oriented policy action is foreseen. The filter used in the selections mostly dependent on the concerns of the policy maker. Inspired by the various applications of selection, possible criteria employed in the selection of clusters to be targeted could be listed as:

- The conditions related to cluster potential (also could be interpreted as the preconditions for developing a successful cluster-oriented assistance policy),
    - Presence of critical mass of enterprises and skills in a geographical area,
    - Presence of forms of networking and cooperation,
    - Access to range of business and non business services,
    - Common culture and social ties etc.,
- Relevance of the structure for the economic development of the country/region/locality,
- Priorities for regional economic development (that approach may entail picking the winners or promising technology-intensive structures, or at the other end, assistance to marginalized, declining areas),
- Primacy for employment promotion,
- Development potential of the structure (particularly with respect to major international market and technology trends),
- Necessity of import-substitution,
- Securing traditional markets and opening up new markets,
- The presence of structures supporting/complementing each other, the potential benefits from this complementarities and assessment of the level of impact of policy intervention.

These are commonly applied criteria used in various applications of selection of clusters to be targeted, while some applications may include supplementary evaluation criteria. It is those responsible for economic policy, who must weigh each criterion; as they take into account political objectives such as the relevance of the sector for overall economic development, promotion of structurally weak regions, employment effects etc. (GTZ, n.d.).

2.3.2.1.5. After the selection – second stage in-depth analysis

After the selection of the (potential) cluster(s) to be targeted by the policy, analysis of the cluster(s) is complemented by more in depth analysis of the selected clusters' current situation in terms of cluster potential and other concerns. The cluster structures are analyzed in more detail entering inside of all sectors/branches/business groups involved in the structure and the relationships. The stages of cluster value chain and relationships between them is revealed and analyzed in detail. In that analysis, the comparator 'model' clusters could be utilized as a benchmark for the analyzed cluster structure. The basic concerns are more detailed identification of evidences of cluster potential, such as the presence and efficiency of common features of clusters (especially interrelations) and the associated competitive advantages experienced, or advantage potentials to be experienced with some policy support; the other sources of competitive advantage in the structure; the needs, bottlenecks, weaknesses; and other areas that the policy can make a difference. Hence, that more in depth analysis may include the investigation of (GTZ, n.d.; OECD, 1999; Bergman& Feser, 2002; Nadvi, 1995; Raines, 2002):

- The stages and entities flowing in the value chain of the structure, the composition and trade relations
- Resources, supplies
- The trends in the finished product market of the structure
- Characteristics of competition
- The trade relations between the actors involved (forward/backward/horizontal)
- Existing forms of business cooperation and sources (e.g. cultural political, social) of these relations (forward/backward/horizontal)
- Cooperation climate and evaluation of attitude towards cooperation
- Associations, unions, clubs and other kinds of cooperative platforms, and their effectiveness and impact on structure
- Material and immaterial infrastructure for improving cooperation potentials and for diffusion and adoption of knowledge
- Business culture, values, norms, entrepreneurship

- The legislation related to inter-business relations
- The presence of collective identity
- Structure of the participating firms (SME cluster, mixed cluster of SMEs and large firms)
- The type of product and production (MTO/MTS, labor/technology intensive)
- Support services offered and efficiency of related organizations
- The sources of information on new designs, products, production processes, market and technology and the information needs
- Efficiency of knowledge producing agents (R&D, labs, quality centers etc.)
- The innovation practices and potential
- Infrastructural needs and the efficiency of the related (public/private) service providers
- Relevant public institutions and their effectiveness
- Historical trends

The tools for the analysis are mainly, I/O and mapping techniques, expert interviews and panels, surveys, focus groups, and industry statistics.

Therefore the outputs from a comprehensive cluster analysis are identified (potential) clusters in the economy and maps of these; the cluster potential of these structures in terms of the common properties of clusters and possibilities of promoting the potential; and existing situation of the structure in terms of strengths, weaknesses, development prospects and risks, historical realities, sociocultural factors, political economic and institutional framework conditions, as well as innovation capacities.

Consequently, the cluster approach has been valued as an important analytical tool in regional economic development policy-making. Not only has it provided a means of understanding in greater detail the process underlying spatial development and the resources of an industry's competitiveness, it has also been an effective source of general policy information (Raines, 2002). More detailed and useful intelligence about a region/sector can be gathered using the cluster approach

Bergman & Feser, 2002). Moreover, through the strong involvement of the relevant private industry actors in the analysis, policy design and implementation; up-to-date information about the state of a cluster and its assessment of its own needs can more effectively inform policy design (GTZ, n.d.).

Therefore, the diagnosis phase of cluster policy-making, the cluster analysis, has provided the necessary information about the current situation and prospects for future to develop policy responses to achieve the results we stated in our cluster policy definition.

2.3.2.2.Prescriptive Phase: Developing Policy Responses

The comprehensive analysis of clusters provides the necessary information on existing potential (what is available? what can be achieved?) to formulate assistance policies and instruments adapted to the situation and potential of the cluster, given the political objectives (where do we want to go?). The policy responses is basically oriented towards developing cluster potentials and strengths, and overcoming the weaknesses, addressing needs and problems using the cluster approach, while the cluster-oriented policies may well be complemented by other types of assistance strategies (Bergman & Feser, 2002).

While each initial situation depicts different policy goals and instruments, in general terms, the cluster-based policies tend to concentrate on increasing cluster behavior within designated sets of economic activities (Raines, 2002). Where policy goals are set, they are usually defined in terms of benefits, which arise from the process of clustering with the perception of clustering being a valuable economic activity (Raines, 2002). In accordance with that idea, we had defined the aim of cluster policy as “cluster policy should aim to develop a business environment that facilitates clustering, and improve the conditions of existing or potential clusters by addressing bottlenecks, needs and missing parts of the structure that hinders the realization of the advantages associated with clustering”. Therefore, the provision or the improvement of the environment by appropriate policy measures, will cause the (potential) cluster prosper by exploiting the claimed cluster benefits as much as possible.

The promotion of the environment that facilitates clustering and supports the realization of the claimed advantages of clusters will be analyzed using the common properties of successful cluster models and the advantages these properties give rise to, which we made clear in the sections 2.1 and 2.2. That is, we will use essentially the same systematic to explore the roles of cluster policies in different applications.

Under the headings below, first, the rationale, or the initial situation of the structure that the cluster-oriented policy response should address is presented. The information about the different aspects of the cluster that the policy tools are to be designed to act on is specified at the cluster analysis phase. As it will be made clear below, these aspects are mostly related to the cluster potentials of the identified structure in terms of common properties of clusters and the advantages delivered by them. Then, the appropriate cluster-oriented policy response is described to address these aspects. Lastly, the instruments of the policy are examined.

The information provided under the headings below is a collection of the various applications of cluster analysis and cluster policies conducted by different actors, from OECD and World Bank, to United Nations Industrial Development Organization (UNIDO) to GTZ, presented in the literature. The investigation is kept comprehensive enough to cover all of the policy instruments utilized in the applications in both developing and industrialized countries according to the different results of the cluster analysis depicting different initial situations.

2.3.2.2.1. Missing crucial elements

A potential cluster may lack some crucial elements, in terms of raw material or intermediate-good suppliers, or public/private business support organizations. The policy should identify the missing elements and links in the value adding production chain and establish or attract the missing part to the cluster structure by appropriate incentives. Mapping exercises is useful in identifying the missing part. The policy instrument could be informing the businesses in the structure about the opportunity of this profitable start-up and encourage the collective action. Moreover, providing support to entrepreneurs from outside the structure to start up a business to address the missing part is utilized as another instrument in various practices.

In addition to this, the missing part of the structure could be the customer. In that case, public procurement policies encouraging the collaboration of businesses are mostly applied. Moreover, policy intervention may also entail the public marketing of cluster to attract customers from other regions or the attraction of the agents to the structure to strengthen the link of the structure to the markets. That point will be made clearer under the deficits in the knowledge base heading.

2.3.2.2.2. Lack of a qualified labor pool

The policy should identify strengths, weaknesses, trends or needs of the 'virtual factory' (in Upton and McAfee's [1996] terms) cluster in terms of technical or managerial skills. If a capability is identified as missing in the structure, the policy makers should organize training programs to complete the 'skill map' of the production chain and strengthen the self-sufficiency. However, if the public resources are lacking, the actors involved in the structure should be informed about the common need, and collective action to address the need should be encouraged by appropriate financial/technical support. Such a support may also improve the collaboration potential within the structure. If a negative trend is identified in the skill base, such as over-mobility, poaching workers, out migration from the region etc., the reasons behind this should be analyzed and addressed by appropriate regulatory reforms. The cluster platforms or focus groups could be formed to identify the bottlenecks and need for regulatory reform in labor markets (GTZ, n.d.).

2.3.2.2.3. Deficits in the knowledge base

For markets to allocate resources efficiently all competitors must have the same relevant information (Fisher & Rauber, 2000). If an agglomeration's accumulated knowledge base is low compared to the competitors in other regions or large enterprises, the policy should act to improve the knowledge base by facilitating gathering, processing, and publishing relevant information on the sector, the market, the legal situation, technology, supplies, etc. As this knowledge has a "club good" (Lagendijk, 1999) nature, the policy makers could conveniently intervene without causing market distortion. The first stage in addressing the deficits in the knowledge base is identifying which strategic knowledge is crucial for the businesses involved

that they cannot access. One way of addressing the deficits could be the establishment (or providing incentives for the establishment) of information providing organizations to collect and disseminate cluster specific information on technology, market, supplies etc. For the market information, the links between foreign buyers or distribution channels in national or international markets with the cluster should be strengthened. The marketing and promotion agencies should be attracted to region by provision of incentives. The public policy makers themselves could establish a marketing and advertising facility that will both promote the region in the national and international market and act as an interface between the markets and the cluster. Such a structure could comprise common showroom facilities, in which the samples of products will be demonstrated and the domestic end users as well as traders will be attracted. Moreover, establishment of cooperative platforms to explore market opportunities is another instrument employed to broaden the market information base of a cluster.

In terms of deficits of technical information, cluster-oriented assistance strategies may include provision of strategic technical information to cluster through benchmarking and foresight studies; improvising the systems for the collection, processing, and dissemination of technical information; training and upgrading in knowledge management; developing joint industry-research initiatives; or designing technology transfer programs. The mainly employed instruments are building up cluster specific information systems (such topics as marketing, technology, design, research results etc.); setting up cluster specific technology and research centers/initiatives or establishment of joint industry-research centers of excellence.

Another type of information crucial for the competitiveness and for increasing access to international markets is information on international standards and quality requirements. The policy should support the establishment of institutions providing information on possibilities for accreditation and certification (e.g. in quality management systems, environmental standards, etc.) such as standard setting agencies and quality centers, and facilitate the easy access of SMEs to information by appropriate measures. The bullet-ins, magazines, brochures, or meeting platforms could be used for dissemination of that information among actors.

While these strategy and instruments will improve the knowledge potential of the cluster, for the improvement to spread cluster-wide, it is necessary to improve the exchange of information between the involved actors. While the promotion of inter-firm relations will be examined later on, it is meaningful to mention here some instruments o facilitate information exchange. The establishment of platforms to provide the basis for dialogue on strategic informational needs, and provision of subsidies for collaborative R&D, design, and technology transfer are mostly employed instruments to address the knowledge deficits collectively. Moreover, the spread of the 'club good' cluster specific information is maintained by the periodic publications in most of the successful practices. The collective visits to technology and market fairs also add to technical and market information base of the cluster besides facilitating the dissemination of information.

2.3.2.2.4. Lack of tailored infrastructure

Some infrastructure elements as 'club goods' are mentioned above, namely, training, marketing, advertising, R&D facilities, standard setting agencies and quality centers. Other cluster specific infrastructure elements could include common waste treatment facilities, entertainment and accommodation facilities, depots, etc. that will act as an attraction aspect for customers, traders, or entrepreneurs. The policy should also identify the need for such infrastructure elements in a participative manner and act to improve these club goods.

2.3.2.2.5. Lack of identity and cooperative relations

As it is emphasized before, the major factor contributing to the competitiveness of the cluster structure is the intensive inter-firm relations and cooperation. Therefore, the major objective that policy makers, who are interested in developing cluster-oriented development policies, focus on is the promotion of inter-firm linkages and dialogue between the actors involved. This is evident in many definitions of cluster policy in various applications. Almost all of the applications share the notion of enhancement of cooperation potential and community building. As Rosenfeld (2001) notes, most of the cluster initiatives labeled as cluster policy are in fact network development policies interested in promoting networking between

the enterprises. Furthermore, in many other practices, network promotion is considered as a valuable tool to foster clusters (Bergman & Feser, 2002).

As the concept has great importance and the practices abundant worldwide, the strategies developed and instruments employed to promote inter-firm cooperation and networking are highly varied. The information on the initial situation of cluster in terms of inter-firm relations and cooperation potentials is provided in the cluster analysis phase. The design of policy intervention to improve these potentials is highly dependent on the results. However, in our study, we will propose general line of activities to promote inter-firm relations and cooperative activities, which are common in most of the applications.

In the cluster analysis phase, the information related to inter-firm relations, such as, existing forms of cooperation, attitude towards cooperation, sociocultural aspects (customs, norms, culture, kinship, ethnicity, etc.), trade relations, cooperation platforms, other institutions contributing to knowledge diffusion, presence of a common identity, etc. is collected. Based on that information, the assistance strategies and instruments will be designed to promote dialogue and cooperation. Hence, that information reveals the rationale, or initial situation of the structure that the cluster-oriented policy response should address.

The analysis of the cluster may depict that the (potential) cluster lacks identity and self-awareness, and the cooperation potential is rather limited. In such a situation, the policy to promote the cluster should start with *initiation and sensitization phase* (GTZ, n.d.). The initiation of dialogue between relevant actors requires the sensitization of all participants (firms, related organizations, government actors) to the importance of cluster formation for improvement of (national and international) competitiveness. For that purpose, the main instrument is the arrangement of meetings as platforms for awareness raising and constructive dialogue targeting the identified potential cluster structure. At these meetings, in many of the applications, the first stage is raising the awareness of the actors about the existing situation, “what they are and what is the prospects for future”, and “what they could be and what can be achieved via cluster initiatives” with an emphasis of collective identity and collective benefit.

The results of the cluster analysis are shared with potential participants and the potential of the structure is presented. Besides that, the explanation of the benefits, which may be achieved through cooperation, using the successful practices of comparator structures together with the identification of existing and possible forms of cooperation would be useful in sensitization phase. A forum could be built, in which potential participants can become acquainted, sharpen their awareness of the advantages associated with clustering, and develop a common vision for the future. Following this, the collective assessment of existing and possible synergy effects of cooperation and joint appraisal of the need for assistance could construct a collective vision for cluster initiative (GTZ, n.d.). These meetings also lead the actors get to know each other. The participation of the local authorities respected region-wide, such as governors, mayors, ministers etc., will also support the participation of actors in the meetings.

Theme-specific working groups could be formed to assure continuous contact between the relevant actors. These groups could meet at regular meetings; here alternative business strategies can be discussed, possible forms of cooperation can be considered, and perspectives for the future of the region and the economic sector can be developed. These groups can act as a catalyst for increased networking. The working groups prepare proposals for the improvement of sector-specific framework conditions. In order to ensure regular participation, the working groups should discuss topics which specifically interest the participants and which offer them concrete benefits, already in the short run (GTZ, n.d.).

The working groups could, for example, implement initial joint actions such as, joint participation at trade fairs, joint procurement, group marketing; organize lectures and discussions on topics of current interest. Each joint activity contributes to the very important process of trust building between the actors.

Government actors should also participate in these meetings in order to ensure cooperation between the government and the cluster, which will improve the confidence of participants on the process by showing the government's sensitivity and support to the initiative. Using the results of the regular meetings, government actors should introduce initial measures to improve the framework conditions, which is their basic part in the initiative (Roelandt & den Hertog, 1999).

While the promotion of dialogue and collective identity through platforms for constructive dialogue forms the essential part of the cluster promotion activity, some additional, complementary instruments to increase the efficiency, effectiveness, and continuity of the initiative are employed in many practices based on the information and response received in the initiation and sensitization phase. In addition to that, these strategy elements, or instruments, provide information for possible new approaches and instruments for cluster-oriented assistance strategies and policies.

The recommendations for assistance approaches and instruments to improve dialogue and promote cooperation will be considered at three levels: macro (enabling framework conditions promoting the cooperation), meso (design of business-oriented institutions contributing to the increased inter-firm cooperation) and micro (promotion of smooth cooperation between firms).

Enabling framework conditions (macro level):

Depending on the actual situation, the participants will choose approaches and instruments relevant to the promotion of cooperation potentials and recommend their implementation. The political decision-makers select from the recommendations worked out in the dialogue, taking into account their appropriateness for the current macroeconomic development, the development policy priorities, and budgetary possibilities of the country, and they incorporate these into a coherent and realizable assistance policy (GTZ, n.d.). However, the macro-level intervention basically should aim at creating favorable framework conditions for the smooth and dynamic functioning of markets (infrastructure, competition policy and regulatory reform, provision of strategic club-good information), removing government failures and amending government regulations that hinder the clustering process (Porter, 1998a). While some of the actions proposed below may not be directly related to promotion of cooperation potentials, as a macroeconomic environment characterized by a stable and predictable economic and political climate, functioning markets and prevailing confidence built by preservation of the rights of entrepreneurs, could be considered as a prerequisite for effective inter-firm relations, the instruments designed are presented very comprehensively. The possible

instruments and activities may entail (Boekholt & Thuriaux, 1999; GTZ, n.d.; Porter, 1998a; Raines, 2002; Roelandt & den Hertog, 1999):

- Organize cluster specific forums to identify regulative bottlenecks
- Economic reforms (on competition policy, privatization, breaking up monopolies, labor market, financial markets, etc.)
- Legal and administrative reforms (business, tax, competition, registration, IPR and anti-trust laws; standards and norms, accreditation and certification, etc.)
- Orient infrastructural measures towards the requirements of cluster formation
- Improve the level of technology, innovation, and increase productivity at cluster level through cooperation initiatives, e.g. through subsidizing of cooperative R&D projects, linking subsidies for R&D to the formation of consortia, and cooperative technology transfer
- Act as "launching customer", bringing together various partners via cooperative tender procedures to develop new technologies, products, or services in the areas where the public sector is the main client (infrastructure, ICT, defense, etc.) (Boekholt & Thuriaux, 1999)
- Provide (financial) support for collaborative (knowledge) facilities and technical services (Boekholt & Thuriaux, 1999)
- Provide financial support for the (launch of) networks and inter-firm co-operation (feasibility projects, management support, etc.) (Boekholt & Thuriaux, 1999)

Design of business-oriented institutions (meso level):

The professionalism and efficiency of business-related organizations play an important role in strengthening the cooperation potentials and competitiveness of both clusters being formed and established (GTZ, n.d.). As well as cooperation potentials, these organizations may also facilitate knowledge exchange among businesses and enhance the effect of knowledge spillovers. These organizations may include consultants, associations, network broker agencies, chambers of commerce, financial service providers and banks, academia, training and upgrading centers,

customs, and tax offices etc. The possible instruments and activities may involve: (Boekholt & Thuriaux, 1999; European Commission Enterprise Directorate-General, 2001; GTZ, n.d.; Porter, 1998a; Roelandt & den Hertog, 1999)

- The provision of corporate services and consulting services (management, production, marketing) and supporting the establishment of these (public or private) service providers by appropriate incentives. These services will include (or service providers will carry out) activities such as:
  - Provision of information to cluster (about markets, quality standards, etc.)
  - Dissemination of technical advances (results of research and development)
  - Representation of sectoral policy interests of the cluster (advocacy)
  - Cluster-oriented training and upgrading
  - Cluster-oriented R&D services and technology transfer
  - Access to adequate financial services for SMEs
  - Efficient administration (tax collection office, tariff and regulatory agencies, statistical office, etc.)
  - Cluster-oriented support measures for technology transfer, improvement of productivity and quality, and diversification of products and markets
- Determine the profiles of required organizations and prepare financing schemes in which all users should participate according to their capacities.
- Restructure the administration with respect to the provision of services, which promote business and investment (e.g. registration of firms, tax and customs procedures).
- Support the establishment or needs-oriented restructuring of trade associations.
- Promote active information exchange between supporting organizations and their users in order to guarantee the diffusion of relevant information.
- Make available venture capital and advisory services in order to promote business start-ups, business mergers, and domestic and foreign investment.

Promotion of smooth cooperation between firms (micro level):

The measures at that level aims at promotion of smooth cooperation between the firms of a potential cluster and their vertical upstream (forward) and downstream (backward) production and marketing linkages (GTZ, n.d.). While there is room for policy makers to promote cooperation potentials, the presence of the "seed" for such relations; positive attitude towards cooperation; or signals of cooperative activities, are considered as a precondition for the successful promotion of clusters (Rosenfeld, 2001). Raising awareness about advantages, establishment of cluster forums and theme-specific working groups, and arrangement of regular meetings are mentioned in the initiation-sensitization and dialogue promotion phase. In addition to that, the possible instruments at micro level to add up to identified potential may include (Boekholt & Thuriaux, 1999; GTZ, n.d.; Roelandt & den Hertog, 1999):

- Training of networking specialists (brokerage, in-/outsourcing etc.)
- Help to bring firms together by acting as broker or encouraging brokerage by other stakeholders
- Promotion of joint projects
- Training in marketing and management with an emphasis of collaborative initiatives
- Promotion of group marketing
- Promotion of quality and process management partnerships
- Implement joint measures to open up markets / arrange new business contacts (e.g. participation in trade fairs, business trips)
- Promotion of management competence and communication culture among cluster members.

The above examined policies and policy instruments oriented towards promoting cooperation potentials and creation of identity are the main concerns of the policy makers interested in pursuing cluster policies, since that property of clusters is recognized as the main factor contributing to the competitiveness of the structure. The various instruments designed according to initial conditions related to the relations between businesses should be followed cautiously as the cooperative

activities could not be forced on a cluster (Rosenfeld, 2001). First, policy makers launching cluster initiatives need to explore and decide with potential members that, which cooperation model is the most appropriate. For example, horizontal cooperative activities for the purpose of joint strategic R&D have a good chance to fail unless a culture of trust and co-operation exists among the participating companies. Vertical ones are also difficult to launch and manage since they include stakeholders from different business groups. Lateral networks require greater effort to convince potential partners that they can cooperate and learn from each other (Boekholt & Thuriaux, 1999).

Above, we analyzed the policy actions and instruments to address the issues and to promote the potentials identified in the diagnosis or cluster analysis phase, with an interest in promoting the business environment to facilitate the development of clusters and letting the involved actors benefit from the claimed cluster advantages. As a final point to add on the design of policies, to establish a competitive cluster, all measures have to be oriented towards potential target markets; in the short-term – depending on the efficiency of the cluster – these will likely be local and regional markets, while in the medium to long-term, they will surely include the international target markets (Humphrey & Schmitz, 1996) . The presence of a market-pull could be considered as a prerequisite for the sustainability of the cooperative relations and the cluster, as it is the indicator of the success of cluster initiative. Without improvement of market access in return, the confidence of the elements on the cluster initiative and the potential cooperation partners will probably diminish.

2.3.2.3.Operational Phase: Implementing Policy

In general, efficient implementation of strategies is based on a continual process of planning, implementation, monitoring and evaluation, feedback and plan revision (Raines, 2002). Clearly, the real challenge is not the process of preparing the strategy, as outlined in the previous sections, but the implementation of the strategy in reality. Monitoring the implementation process, analyzing the impacts of individual measures (primarily cluster formation, competitiveness), and fine-tuning

the instruments during implementation are centrally important for the success or failure of the promotional concept (Helander & Wollmann, 2000)

2.3.3. The Important Points in Cluster-Based Policy Making

Particularly in the last two decades, cluster-based regional development policies are developed and implemented by various actors in both industrialized and developing countries. Through the effective and ineffective experiences accumulated by these various applications at different conditions using different instruments, some common lessons could be drawn and the risks could be identified, of which the actors interested in the cluster policies should be aware. These points represent a tool that a policy maker, researcher or strategist should keep in mind in every stage of cluster policy-making. These points are listed below (Boekholt & Thuriaux, 1999; GTZ, n.d.; Humphrey & Schmitz, 1996; Roelandt & den Hertog, 1999; Rosenfeld, 2001; Schmitz & Nadvi, n.d.):

- A cluster policy must have a specific relationship to existing cluster beginnings, while the definition of assistance strategies, e.g. the choice of adequate promotional instruments, must be oriented to the context – i.e. the strengths, weaknesses, development prospects, and development risks of existing first signs of clusters, in addition to the sociocultural factors (GTZ, n.d.).
- Successful clusters cannot be created from scratch, there needs to be a critical mass of enterprises and skills that outside assistance can hook into (Schmitz & Nadvi, n.d.).
- It cannot be executed only “from above” but needs cooperative implementation “from below”.
- Innovative activities, especially cooperative ones, cannot be forced (Rosenfeld, 2001).
- Companies, and particularly SMEs, are reluctant to spend valuable time and effort on a network if the objectives and potential benefits are not clear; the initial (human) investments are high compared to uncertain outcomes. (Boekholt & Thuriaux, 1999)

- Companies fear losing strategic assets and information to other network members, particularly if these are larger companies. (Boekholt & Thuriaux, 1999)
- Companies have varying needs and expectations of networking depending on their own (technological) capabilities. (Boekholt & Thuriaux, 1999)
- Companies will be disillusioned if their first experiences with networking are negative. (Boekholt & Thuriaux, 1999)
- Companies are more likely to start off with less strategic alliances before entering into complicated R&D collaborative efforts. (Boekholt & Thuriaux, 1999)
- Setting up a firm-to-firm network is a complicated task requiring time and professional mentoring. Public agents setting up network activities should have experience in considering networks from the business perspective, while public brokers should be sufficiently trained or experienced to deal with the multifaceted aspects of inter-firm collaboration. (Boekholt & Thuriaux, 1999)
- Government should not try to take the direct lead or ownership in cluster initiatives, but should work as a catalyst and broker, bringing actors together and supplying support structures and incentives to facilitate the clustering and innovation process. (Roelandt & den Hertog, 1999)
- Cluster policy should not ignore small and emerging clusters; nor should it focus only on “classic”, existing clusters. (Roelandt & den Hertog, 1999)
- Such a concept is a process of trial-and-error, a concept in permanent progress.

In section 2.3, we reviewed various applications of cluster-based policy-making process, characterized by three successive phases of a policy’s development: ‘diagnostic’, ‘prescriptive’ and ‘operational’. While the practices show considerable variation, the process basically involves the identification of the clustering potential in the economy (the description) at the chosen level of aggregation, and designing policies and instruments to promote the identified potential (prescription). The cluster analysis discussion provided us with the information of various analysis

approaches and analysis tools to utilize in the policy-making. The review of various practices in policy design and related policy instruments to address various initial conditions, which is identified by cluster analysis, provided us the lessons, which we will take into account and benefit from, in the field study, i.e. development of policy recommendations based on the outcomes of the analysis of the field environment.

2.4. Conclusion

Growth and success of small-firm industrial districts, which is characterized by groups of geographically concentrated interlinked firms that tend to collaborate technologically and/or strategically, in Europe – particularly in Italy during the 1960s and 1970s (Becattini, 1990) – has been subject to intense scrutiny by researchers and policy-makers responsible for industrial and regional policy (Isaksen, 1998). This new type of industrial organization seemed to flourish despite the predominance of SMEs in the structure and the trends of globalization. Many studies have been conducted on the characteristics that form the basis for the competitiveness of these structures. The regionalization concept, defending the idea that "the enduring competitive advantages in a global economy are often heavily localized" has arisen as an explanation to the competitive characteristics. Rise of the "Knowledge Economy" concept, putting the innovation at the centre stage of the economic development and competitiveness, and putting the interaction between the elements producing and using knowledge at the centre stage of the innovation process, caused a more increased interest in the cluster concept, as the cluster type industrial organization entails effective interactive environment essential for the innovation process. Moreover, the predominance of SMEs in these competitive structures attracted the attention of the policy makers and researchers interested in developing SME support policies. Because, in spite of the great importance attributed to SMEs worldwide, SMEs are considered as being in a disadvantageous position at the global market invaded by large enterprises. With all these inspirations "cluster approach" has been utilized for designing regional economic development policies, industrial development support programs, SME support policies and innovation

policies (see European Commission Enterprise Directorate-General, 2002; Nadvi, 1995; OECD, 1999; World Bank, 2000).

All these inspirations, and through different applications adding many other interests to pursue cluster-based policies, strengthened the place of the cluster concept at the research and policy-making area. It is utilized mainly for designing policies to provide support to businesses, and to initiate/create/promote clusters in specific areas, and, in the end, to enhance the competitiveness of businesses, sectors, regions and nations. The various studies conducted at different levels of aggregation, and with different policy and research interests, resulted with the different interpretations and typologies of clusters and accordingly, different policy instruments to address the specific issues. Whichever purpose, either as an analytical concept or as a key policy tool, the cluster approach is used for, the studies focus on the characteristics that form the basis for the competitiveness of the structure. Accordingly, these studies entailed the exploration of the properties that successful clusters have in common, and the competitive advantages these properties give rise to.

Throughout our review of applications and literature accumulated on the concept, we investigated these common features characterizing the cluster formula and their relation with the evidenced advantages this structure offers. This investigation is kept comprehensive enough, as that information is highly crucial for the cluster policy and analysis discussion, we examined afterwards. In sum, these common properties we identified include; the interaction and cooperation between the elements; the presence of supporting institutions and tailored infrastructure; specialization; and spatial concentration. The focus in the many analysis and ours is on the linkage between the element as that property is the main factor used in the identification of clusters and is the main feature contributing to the competitiveness of the structure.

The analysis of the common properties followed by the investigation of the competitive characteristics of the structure, which is also crucial as it draws the picture of the expected results of the policy initiatives, or the vision of these initiatives foreseen as the result of the cluster-oriented policy actions. After comprehensively making the desired situation clear, we investigated the cluster

policy-making practices, which entail the diagnosis or the analysis of the existing situation according to the cluster approach and developing policy responses to fill the gap between the existing and desired situation.

Cluster analysis and policy applications are explored in a comprehensive manner including different tools and approaches in the diagnosis or cluster analysis phase according to the characteristics of the target environment and different intentions; and the different policy responses and instruments developed to address various issues discovered in the diagnosis phase. While the differences are distinguished in different applications, a generalized policy definition is developed as "cluster policy should aim to develop a business environment that facilitates clustering, and improve the conditions of existing or potential clusters by addressing bottlenecks, needs and missing parts of the structure that hinders the realization of the advantages associated with clustering. Therefore, the provision or the improvement of the environment by appropriate cluster policy measures, will cause our (potential) cluster prosper by exploiting the claimed cluster benefits as much as possible." Following this definition, the descriptive, or diagnosis, phase, which is characterized by the stages of determination of need for policy intervention; analysis of the economy (at the decided level) in terms of its clusters; identification and mapping of clusters; the selection of target cluster(s), and identification of the policy needs, is investigated in various applications according to the intention, starting point and cluster interpretation of the researcher/policy maker. Accordingly, the outputs from diagnosis phase are: identified (potential) clusters in the economy and maps of those; the cluster potential of those structures and possibilities of promoting the potential; and existing situation of the structure in terms of strengths, weaknesses, development prospects and risks, historical realities, sociocultural factors, political economic and institutional framework conditions, as well as innovation capacities.

Therefore, the diagnosis phase of cluster policy-making, i.e. the cluster analysis, provides necessary information about the current situation, focusing on the cluster potential, and prospects for future, in accordance with the advantages delivered by clustering, to develop policy responses to achieve the results we stated in our cluster policy definition. The policy responses are basically oriented towards

promoting cluster potential and strengths and overcoming the weaknesses and addressing the needs and problems using the cluster approach. The discovered issues in the diagnosis phase put forward the rationale for developing policy responses, and according to these, the policy actions and instruments to be employed are designated. The examination of cluster policy applications and instruments is again conducted using a similar classification of common properties of clusters, as the environment that facilitates the realization of the clustering advantages; and of the advantages delivered by clustering, as the vision for the policy-making activity. Accordingly, the issues to be addressed by policy responses, i.e. policy rationales, are identified as missing of crucial elements, lack of a qualified labor pool, deficits in the knowledge base, lack of tailored infrastructure, and lack of identity and cooperative relations.

In the end, the above explained review is the comprehensive analysis of the cluster policy-making process and practices using the common properties and associated advantages as a framework tool to be utilized in the process. In that sense, the whole picture drawn in our review will provide us an insight into the concept and a guide to make use of in our field study, i.e. cluster analysis, and developing associated policy recommendations for our field.

Therefore, in considerable amount of successful applications, cluster approach is proven a useful benchmark for policies interested in creating/promoting similar competitive structures. An ever-increasing number of applications in developed and developing countries indicate to the design of higher quality policies and instruments adapted to very different initial situations as each application provides valuable information input for the following applications. In our analysis/review of the cluster concept, making use of the studies on successful practices conducted in different environments, we constructed a guide for our field study. With the logical framework constructed and the guide developed in the review, in the field study, we will adapt and implement the cluster policy-making process to our field by making use of the logical framework constructed and practical lessons drawn in the review of various practices; and design tailored diagnosis tools and develop policy recommendations based on our state of the art.

CHAPTER 3

METHOD

The chapter includes a comprehensive presentation of the purpose of the study, which is followed by an outline of the tailored cluster-based policy making process and the research method. The methods of data collection comprising the design and application of two-stage expert interviews and the enterprise surveys will also be presented.

3.1. Purpose

The present study investigates whether clustering potential could be identified in the geographical area within the boundaries of Samsun province, and if identified, how such a potential could be promoted through intervention measures. Development of policy recommendations for promotion of identified potential cluster is the principal goal of the study.

The cluster approach has been valued as an important analytical tool in regional economic development and industrial policy-making. Not only has it provided a means of understanding in greater detail the process underlying spatial development and the resources of an industry's competitiveness, it has also been an effective source of general policy information (Raines, 2002). More detailed and useful intelligence about a region/sector can be gathered using the cluster approach, to be utilized in the design of policies to support regional development and to

improve the competitiveness of the businesses/sectors/industries/regions (Bergman & Feser, 2002).

In the field study, we will apply the cluster approach to identify potential clusters in the geographical area within the boundaries of Samsun province, specify a potential cluster as the target by using various criteria, and develop policies and assistance instruments to allow it to develop into a successful cluster in the sense of the theory as we defined in our cluster policy definition. Therefore, our field study will represent a cluster-based policy development process, whose integral stage is the diagnosis, or cluster analysis. The logical framework of this process is given in the review part, and this part will be a guide for our practice. Of course, the application of the policy-making process will be adapted to our current situation, entailing some deficiencies such as lack of data, or the questions on the accuracy and recentness of the data. Specific constraints in our research such as time and financial constraints are also other factors that will affect the research process and implementation of the policy-making. That is, taking the initial conditions into account, we will adapt the cluster concept to our field, by making use of the logical framework constructed and practical lessons drawn in the review of various practices, and design tailored diagnosis tools and develop policy recommendations based on our state of the art by using our framework knowledge as well as creativity.

The purpose of our study is included in our definition of cluster-based policy stating that: “cluster policy should aim to develop a business environment that facilitates clustering, and improve the conditions of existing or potential clusters by addressing bottlenecks, needs and missing parts of the structure that hinders the realization of the advantages associated with clustering. Therefore, the provision or the improvement of the conditions by appropriate cluster-based support measures on a number of strategic issues, will cause our (potential) cluster to increase its prosperity by exploiting the claimed cluster benefits as much as possible.”

As it is clear in the above definition and the framework put forward in the review, we will follow an adapted cluster-based diagnosis of our research environment, entailing the process of initial determination of the need for policy intervention, and an analysis of the environment in terms of its clusters using an appropriate approach in the cluster identification, selection of target. Then, the

process will continue with the identification of the policy needs of the target by using our framework analysis of competitive characteristics and common properties of successful clusters contributing to those. The study will be completed by the development of policy and associated policy instruments recommendations oriented towards developing cluster potentials and strengths and overcoming the weaknesses and addressing the needs and problems identified in the diagnosis phase.
The method we will apply to reach our purpose and adapted policy-making process are given below in the procedure and method of data collection section.

3.2. Procedure and Method of Data Collection

As our research is characterized by the process of cluster-based policy-making, it will have two parts: first, the descriptive phase or diagnostic; and the prescriptive phase, i.e. development of policy responses to the needs and problems identified in the diagnostic. The comprehensive investigation of these phases by the examination of various practices is made in the review part. Making use of the framework constructed in the review part, we will adapt the process to the conditions of our field and research, essentially, without intervening in the logical sequence of the policy-making process given in figure 2.

Before going into the policy-making process, we should define the geographic boundaries of our research, as the constraints related to information, time and finance make us act in definite boundaries. While the author is aware that, it is not the geography that draws the borders of cluster, but the strength of the identified linkages, due to above mentioned constraints, we will define our boundaries and search for cluster potentials within borders, at least as a starting point. By “starting point”, we mean, the research will also include the search for whether strong linkages to the out of region could be identified, and if so, these linkages will also be considered in the cluster analysis and policy development. On the other hand, as it was made clear in the review, in practice, most of the clusters are circumscribed in a specific area; we feel, in some extent, safe for our starting boundaries. Our research area is confined with the Samsun city in the Middle Blacksea Region of Turkey. The

details about Samsun related to our research will be provided in the diagnosis phase, specifically in the stages of initial determination of need for policy intervention, identification of clusters, and selection of the potential cluster.

The diagnosis phase of the policy-making process requires extensive information about the research area as it was made clear in the review of cluster analysis. While some readily documented information in public statistics and reports are used, the main source of extensive information used in the analysis is the information gathered by two-stage expert interviews, and by overall scan of the enterprises involved in the cluster via enterprise survey, which is applied face-to-face with all of the enterprises involved in the cluster. First-stage expert opinion interviews are utilized for analysis of the sectors in Samsun's economy; selection of sector; and identification of potential cluster to be targeted by the cluster-based policy intervention. In the first-stage expert opinion interview, five experts from Samsun Chamber of Industry and Commerce, Small and Medium Industry Development Organization (KOSGEB), Samsun Industrialists and Businessmen Association (SAMSIAD), Organized Industrial Zone Directorate, and Kutlukent Municipality are attended. The information collected at second-stage expert opinion interviews, in which two experts from Samsun Chamber of Furniture-makers, Carpenters and Upholsterers and Kutlukent Municipality are interviewed, is used for in-depth analysis of the selected sector and identified cluster (for the list of experts interviewed with, see appendix B). The basic instrument used in the cluster analysis is the enterprise survey, which entails overall scan of the cluster. In the enterprise survey, 283 of totally identified 377 (potential) member enterprises of the cluster are surveyed. The information gathered via the survey is utilized for in-depth analysis of the identified cluster. The samples of two-stage interviews and the enterprise survey are provided in the appendices C, D, and E.

Like all policy-making practices, the skeleton of the research is the diagnosis of the policy environment, as it constitutes the source of information that the policy response will be based on. The diagnosis starts with initial identification of the need for policy intervention. At that stage, the country and region-specific information, which leads us to decision of appropriateness of cluster-based policy intervention is

given. The employed tools for that stage are the scan of statistics and reports on Samsun region, as well as the first-round expert interviews. In these interviews, region-specific, industry-focused information is collected as well as information on the activities and missions of these organizations.

The information collected at that stage serves also for the identification of the clusters, according to our cluster approach, of the region, which is analyzed in the section 2.3.2.1.2. In our study, we utilized the "*clusters as sectors*" approach, due to lack of data, presence of which would lead us to pursue cluster identification methodology including no pre-determination, but entailing the overall scan of the economy by using the I/O data to identify the potential clusters, as the author sees that method more reliable. However, it should be mentioned here that, the linkages to the related sectors/business groups is also assessed in the analysis of the identified and selected cluster, to eliminate possible risks of non-inclusion of important elements in the structure. Therefore, at the starting point, the definition of cluster to be utilized in the field study is "clusters as geographically proximate groups of companies, which belong to the same sector, and institutions in a particular field, linked to each other by commonalities and complementarities in a value-adding production chain". As it is evident in the definition, the level of aggregation the concept is studied is essentially micro.

The information collected at that stage serves also for the selection of the (potential) cluster among the identified ones, that will be the target of the cluster-based policy (the cluster analysis review, section 2.3.2.1.4.). The selection criteria is tested in the expert interviews and the selection of the target is made using the applied criteria included in the design of the interview questions, which is parallel with the criteria defined in section 2.3.2.1.4. This identification and selection process, at the same time, lets us comment on the appropriateness of the concept to our conditions, i.e. the presence of preconditions to conduct such a cluster study. Here again, the lack of statistical data did not let us employ statistical comparison of the indicators of the criteria, hence we utilized the expert opinions for the selection. Therefore, by using the results of first stage expert interviews, initial identification of the need for policy intervention is carried out by reviewing Turkey and Samsun specific information related to industry, SMEs, previous related studies, cluster

potential and existing policies. That stage is followed by the analysis of Samsun's economy in terms of its potential clusters (sectors); the selection of the target sector; and identification of the potential cluster to be the target of the policy-making. Accordingly, the sector selected via applied criteria is the furniture sector, and the potential cluster identified is the Kutlukent Furniture Cluster, which is geographical concentration of furniture-sector enterprises identified within the borders of Kutlukent town, including three "Small Industrial Estates" (KSS) and an "Organized Industrial Zone" (OSB).

Moreover, as a result of these interviews, a preliminary conclusion is made about the unreliability of official statistics, due to, as emphasized by the experts, the unstable economic environment characterized by fast entry and exit and the problems with the registration of start-ups data, as well as the exits; the presence of unregistered businesses, transactions and employees; incompleteness of some data etc. There are also questions about the accuracy of the data in such a fast-changing economic environment. Moreover, the problems about the sectoral classification of businesses, such as the presence of businesses registered under multi-sector name, inconsistency between the sector definitions of related public organizations, and the lacking logic in the sector definitions are other factors leading to the unreliability. All these problems with the official statistics make it impossible even to extract the data of how many enterprises is working in a specific activity sector. Our approach to overcome these problems are, first taking the statistics as approximate values, which should be verified through empirical studies such as expert discussions, surveys, etc., and second, if a considerable inconsistency is available, considering the qualitative data as the reliable one.

Therefore, the first-round expert interviews and scan of official data provided the necessary information to complete the diagnosis, or cluster analysis phase until the stage of "second stage in-depth analysis" of the identified (potential) cluster. Following the identification of the (potential) cluster to be assisted by policy, the second stage in-depth analysis of the selected (potential) cluster is conducted. That stage is the integral part of the diagnosis, as it provides 'in-depth' information, on which the recommendation of policy responses will be based. Before the analysis of our (potential) cluster, an initial investigation of the furniture production process is

made, to provide us the technical information to develop an insight about the furniture sector, which will guide us to design sector-specific interviews and surveys. The relevant information about the value chain the production chain of furniture is collected by the initial meetings with the sector-specific experts (from SCIC and Samsun Chamber of Furniture-makers, Carpenters and Upholsterers [Mobilyacılar Marangozlar ve Döşemeciler Odası]) as well as by the review of technical information resources. The collected information include information on products, markets, material inputs, the stages of production as businesses, inputs and outputs of the production stages, technology trends, the related sectors, etc. Using that information, second-stage expert interview questions are designed. At the second-stage interviews, the region-sector-cluster specific conditions are investigated, in terms of cluster potential; infrastructure; the presence of material suppliers as well as intermediate good producers in the region; relations between enterprises; business culture, social and historical conditions; sources of and attitude towards cooperation, experiences and platforms of cooperative activities, sector related public/private organizations and service providers; information resources; market and technology trends; business trends; products; scale composition; employment; production etc. The interviewees are also asked about their perception of critical needs and problems of the structure. The information about the sector-specific activities and tasks of the relevant organizations is also collected. The investigation at that stage also includes the verification of the appropriateness of the selection of cluster by the expert opinions. That is, the information collected at each stage also informs the accuracy of the information collected at a previous stage.

While the selection of the sector and identification of the target (potential) cluster are made in the previous stage, the boundaries of the cluster is also verified at that stage as the experts interviewed have first hand knowledge of the furniture sector. Accordingly, the borders of the (potential) cluster are verified as the Kutlukent town, which comprises three KSSs and an OSB within its borders showing a dense agglomeration of enterprises. While, the borders specified by the Samsun city is another option, again, due to our time and budget constraints, the target is identified as the furniture manufacturing sector in Kutlukent, of course, without missing the essence of the cluster concept, i.e. the linkages. In that sense, in the

analysis of Kutlukent furniture cluster, the links to other localities will also be assessed and utilized in the development of policy recommendations.

This phase of analysis and information collection also indicates the point that, no reliable sector-specific data is available in the records of related public institutions, since the update of the registries is not done properly, and the entry/exit without registration/erase is widely common among enterprises. The president of CFCU, also emphasized the possible strong bias in the available data. Hence, not all the questions could be replied appropriately in the inteviews. All these deficiencies indicate the necessity of a comprehensive survey for drawing the picture of the cluster profile, which is very essential for our analysis. Therefore, following the second-stage expert opinion interview, the required stage is the scan of the whole cluster by appropriate surveys. The information to be collected by these surveys is especially crucial, as it will provide us the reliable statistical data with the overall scan of the cluster, as well as the qualitative data, which will be the basis of our cluster-based policy recommendations.

The collected information in the second-stage interviews together with the technical review of furniture making process, becomes very beneficial for the design of the surveys and for the scan of the whole cluster. The surveys are kept short enough to be applicable and designed just to collect the information remained missing in the previous interviews.

The survey groups are classified into three categories according to their relation to the core business of the cluster, the furniture making, by making use of the technical information acquired about the furniture production. These are, the primary business branches of furniture making, the suppliers of materials, and the secondary business branches producing the materials as inputs to the furniture production (for the list of businesses in three categories see section 4.3.1.1.4). For each of the categories a separate (but similar) survey is designed. In addition, for each primary business branch a separate (but similar) survey is designed, due to the nature of the questions (for survey samples, see appendix E). Moreover, the geography is separated into five segments representing, the Kutlukent region, the 1st (old) KSS region (where exists a smaller agglomeration of furniture-sector enterprises), Samsun

(outside of Kutlukent and 1st KSS), Turkey (outside of Samsun), and the world (outside of Turkey) (see figure 10).

As it is evident in the survey samples, the information, which will be utilized as the major source in the design of policy recommendations, investigated by these surveys include:

The branch of enterprise (what it does?): to draw the cluster-specific picture of furniture production including numbers of enterprises in each production branch, as well as their geographical position; the depth of the cluster; geographical identification of agglomeration.

The products and where (and how) they sell them: to identify the products as outputs from different stages of furniture production chain; the end product scope of the chain; marketing methods and habits as well as the market areas; trends in market; to fill the outputs part of the cluster-specific picture of furniture production; the analysis of forward ties.

Inputs and from where they buy them: to identify the (material and intermediate good) inputs to the stages of production; the localization/self sufficiency of cluster production process; the regions our cluster related to/depend on; the analysis of backward ties.

Ownership of the workshop: rent or own; the possibilities of moving for creation of branch-grouped furniture industry site instead of being dispersed along the region.

The capacity usage: the trends of performance; the factors affecting the trends.

Membership to an artisanal organization: the sector related organizations, and effectiveness and efficiency of them; attitude of the enterprises towards them; the conditions of being registered/unregistered; the conditions of being organized; the key roles in cooperation.

The level of trust: the informal relations between the actors; attitude towards cooperation; the view/awareness of collaboration benefits; the social characteristics of inter-firm linkages.

The needs and problems of the cluster: to weigh the pre-defined (in the second-stage expert interviews; by inspired from cluster concept); additional needs and problems specified by the surveyed enterprises; the pre-defined needs and problems are related to deficiencies in suppliers, producers of intermediate goods, service providers,

training facilities, qualified labor, marketing/promotion facilities, technological assistance, financial support, R&D and design facilities, management training, other infrastructural elements (drainage, clean water, surrounding planning, security etc.); the investigation of the awareness and sensitivity of the enterprises about the conditions that could be identified as a weakness of a cluster, such as, the lack of cooperation and collaboration between enterprises, lack of identity, geographical dispersion; the missing, in-need links in the cluster value chain; the answers give idea about the business culture, management skills and sensitivities, innovation perception as well as socio-cultural conditions of the elements involved in the structure.

As it is evident in the above explanations of collected information, at that phase it is aimed to acquire necessary (and complementary) information to identify the cluster potential in the identified structure, the general cluster-specific information as well as information about the needs and problems of the elements of identified structure. The emphasis on the investigation of the cluster potential is forming the essence of the cluster-based policy-making process, and the other policy relevant information will be utilized as a complementary source to develop policy recommendations. The assessment of the specific needs and problems of the involved elements is perceived as highly crucial, as the developed policy responses, at the first instance, should address these specific needs and problems of the actors, which are the target of the policy. Moreover, as in time, the policies are evidenced to be able to address these specific issues identified, the confidence of the stakeholders in the cluster-based policy initiatives will be enhanced, which is highly crucial for the sustainability of the developed policy.

The results of this survey also let us draw the profile of the potential cluster in terms of involved entities; the numbers of the businesses in related production branches; products (or outputs); inputs; the forward and backward links; the business culture as well as socio-cultural conditions, which is very crucial information, but not being accessible in the databases of the related public institutions. The resultant picture is the profile of Kutlukent furniture cluster with the material and immaterial aspects identified as well as the geographical position.

The method followed in the survey is the face-to-face interviews with the target enterprises involved. This face-to-face contact has proved beneficial, as the information collected by these interviews was more than the survey questions intended to receive, which improved the output quality and value of the survey. In addition to that, the inclusion of the questions on the trust, cooperation potentials, and potential benefits of collaboration are made purposely, to let the interviewees think of the possibility of cooperation and the possible benefits associated with it. In that sense, besides being a basic tool in developing cluster-based policies, these interviews could be perceived as an initial stage of the cluster and network promotion policies.

Some of the enterprises could not be interviewed due to various reasons. The production branches and places of these enterprises are also noted in the field so as to draw a true profile and map of the cluster.

Therefore, as it is evident in the analysis and methodology above, the second stage in-depth analysis of the cluster is highly parallel with the model one reviewed in the review section, 2.3.2.1.5.

The diagnosis phase consisting of the four stages namely, initial identification of the need for policy intervention, identification of the (potential) clusters (sectors), identification of the target (potential) cluster for policy action (and mapping of it), and finally, in-depth cluster analysis of the target, provided us with the information to identify the policy needs of the structure and to design policy recommendations and instruments using the cluster approach. The instruments employed in the diagnosis process are two-stage expert interviews and a face-to-face survey with all of the enterprises in the structure. Therefore, at that point, we have the required information for the prescriptive phase, i.e. developing policy recommendations.

We reviewed different policy initiatives and instruments developed in various applications of cluster-based policy-making in chapter 2. As it is evident in the comprehensive definition of cluster policy, the policies and instruments are developed with the aim of promoting cluster potentials and strengths, and overcoming the weaknesses and addressing the needs and problems using the cluster

approach. The diagnosis phase put forward the initial situation of our structure in terms of cluster potential assessed by mainly using the common features of clusters, showing “what is available”. The information collected in the diagnosis of the policy target, together with the reviewed benefits associated with clustering, also contributed to the development of the notion of “what could be achieved? and where do we want to go?”. Therefore, our policy goals are defined in terms of benefits, which arise from the process of clustering. The review of the benefits associated with clustering provides us with an essential benchmark, showing where our policy intervention aim to achieve, in accordance with the initial situation and potential explored in the diagnosis phase.

Having all these information about the existing and desired situation, as well as the information of different cluster-based policy-making practices, we are confidently at the descriptive phase, developing policy responses; with a chance of learning from the cluster-based policy-making experiences gained in different initial conditions, which is reviewed in section 2.3.2.2. The design of policy recommendations will be the last part of our field study. The collected information in the diagnosis phase will be evaluated to develop policy responses. The policy recommendations will be a few but well grounded. The response will include the identification of the specific policy goal, and the recommendation of policy instrument to achieve this goal, by making use of the experiences accumulated in the cluster-based policy-making area. In figure 1, the whole procedure applied in the field study is presented.

CHAPTER 4

RESULTS

This chapter includes the first stage of the field study, which comprises the implementation of cluster-based policy-making process in the geographical area within the boundaries of Samsun province, i.e. the descriptive stage. The findings of the research conducted in the field are presented in accordance with the logical sequence of the cluster based policy-making process as reviewed in the section 2.3. The descriptive phase, or cluster analysis, starts with initial identification of the need for policy intervention, which is carried out by reviewing Turkey and Samsun specific information related to industry, SMEs, previous related studies, clustering potential, and existing policies. That stage is followed by the analysis of Samsun's economy in terms of its potential clusters (sectors), the selection of the target sector, and identification of the potential cluster to be the target of the policy-making. The descriptive part is completed by the in-depth analysis of the identified potential cluster (Kutlukent Furniture Cluster). The relevant background information that is required for the descriptive phase, including clusters and Turkey; research area: Samsun; furniture production; and the global and Turkey-specific conditions of furniture-making sector, is also given in this chapter.

The results of analysis of the identified cluster, which is presented in this chapter, provides the necessary information to identify the policy needs of the structure and to design policy recommendations and instruments using the cluster approach, which stage is the final stage of the field study to be presented in the concluding chapter.

4.1. Initial Identification of the Need for Policy Intervention

In this phase of cluster-based policy-making, the rationale for pursuing a cluster-based policy in Turkey and Samsun specific conditions is revealed by the assessment of the appropriateness, necessity, and prospective effectiveness of the cluster-based policy intervention in these conditions. Therefore, this section entails the review of Turkey and Samsun specific information related to industry, SMEs, previous related studies, clustering potential, and existing policies. In the last sub-section, rationale for and appropriateness of pursuing cluster-based policy in the revealed conditions are presented.

4.1.1. Clusters in Turkey

When we look for the traditional industry structures in the Turkish history and the former Ottoman Empire, we discover cluster-like industrial organization structures called “lonca”. The lonca type industrial organization was formed of artisans and sellers belonging to the same industry branch. This structure was characterized by high level of interaction and cooperation as well as commonality and complementarities between the entities involved, just like clusters. The informal hierarchy-like ties was prevailing in the structure and these “lonca”s were representing a monopoly in its industry branch at that region. They had specific formal governance structures and all the members had to act within some definite norms. In that sense, the members of the lonca had a strong shared identity, shared values, norms and the rules they had to obey. While this organization type was also evident in the middle ages of the Europe in the pre-capitalism period, these structures were particularly prevalent in the Ottoman economy and were claimed to be the basic axis of the Ottoman economy. They were so prevalent that, at the 17th century, Evliya Celebi recorded that, in Istanbul 260.000 people were members of “lonca”s, whose number was about 1.100 (Pamuk, n.d.).

While these traditional industrial structures have some basic differences with the clusters, they could be perceived as the ancestor of the cluster type of industrial organization, or the clusters could be perceived as the contemporary extensions of

"lonca"s, when we consider the shared common features. The prevalence of such cluster-like structures in Turkish history points to the historical basis for the possibility of the presence of the micro-level cluster-like structures in the contemporary Turkish industry. Today, similar structures of cooperative industry culture could be found in traditional covered bazaars and "arasta"* structures mostly belonging to traditional industries, perhaps presenting lower levels of hierarchy than the traditional "lonca"s. Therefore, these historical industrial organization structures and business culture associated with them provides us evidence about the presence of similar structures in the contemporary Turkish industry. For instance, the establishment of the public artisanal chambers could be perceived as the formal extension of these structures as these associations, each of which represents one or a few related industrial sectors, also aim to promote collaborative relations among its members and find common solutions to the shared problems. While there are many other purposes associated with the establishment of them, they basically provide and effective platform for the promotion of constructive dialogue between its members operating in that specific sector(s).

In addition to the appropriate historical background, the national policies related to the locations of industry are stimulating the formation of agglomerations of similar-sector enterprises, which is an integral feature of the cluster structure. Due to the social, economic and urban planning concerns, the enterprises in the manufacturing sector are encouraged to locate in the appropriately planned "small industrial estates" (KSS) and "organized industry zones" (OSB). These places are planned and managed according to different regulations and incentive methods to encourage appropriate enterprises to locate in these areas. The basic aim is to provide the enterprises with an effective business environment that contributes their competitiveness and eliminates the drawbacks related to infrastructure, bureaucracy etc. As these locations are the places of agglomeration of enterprises, they form an environment that the clusters are likely to emerge (or exist) in by market-induced mechanisms depending on the ability of the entrepreneurs to recognize the opportunities associated with basically the Marshallian externalities. The number of

* arasta: Industrial structure composed of interrelated small workshops of the same or supporting business branch located at the same street.

KSSs and OSBs are increasing by new establishments, and these structures are continued to be one of the major instrument for industrial policy of Turkey.

In addition to the research on traditional "lonca"s of Turkish industry, there is also some research on the similar patterns of collaborative industrial activity in several regions of Turkey. Özcan (1995) examines Denizli, Gazientep and Kayseri cities as the three illustrative regions for analyzing small firms and local economic development. In her work, in an attempt to explore the anthropology of entrepreneurship in Turkey, she analyzes the inter-firm interaction and collaborative activities among the enterprises as well as the sources of the interrelations in these three regions. Strong evidences of collaboration between the enterprises are identified. As the source of relationships, she distinguishes the importance of family ties, kinship, ethnicity, friendship, hemşerilik[*], as well as political and religious aspects. Hence, by her surveys, she identifies industrial structures characterized by high level of interaction as an evidence of clusters (though she does not use the cluster concept), and she calls these structures as quasi-networks (Özcan, 1995).

Predominance of SMEs in the clusters is evident in various definitions and applications of clusters. Moreover, cluster approach is utilized as a tool to assist SMEs to overcome disadvantages associated with their modest scale of operations, i.e. for designing policies to support SMEs. In many of the cluster policy applications, especially the ones conducted at developing countries, the basic motive for policy makers is the provision of assistance to SMEs to address the disadvantages of small scale and to make them cope with the global competitive forces (Nadvi & Schmitz, 1994). These policy initiatives are developed basically with the recognition that the SMEs are integral to social and economic development and they can play a key role in triggering and sustaining economic growth and equitable development in industrial development strategy. As it is the case with the rest of the world, SMEs are the most vital organs of the Turkish Economy. In general, the data that quotes the number and prevalence of SMEs in the Turkish economy is based on the data collected in 1997 by the State Institute of Statistics (www.die.gov.tr). According to the data, 99.5% of the manufacturing units are SMEs in Turkey. This rate is not

[*] Hemşerilik: The situation of being from the same province/town of the country, for people.

significantly different from that of the European Union (EU) with 95%. Though not entirely consistent, according to the various sources of information, the potential of SMEs to generate employment varies between 56% and 63.5%. SMEs are the most important employment generating units in EU also, as, of those working within the manufacturing sector, 62% are employed by SMEs. However, when the performances of the Turkish and EU SMEs are compared, a great difference is evident. As an indicator, when the percent of total value-added created by SMEs is compared, while that value is equal to %81 in EU, in Turkey, that rate falls to 32.3%. Another significant disparity is noted in the capacity utilization numbers: while EU SMEs works at 80% capacity utilization on average, the value for Turkish SMEs is only 25%. In addition to these, as another indicator, the SMEs of the EU take up 45% of the total credits, while the corresponding rate for Turkey is just 4%. Given the Turkey's successive economic crises, the accuracy of the above data, collected mostly in the 1990's has probably deteriorated further, following the February 21st crisis ("*İşletmelerin yüzde 99'u KOBİ*", 2002). As these disparities are evident, the provision of support to the SMEs in Turkish Economy is attributed great importance and various technological and financial instruments developed for the provision of support. Since 1996 was announced as SMEs year in Turkey, the situation of SMEs in Turkey has been handled by great attention. The importance of SMEs in addressing the triple challenge of more growth, greater competitiveness, and more jobs has been brought into ever-sharper focus over the past few years (Kuruüzüm, 1998). The necessity of effective integration of the Turkish SMEs to EU economic area also stresses the importance of SME support policies to increase the competitiveness of the Turkish SMEs to make them stand the global competitive forces. While various public policy instruments are employed to support Turkish SMEs, the desired level of competitiveness could not be attained, and the problems related to finance, marketing, management, and quality are prevalent among SMEs of Turkish industry (Kuruüzüm, 1998). See Kuruüzüm (1998) and KOSGEB's web site (www.kosgeb.gov.tr) for more information about the problems of Turkish SMEs.

The great number of the SMEs in the Turkish industry and the prevailing problematic situation associated with them points to the importance of the development of specific policies to support the SMEs' competitiveness. While, there

have been developed various policy instruments to provide assistance, the cluster approach for the design of policies is not utilized by the policy makers explicitly or implicitly. That fact is evident as the identification of clusters in the Turkish Economy is very recently done by several researchers (Akgüngör, 2003).

A pioneering attempt to identify and analyze industry clusters in Turkey is done in the context of "Competitive Advantage of Turkey" (CAT) project, in association and consultancy with the Centre for Middle East Competitive Strategy (Akgüngör, 2003). The initial attempts aimed at studying the regional concentrations of industries being inspired from the mega-level cluster analysis applications. The attempts focus on identifying national cluster templates by examining buy-sell relationships across industries through input-output based analysis. As a result of these studies, six national industry clusters are identified (Akgüngör, 2002), and national cluster templates and regional specialization patterns are constructed. The complementary study by Akgüngör (2003) was conducted aiming to investigate further regional concentrations of cluster templates and to identify high-point industries within the identified regional clusters. Moreover, in the study, classification of the clusters according to their potential for decline or growth in each of the geographical regions of Turkey is provided. While these initial studies provide valuable policy information for the regional development efforts, as the Akgüngör (2003) herself notes, the research should be expanded in order to explore the clusters at the micro level and further explore formal and informal ties across the industries and institutions. Therefore, these efforts should be complemented by micro-level studies to provide the concrete region/locality specific information to be utilized for the development of cluster-based assistance policies to address cluster/industry/region specific issues explored.

Therefore, the literature on "lonca"s as the historical cluster-like structures of this geography together with the contemporary OSB and KSS industrial location policies fostering agglomeration of enterprises provides us evidence about the relevance of the cluster approach under our country-specific circumstances. The research conducted in three regions of Turkey also reveals the presence of cluster potential in terms of high-level inter-firm interactions, as another evidence of the

potential of the cluster approach for Turkey. The importance and urgent-support-needing conditions of SMEs in the Turkish economy is also an encouraging factor to utilize the cluster perspective in designing support policies, as the effectiveness of the cluster-based policies is verified in many applications conducted in highly varied initial conditions. All these potentials offering opportunities related to clustering in Turkish economy, as well as the urgency of new SME support policy development informs that the cluster approach could and should be utilized for planning of support to businesses as well as designing policies to develop the business environment to promote the competitiveness of enterprises and regions. The cluster concept starts to invade first the research area and the initial attempts to utilize cluster approach at the mega level in Turkish economy provides a beneficial starting point for further investigations to serve for the cluster-based policy initiatives. Probably, complementary micro-level cluster analysis applications will start to be accumulated through the following years, and in time, by the effort of researchers, the cluster approach will have an important place in the public policy-making practices in Turkey.

4.1.2. Geographic Boundaries of Research: Samsun Province

Samsun is located in the Blacksea Geographical Region of Turkey. It is among the big provinces of Turkey with a population of 1.209.137 (Dincer, B., Özaslan, M., & Kavasoğlu, T., 2003), ranked 14th among 81 provinces. According to the research on socio-economic development level of the provinces by State Planning Organization (SPO) (Dincer, et. al., 2003), Samsun is ranked 32nd among 81 provinces, which was 35th according to 1996 research. The development performance of Samsun according to various indicators is given in Appendix F.

While the rankings according to different indicators show considerable variation, the importance of the province in the Blacksea Region is clear by the statistics indicating the ranking of 4th among the 18 provinces. When the middle and east part of the region is concerned Samsun is ranked first according to socio-economic development level. While this is what the various indicators show, the importance of the city is especially due to its geographical position and specific geography providing it a comparative advantage against other provinces in Middle

and Eastern Blacksea Region. Unlike the other provinces in the region, Samsun has a plain geography leaving a suitable area for its people for settlement and investment. It has the greatest population among the provinces in the Blacksea Region. Moreover, its geographical position makes it the first sea gate opening the Blacksea Basin and also the first land gate of the Blacksea region opening to Central Anatolia region. That position makes Samsun advantageous for trade activities.

When we consider the important economic indicators given in Appendix F, while Samsun is 14th in terms of its share in gross domestic product, when the gross domestic product per capita value is concerned, it is ranked 34th among 81 Turkish provinces. When we consider the employment data, the rate of employment in agriculture to the total employment in Samsun comes first with 63.37% (ranked 37th among 81 provinces). While, the share of the industry in total employment is 6.86% making Samsun to 40th, according to the employment rate in trade, Samsun comes 20th, with 7.87%. When the Turkish average is concerned, trade seems to be the driving sector in Samsun, together with the traditional agriculture sector due to Samsun's geographical position in the productive delta of Yeşilırmak and Kızılırmak rivers. However, we need to note that, the fertile lands of the delta are invaded by the industrial investments more and more, decreasing the value added of the agriculture sector for Samsun.

When the population parameters are considered, the average annual rate of increase in population from the year 1990 to 2000 is 4.04‰ (ranked 62nd among 81 provinces). With that level, it is ranked last among 18 provinces of Turkey with a population more than 1 million according to year 2000 statistics. While an increase of 18.61‰ is evident in the urban part of the city, the decrease in the rural population is considerable with -9.94‰. The rate of increase in the population of the city centre is greatest with the level of 16.88‰. The reason for that situation is reported in the Samsun Economy Report 2003 as the migration from the rural parts of the city to the urban, and the greatest share of this migration is to the city centre. Moreover, it is also noted that migration from the other provinces of Blacksea Region to the Samsun city centre is evident in the last years. This migration from the rural to urban brings about a need to open up new employment generating industry facilities, as it is widely emphasized in the meetings of the economic authorities of Samsun. However,

currently Samsun is not in a position to handle that requirement. On the other hand, when the average annual rate of increase in Turkish population is considered (18.28‰), Samsun and the Blacksea region is faced by an out-migration to the other regions of Turkey. The low level of manufacturing industry development (28th among 81 provinces) indicating the lack of industry enterprises to hire educated high-qualified labor brings about the out-migration of Samsun's own qualified manpower to the other developed regions of Turkey like İstanbul, İzmit, İzmir and Ankara. Therefore, the need to improve the industry development level of the region is again clear to generate employment for the newcomers and to avoid the out-migration of qualified labor by turning the region into an industrial attraction zone.

The interviews with the experts revealed that, while the trade is a kind of traditional sector in Samsun, the decrease in the value produced by trade sector has lead the economic authorities of Samsun to emphasize industry sector as the priority of support. Hence, Samsun is thought to turn into o province of industry rather than trade, as a vision of governing institutions. The investments in industry in the last two decades reveal that vision more precisely. At the center of the public investments, the establishment of the Small Industrial Estates (KSS) and the Organized Industry Zones (OSB) could be distinguished. In terms of the number of parcels in its OSBs, Samsun comes 21st, while in terms of number of workplaces in KSSs, it comes 9th. While these rankings seems promising for the Samsun industry, according to the per capita value added of manufacturing industry, Samsun is ranked 45th among 81 cities while the ranking increases to 28th when the manufacturing industry development level is concerned. One reason for that could be the low levels of fullness in KSSs. According to 2003 statistics, the fullness in KSSs is around 50% on average (Samsun Economy Report, 2003). The main reason for the low level is the infrastructural problems of newly established KSSs in the east part of the Samsun.

Because of the lack of accurate data about the sectoral composition of Samsun's industry in terms of number of enterprises and employment, we will just provide a list of the important sectors of Samsun. The reasons for the inaccuracy of the data were explained in the methodology section. The important sectors (according to the classification of Samsun SCIC) of Samsun are food-beverage-

tobacco industry; wood products and furniture industry; textile and leather industry; metal good, machine and equipment casting industry; chemicals-petroleum-rubber plastic materials industry. The enterprises in these industries are mainly situated in OSBs and KSSs. A total of 16 KSSs, 5 of which is close to the city centre, and 3 OSBs, 1 of which is close the city centre, exist within the boundaries of Samsun. The biggest KSSs are the ones close to the city centre. The location of industry around the city centre could be thought as two parts. The first part is very close to the city centre, comprising two KSSs, and the second part is 10 kilometers away from the city centre and composed of three KSSs and the OSB. Therefore, these areas form agglomeration areas made up of various sector enterprises. Some data about these KSSs is given in Table 4. While, the three KSSs in Kutlukent town (İlkadım, 19 Mayıs and Örnek KSSs) were established with an intention of shifting the industry enterprises of the city centre to this area, the infrastructural problems prevailing in these KSSs avoid these enterprises moving to the area. The specific problems of these KSSs will be discussed later on as they fall within the boundaries of our (potential) cluster. In addition, none of the three KSSs achieved its full capacity.

Table 4. Information about five KSSs close to city centre (Samsun Economy Report, 2003)

Small Industrial Estate	**Establishment date**	**Number of workplaces**
19 Mayıs KSS	2001	1162
Örnek KSS	1995	582
İlkadım KSS	1995	678
Gülsan KSS	1982	780
Samsun I. KSS	1974	486

In Samsun, all of the private enterprises are micro, small or medium-sized (see Table 5) (according to the EU definition of SME – employment <= 250), while the state-owned economic enterprises (KITs) including Karadeniz Cupper Company, Ballica Cigarette Company, Nitrogen-fertilizer Company, and Carsamba Sugar Company are large-sized. While these public initiatives are established by considering its potential contribution to further establishment and development of

SMEs in the area, these large initiatives did not bring about the expected benefits and they are planning to be privatized. The privatization process of Karadeniz Cupper and Nitrogen-fertilizer companies has been initiated recently. In Samsun Economy Report 2003, the reason for not being able to achieve the desired level of acceleration within industry is noted to be the agriculture and trade sector being superior to the industry initiatives as the business culture of Samsun's entrepreneurs as well as the lack of qualified labor to be employed in industry. However, it also noted that especially in the last decade, the entrepreneurs and industrialists in Samsun are increasingly interested in the new industry business opportunities that will open them to export market by utilizing the opportunities of the geographical position of Samsun offers, such as the commercial port and proximity to the developing Turkish Republics of the former Soviet Union, the presence of free trade zone etc. In their initiatives, they are also supported by the public institutions such as KOSGEB, SCIC, governorship, and municipalities. That is, Samsun is planned to be made a forerunner industry province as a priority by public planners, and investments in infrastructural facilities are continuing for that purpose (Samsun Economy Report, 2003).

Table 5. Scale composition of Samsun's SMEs (source: Samsun Economy Report, 2003)

Number of employees	**Total number of enterprises**
1-9	3.502
10-49	100
50-99	12
100-199	6

Samsun has considerable export and import levels among the other provinces of Turkey. According to 1995-200 data, in terms of export amount per capita Samsun is ranked 29th, while the rank according to the import amount per capita is 17th (Dincer et. al., 2003). Various public incentives are employed to develop the export level. The major national markets of Samsun's industry are Eastern and Central Anatolian Geographical Regions and the Eastern and Middle Blacksea Region of

Turkey. When exports are concerned, the major markets are the Turkish Republics of the former Soviet Union, Germany, Russia, China, Italy in the order of export amount. The major exported goods include agricultural products, ore, chemicals, forest products, sea products, machinery and equipment (Samsun Economy Report, 2003).

As a result, Samsun is considered to be the trade and industry center of its region. Its geographical position gives it comparative advantages in agriculture, trade and industry. Being the major entrance gate of the Blacksea region, as well as effective transportation infrastructure including highways, airport, seaport (and a free trade zone) and railway constitutes a great strength for the trade and industry of Samsun. The investments in organized industry structures offer another advantage to Samsun contributing to the value crated by the industry. However, as it is noted by the economic authorities of Samsun, the province could not fully exploit the opportunities associated with its position and infrastructure highly conducive to industrial development. As the industry being the priority sector for the province, the public investments and incentives on the industry sector is expected to be increased in the following terms.

4.1.3. Need for Policy Intervention

The above analysis of the policy environment at the national and regional level entails the overview of the national and regional economy from a cluster perspective. This overview provided us with the relevant information to carry out the first phase of the cluster policy-making process, i.e. initial identification of the need for policy intervention. At this phase, the rationale for pursuing a cluster-based policy in our country and region-specific conditions is revealed. This includes the assessment of the appropriateness, and prospective effectiveness and necessity, of the cluster-based policy intervention for our specific conditions.

In most of the applications, cluster approach is utilized as an instrument for designing regional economic development policies. Cluster-oriented assistance policies are also applied as a part of industrial development policies and SME support policies. Especially the ones conducted at developing countries, the basic motive for policy makers is the provision of assistance to SMEs to address the

disadvantages of small scale and to stand the economic trends of globalization. When we add to those, the rise of "knowledge based economy" together with "innovation systems" concept and the increased importance attributed to innovation capacities, the reasoning behind the wide spread application of cluster-based policies in many different economies is laid bare. Furthermore, the literature on the subject reveals that cluster policies have been proven successful in very different initial conditions. In our study, we applied this "common consciousness" as a starting point providing us a motivation.

However, as it is emphasized in many studies of clusters, for the cluster-based policies to be able to effective some initial conditions should be in place in the policy environment, as well as, of course, an identified need to pursue such a policy. We will describe the appropriateness of the concept to our policy environment using the overview of the policy environment we constructed in the previous sub-sections on Turkey and the region, Samsun.

Turkey specific conditions showing the relevance of the concept are:

- Traditional "lonca" structure and it contemporary extensions as "arasta", and associations, as well as OSB and KSS industrial location policies fostering agglomeration of enterprises points to potential for the existence of clusters.
- The research conducted in the three regions of Turkey reveals the presence of cluster potentials in terms of high-level inter-firm interactions, as another evidence of the potential of the cluster approach for Turkey.
- The urgent-support-needing conditions of SMEs, which are vital organs of the Turkish economy, and prevailing problems in spite of the various policies developed to support them is also an encouraging factor to utilize the cluster perspective in designing support policies.
- The process of integration of Turkish SMEs to the EU economic area causes them to be exposed to intense global competitive forces, which necessitates the small enterprises to unite their competitive forces to cope with this exposure. Moreover, the cluster policies pursued to promote the communication culture of the enterprises will also contribute to their

competitiveness level against their global counterparts by increased learning potential through interaction with rivals.

- As it is explained, the cluster concept is not totally alien to the Turkish research. Some initial attempts of mega-level cluster analysis are described before. The need of completing these mega-level studies with micro-level cluster studies constitutes another ground for our study.

Samsun specific conditions showing the relevance and necessity of our cluster study are:

- Samsun is in a position to support development of the manufacturing industry sector as value added of traditional trade and agriculture sector is decreasing. Moreover, the need of the generation of employment creating facilities to accommodate the migrants and the labor shift from the agriculture sector is another factor contributing to that necessity. The out-migration of qualified workers is also planned to be prevented by industry policy measures. In addition to that, the presence of active entrepreneurs and the opportunities that the geographic position and transportation facilities offer, indicates the industrial development potential of the province, which is not utilized fully, but planned to be utilized by industrial policy support.
- The other indicators showing industrial development potential of Samsun are the suitable geography of Samsun for settlement and investment; and the existing industry locations composed of 16 KSSs and three OSBs, which are not utilized to their capacity.
- While Samsun has such an industrial development potential, which should be utilized by public policy measures, the existing policies based on the privatization of KITs, and the strategies followed by KOSGEB and SCIC hardly succeed in utilizing this potential by addressing the specific needs and problems of Samsun's SMEs. These policy initiatives mostly lack a basic objective ground explaining the region-specific conditions to design policies upon.

- The micro and small enterprises constitute the majority of the enterprises in the industry of Samsun. However, they hardly benefit from the public support mechanisms mediated or provided by KOSGEB and SCIC. As it is expressed by all of the experts interviewed, their economic situation signals urgency as they are not able to cope with competitive forces of their larger counterparts in Samsun or in another regions, who benefit from the various incentives distorting the market conditions against the micro and small enterprises.

The above explained Turkey and Samsun specific conditions reveal the appropriateness of the cluster concept in our current situation. Moreover, above-summarized opportunities, threats, strengths, weakness, needs, and problems reveal the favorableness, in fact necessity, of pursuing cluster-based industrial development and SME support policies in our specific conditions, as we recognize in the framework part that the cluster approach is proven effective addressing the problems and policy needs of the existing situations similar to our particular conditions.

4.2. Selection of Sector and Identification of (Potential) Cluster

The second sub-stage of the descriptive stage of the cluster based policy making process is identification of cluster(s) in the research environment, and selection of the (potential) cluster to be the policy target. We reviewed various approaches in that sub-stage through the sections 2.3.2.1.2 to 2.3.2.1.4. In the field study, we use "clusters as sectors" approach for the identification of region's (potential) clusters and selection of the (potential) cluster to be the policy target. Accordingly, the analysis of the industrial sectors in Samsun's economy is followed by the selection of sector to be targeted by the cluster-based policy intervention. In the selection process, the applied criteria is basically developed to assess the importance of these sectors in terms of (potential) value added to the regional economy, and the clustering potential, which is identified by the existence of the common features of clusters in these sectors. Accordingly, furniture sector is selected as the target sector,

and the agglomeration of furniture sector enterprises in Kutlukent locality is identified as the potential cluster to be the target of policy-making. The details of the process are given in the following sub-sections.

4.2.1. Samsun's Industry and Identification of Sectors

The main features characterizing Samsun's economy are analyzed in section 4.1.2. As it was made clear, the trade, i.e. buy-sell, activities is a traditional sector in Samsun and majority of Samsun's people are used to earn their living on trade. Moreover, it is commonly declared by the economic authorities of Samsun that, until 1980s Samsun had been among the best 10 provinces of Turkey according to socioeconomic development level, mostly due to its trade potential. However that ranking is 32nd in the 2003 (Dincer et. al., 2003), indicating the decreasing value adding of the traditional trade sector in the changing conditions of national and global economy. On the other hand, due to its geography, i.e. its position between two productive deltas of Kızılırmak and Yeşilırmak Rivers, agriculture has been another traditional and important sector in Samsun through the decades. Nation-wide problems in agriculture are also prevailing in Samsun, resulted in the decrease in the value-added of this sector, and a movement of lower-quality employment from this sector to other sectors. While there have been some major investments to prosper this sector, the lack of overall long-term planning logic and policies caused the investments not turning into prosperity. Given that scenario, the economic authorities of Samsun recognize the investments to improve the industry potential of the region to solve the problems and address the needs of the region as high priority. Hence, Samsun is thought to turn into a region of industry rather than trade, as a vision of governing institutions. Specifying the industry as the priority of support, the advantages and competencies of the region in trade and agriculture is planned to be utilized in industry activities and to be improved by industry. These advantages are, summarily, presence of productive lands and agriculture potential; the geographical position making it a crossroad center in the Blacksea Region of Turkey with its effective transportation infrastructure (highways, airport, seaport, and railway) and the export potential to Asia due to that geographical position; and the presence of the regional university within the boundaries of the province. As it is noted by the

economic authorities of Samsun, the province could not have been fully exploited the opportunities associated with these advantages, and by the investments on industry, the region is expected to be developed by drawing upon these advantages and resources.

The major public interventions for these purposes entail the establishment of state-owned economic enterprises (KITs). These public investments include Samsun Feed Factory, Vezirköprü and Bafra Timber Factories, Ladik Cement Factory, Karadeniz Cupper Industry, Samsun Fertilizer Industry, Ballıca Cigarette Factory and Çarşamba Sugar Factory. These large-scale public investments were established by considering their potential contribution to further establishment and development private investments in related industries in the area. However, these large initiatives did not bring about the expected benefits. The expected start-ups and development of side-industries did not materialize. All of these KITs, except for Ballıca Cigarette Factory and Çarşamba Şeker Factory, are privatized or being privatized. The privatization process did not also result in the desired improvement in industry, and some of the privatized investments quitted their operations causing many employees become unemployed. Therefore, as it is stated in Samsun Economy Report 2003, these public investments did not give rise to desired acceleration in the development of regional industry.

Other public investments for the development of industry comprise the establishment of OSBs and KSSs. As a national policy, these areas are thought to be the center of industrial activity in regions. A total of 16 KSSs and 3 OSBs exist within the boundaries of Samsun. While, two OSBs and three KSSs are still under construction, others are active. Mostly due to the infrastructural problems, most of the KSSs are not working with full capacity. The five of the KSSs and one OSB are close to the centre, and these are the largest ones. Again, these public investments are not as effective as intended, but representing a potential for the development of region's industry as suitable locations of industrial development, given that the prevailing problems in these locations are solved.

Given this background and current situation of Samsun's industry, the forerunner industries of Samsun are specified in Samsun Economy Report 2003 (according to the classification of Samsun SCIC) as: food-beverage-tobacco industry;

wood products and furniture industry; textile and leather industry; metal good, machine and equipment casting industry; chemicals-petroleum-rubber plastic materials industry. The below information about these industries are accessed from Samsun Economy Report 2003.

Food-beverage-tobacco industry is based on the competency of the region on agriculture. The majority of employment in the sector is generated by KITs. The SMEs in the sector is mostly operating in the food industry branch. Flour and feed factories together with the enterprises producing sugared products are considered as important in this industry. The problems with producing fine quality end products and marketing channels is prevailing in industry, causing the low level of value added and insufficient utilization of the potential that sector promises for the region's industrial development.

Wood products and furniture industry is the sector that the majority of Samsun's SMEs are working in. There are many enterprises operating in the sub-branches of production. The major end products are furniture and woodworks for construction sector. An agglomeration of enterprises is evident in the newly established KSSs (İlkadım, 19 Mayıs and Örnek KSSs). The history of the sector in Samsun extends to 1950s (Ülker, 2004). The major problems of the sector are specified as with the marketing and technology. The lack of a specialized furniture industry zone is considered as another factor hindering the development of the sector in Samsun.

Textile and leather industry is considered as another important sector carrying a potential for the region's economic development. A number of SMEs producing end products are working in the sector. With a wishful thinking, by the investments on technology, equipment and trained workforce, the sector is expected to be one of the engine sectors of the region.

Metal good, machine, and equipment casting industry comprises medium and small-sized enterprises carrying export experience and potential. While the number of enterprises is not many, the employment in the sector is considerable. Besides casting and semi-finished product manufacturers, there are enterprises producing water pump, industrial kitchen goods, fuel and wood caldrons, and medical devices

as end products. This industry is considered as the most prepared and active industry in export activities.

Chemicals-petroleum-rubber plastic materials industry is another industry that the KITs were active. The recently privatized Nitrogen Industry (TÜGSAŞ) was established with the intention of utilizing and enhancing the agricultural potential of the region. However, the investments did not result in the establishment of side-industry for the manufacturing of agricultural products, as desired. After the privatization, the facility quitted production of nitrogen and laid off the workers in the factory. There are number of small and mid-scale enterprises producing rubber and plastic goods located in Samsun OSB. The industry is considered as promising for the region's future economic development.

The major industries considered in Samsun Economy Report 2003 as important for the economic development of the region are these industries. As it is evident, each is considered as promising, but not fully utilizing the potential associated with the available opportunities especially with the ones related to geographical position conducive to export activities. All these industry structure make Samsun 28th according to manufacturing industry development level among 81 provinces (Dincer, et. al., 2003). That ranking is desired to be improved in the following terms by the investments in OSBs, KSSs and export facilities, in promotion of the region in the national and international economic area for attracting the investments to the region, to be able to improve and fully utilize above mentioned competencies and opportunities of the region.

The author would wish to compare the industries of Samsun on the basis of quantitative indicators, basically such as number of enterprises, employment, and value-added of the industries. However, it is not possible to extract even the number of enterprises operating in these sectors in the records of the related public institutions namely SCIC and Samsun public artisanal chambers. These public institutions are responsible for keeping the records of the enterprises. However, these records are not reliable because of the reasons mentioned in the methodology section. What is more, even if the records were kept accurate, it would have still been impossible to extract the appropriate sectoral data, since the sectoral classification methods of these institutions differ considerably. Moreover, the division between the

artisanal associations and chambers often creates confusion. On the one hand, some small businesses have registrations in both the chambers and artisanal associations. On the other hand, any individual, not necessarily a small business or firm owner, can register with one or more artisanal association for different reasons, such as getting social benefits or certificates. This lack of systematic data registration makes national and local small business data unreliable. Better data collection should be developed in order to follow business patterns and guide policies. That situation forced us to employ qualitative information drawn from interviews and information gathered from the publications of SCIC. The phase of selection of sector as the subject of cluster analysis is, inevitably, based on these information.

4.2.2. Selection Criteria and Identification

The previous sub-section put forward the current situation in the forerunner sectors of the region. The information used in above discussion was qualitative based on the expert interviews and the publications of related institutions. Given above information, at that phase of selection of sector and identification of (potential) cluster in our "clusters as sectors" approach, in the first-stage interviews, experts are asked to evaluate the importance of these sectors in terms of (potential) value added to the region's economy and the cluster potential tested by the existence of the common features of clusters. The criteria employed for the evaluation are listed below. According to these criteria, the experts are to select and propose the sector as the subject of cluster analysis and cluster-oriented assistance.

Again, the lack or inaccuracy of the quantitative statistical data to evaluate the sector using these criteria, lead the author to utilize the expert opinions in the selection of sector and identification of potential.

The questioning could be thought of two parts. First, for the selection of sector carrying the greatest (potential) value for the region and carrying the greatest cluster potential, the experts are asked to evaluate the sectors according to below criteria. Following the selection of the sector, taking the spatial agglomeration of enterprises as critical evidence in identifying a cluster, the initial boundaries of the (potential) cluster is drawn.

- Ask opinion: Which is the region's most important industry branch? (in terms of (potential) value added to the region's economy), Which have the most priority?

The Criteria Employed in the selection:

- The number of enterprises involved
- The employment it generates and share in region's total employment, and the potential
- The presence of traditional markets and potential to access new markets
- The exports or export potential
- Historical background and rootedness (as an indicator of accumulation of skills)
- The existence of raw materials
- The presence of specialization, product span
- The presence/number of involved sub-sectors (at segments of production, the sector's depth & specialization)
- The span of linked industries (the impact of sector for others and as another indicator of value-added)
- The public and private investment on sector and access to services
- Geographic concentration of sector related firms and related organizations
- Presence of interactive business environment
- Presence of social proximity (common culture, social ties etc.)
- Level of technology and development potential in terms of technology trends
- Innovation potential

The evaluation of the region's forerunner sectors by experts according to above criteria indicates that the region's forerunner sector that will be the subject of analysis is furniture sector. Almost in all of the criteria, that sector is specified to have the highest value or potential value.

As it is mentioned, the next step includes the determination of the boundaries of potential cluster proposed by the experts. The boundaries are set by the evaluation of the answers to the question "at which geographic location the selected sector is evidenced to be concentrated?", i.e. the location of the agglomeration of enterprises in the sector. While two locations are declared as the agglomeration area, according to the size and the depth of the agglomeration of enterprises, the agglomeration in the Kutlukent is identified as the target potential cluster initially. Therefore, the subject of the analysis is defined as "Furniture sector (potential) cluster within the boundaries of Kutlukent Town, spread in three KSSs (19 Mayıs, İlkadım and Örnek Small Industrial Estates) and Samsun OSB".

While the author is aware of the commonly applied Location Quotients method to measure the spatial agglomeration as an evidence of clustering, again, the problems with the official registration of the statistical data and the inconsistency of sectoral classification used by related public institutions make the application of LQ method impossible. Then, we need to rely on the qualitative information provided by the experts.

The next step following the identification of the sector and (potential) cluster to be the subject of the policy, is the analysis of the identified potential cluster, i.e. as defined before as "second-stage in-depth analysis".

4.3. Analysis of the Identified (Potential) Cluster

After the selection of the potential cluster to be targeted by the policy, the analysis is complemented by more in depth analysis of the selected cluster's current situation in terms of cluster potentials and other concerns. The cluster structure is analyzed in more detail entering inside of all sectors/intermediary branches/business groups involved in the structure. The stages of the cluster value chain and relationships between them is revealed and analyzed in detail. The basic concerns are more detailed identification of evidence of cluster potential, i.e. the presence and efficiency of common features of clusters (especially interrelations) in the structure and the associated competitive advantages experienced, or advantage potentials to be

experienced with some policy support; the sources of other competitive advantage in the structure; the needs, bottlenecks, weaknesses; and the areas that the policy can make a difference.

Before we go onto the analysis in detail we need to define the sector and give some background information on the sector, the situation of sector globally and the situation in Turkey, the market and technology trends, and the furniture production process.

4.3.1. Background Information

4.3.1.1. Furniture Production Sector

The definition - Furniture-making:

The furniture is a moveable durable consumer good. The furniture-making is the manufacture of furniture using wood and wood products (and recently also steel, plastic, aluminum, glass, fabric, etc.) according to a specific plan, project or model works.

For our purposes, to be able to conduct a proper analysis, we will put the wood furniture industry (the major material used is wood, as solid or reconstituted) at the centre stage, while keeping the track of other related/complementary sectors/branches providing inputs to the furniture sector. Metal structured furniture is contemporarily another very relevant branch that will be given importance, as the production process is similar except the major material used is iron (or other metal) for the structural frame of furniture. In addition to these, the production of other critical and mostly complementary products falling under furniture name, such as the sofas, chairs, which require major ingredients from other sectors, is also involved in the analysis naturally. Accordingly, the products of furniture sector are given in Table 6 below, in correspondence with our sector definition.

Table 6. products of furniture sector

Living room furniture	Kitchen furniture	School furniture
Bedroom furniture	Bathroom furniture	Hospital furniture
Dining room furniture	Wardrobes	Office furniture
Seats and seat sets	Table and chairs, table sets	Hotel furniture
Kids' room furniture	Sofas	Coffee tables
Baby furniture	Outdoor furniture	Buffets
Headboards	Beds	Table lamps
Desks	Dressers	Other components of furn.

4.3.1.1.1. Value chain of furniture making

The value chain of furniture making from the raw inputs to the end-user is given in Figure 7 below. The elements in the value-adding production chain of furniture is evident in the figure, together with the suppliers of support services contributing to the operations of the elements in production chain.

Processing and handling	Support services
Raw inputs (trees, iron, etc) ⇩ Intermediate good preprocessors (lumber mills, metalworking mills, sawmills, kilns, etc.) ⇩ Assemblers (furniture manufacturers and intermediary production) ⇩ Wholesale or Retailers ⇩ Customers Recycling Waste	Accounting Finance Human Resources Management Legal support Marketing and promotion Consultancy Maintenance Energy providers Telecommunication Insurance Training Catering Warehousing R&D Design Transportation Standard setting Inspection Customs Seaport Other support services

Figure 7. Value chain of furniture

4.3.1.1.2. Furniture Production Chain

The production chain of furniture is given in Figure 8. The revealed production stages are the primary branches each associated with an identifiable business in furniture sector. The core business is furniture-making, which includes further dimensioning and planning of components and the assembly of them. In the production process, furniture makers (core business) may subcontract some segments of production to businesses associated with intermediary production stages of furniture manufacture. In furniture making sector that behavior is a common feature indicating considerable depth of the sector i.e. considerable number of primary business segments involved in the production process. However, it should be noted here that, some businesses identified in the production chain may involve multi-segments of production. For example, some furniture manufacturers do the structural frame making by themselves, or some do dying or upholstery at their own facility. Similarly, some enterprises may carry out sawmill work, kiln drying and lumber mill

work. In our picture of production chain, we tried to be comprehensive enough to include all of the manufacturing business branches that could be identified in the furniture sector. In the right of Figure 8, the inputs to production of furniture from other (related) sectors are given.

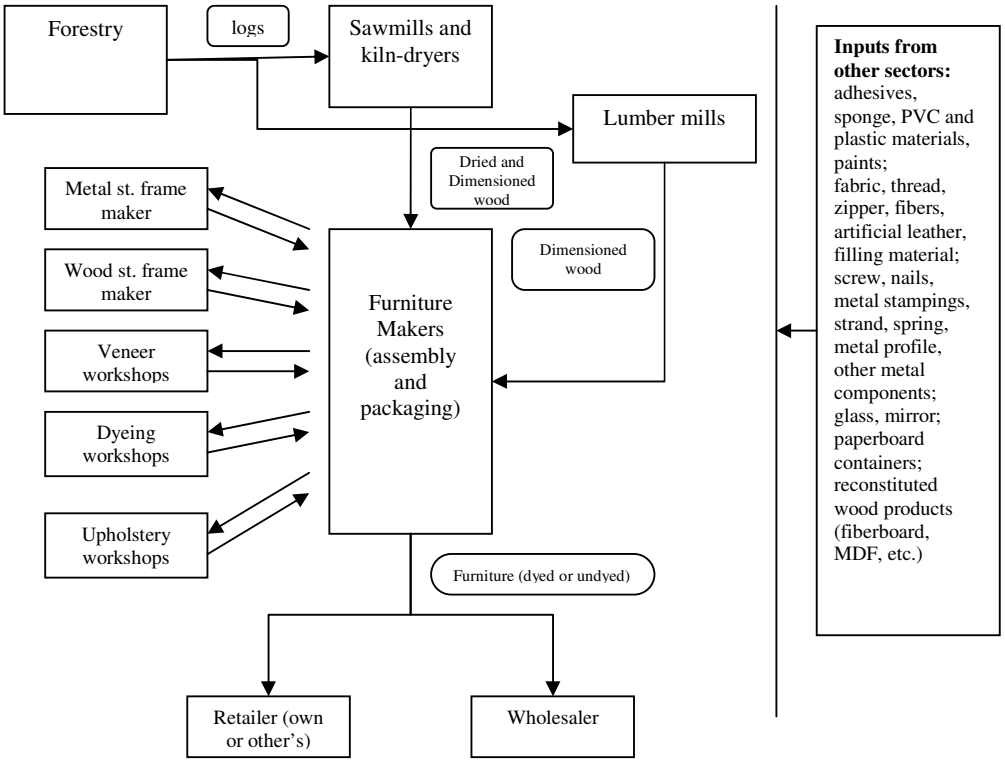


Figure 8. Production chain of furniture

4.3.1.1.3. Three categories of businesses in furniture production chain

The enterprises involved in the furniture production chain, either directly or indirectly, are classified into three categories according to their relation to the core of the cluster, the furniture making. These are, the businesses associated with primary production stages of furniture manufacture; the suppliers of materials; and the secondary manufacturers producing inputs for furniture production.

Primary business branches (intermediary stages, assembly and sale)

The primary branches comprise businesses directly associated with the furniture production chain, i.e. intermediary stages and sale. These branches are directly involved in the furniture production and sale process. These are shown in Figure 8, production chain of furniture. Table 7 lists these branches.

Table 7. Primary business branches

Primary business branches	
Sawmills and kiln-dryers	Veneer workshop (pres work)
Lumber mills	Dyeing
Furniture makers	Upholstery
Metal structural frame maker	Furniture stores
Wood st. frame maker	

Secondary business branches (manufacture)

Secondary business branches include the manufacturers producing material inputs, machinery, and equipment for furniture production. These are indirectly involved in the furniture production process. These enterprises belong to various sectors, from chemistry to metalworking, from wood to textile. The presence of these manufacturers in a location indicates a complete picture of furniture production as an advantageous factor for the competitiveness of furniture-makers at that location. Associated with inputs used in furniture production process, these manufacturers are listed in Table 8.

Table 8. Secondary business branches

Secondary business branches
Reconstituted wood products manufacturers (fiberboard, MDF, hardboard, plywood, etc.)
Veneer producers
Sponge producers
Adhesive and sealant producers
Paints and allied products producers
Filling material producers (cotton, felt, stuffing, fibers, etc.)
Thread producers
Fabric producers
Plastic materials producers
Metal profile producers
Metal hardware producers
Strand and spring producers
Metal accessory and component producers
Glass producers
Paperboard container and other packaging material producers
Machine producers
Equipment producers

Suppliers of inputs (seller)

That category of businesses involves the suppliers of the materials, equipment, and machinery for furniture making. These could be sellers of various inputs or franchisers of some specific products. While the enterprises at one locality may use the inputs purchased directly from the manufacturer of the product located at the same locality, while other enterprises at another region may purchase inputs from a vendor or franchiser of the product, by adding some amount onto the costs. To avoid listing the inputs to furniture production again, that category of businesses involve the suppliers of material inputs, machinery and equipment mentioned in the secondary business branches in Table 8.

4.3.1.1.4. The material inputs

By listing the secondary business branches and suppliers of inputs, we had given the list of material inputs to the production of furniture above. Also, see furniture production chain in Figure 8.

4.3.1.2. The global furniture sector, technology, and market trends*

Furniture is a huge global business. Between 1995 and 2000, trade in furniture worldwide grew by 36 per cent, faster than world merchandise trade as a whole (26.5 per cent), apparel (32 per cent) and footwear (1 per cent). By 2000, it was the largest low-tech sector, with total global trade worth US$57.4 billion, exceeding apparel (US$51 billion) and footwear (US$36.5 billion). In the European Union (EU), extra-intra furniture imports grew by 20 per cent from 1995 to 2000 compared with 17 per cent for total extra-intra EU imports.

Furniture has traditionally been a resource and labor-intensive industry that includes both local craft-based firms and large volume producers. Because of its resource and labor intensity, the wood furniture sector presents an opportunity for developing countries and their firms to participate effectively in the global economy. Therefore, the furniture industry is in the throes of intense global competition, and therefore moving towards a common and falling global price. This suggests either lower barriers to entry and new entrants, or increasing efficiency and falling costs (or both). Countries can participate in the global market in market segments with sustained price declines, but in this scenario, rising exports will not necessarily result in profitable production or in national income growth. For this to happen, the ability to upgrade is critical. The number of market segments, and within these, different market niches (high-volume, price-sensitive, design-intensive, brand-intensive and so on) make the upgrading activities a complex issue. Moreover, markets vary from region to region. For example, softwoods are strong in Europe, but in Japan particleboard and hardwood products dominate the market.

* Information presented in this section is mainly based on Kaplinsky, Memedovic, Morris & Readman, 2003

Table 9. Global furniture trade – top 15 net exporting countries (US$ million)[a]

Country	*Gross exports 2000*	*Net exports 1995*	*Net exports 2000*	*Net exports percentage change 1995-2000*
Italy	8,359	7,595	7,395	-3
China	4,582	1,671	4,412	164
Canada	5,179	685	2,044	198
Poland	2,191	1,180	1,815	54
Indonesia	1,518	819	1,498	83
Malaysia	1,596	826	1,491	80
Denmark	1,900	1,687	1,209	-28
Mexico	3,315	468	1,173	151
Thailand	949	712	909	28
Spain	1,453	523	531	2
Slovenia	586	409	461	13
Czech Rep	780	148	445	201
Romania	445	472	377	-20
Sweden	1,298	510	338	-34
Brazil	496	212	333	57
Total of rest	22,742			
Total [b]	57,388			

source: ITC (www.intracen.org). (cited in Kaplinsky et.al., 2003)
Notes: a Standard International trade Classification SITC821, Furniture and stuffed furnishings and includes wood, metal and plastic items.
b Statistically speaking, total net exports should equal zero (total gross exports equal total gross imports).
Accounting practices vary among national statistical units responsible for totalling trade flows so any figure (other than the statistical zero) is nonsensical.

The major furniture exporters are given in the Table 9. As can be seen from Table 10, out of the 15 major exporters, six are developing countries (Brazil, China, Indonesia, Malaysia, Mexico and Thailand) and four transition economies (Czech Republic, Poland, Romania and Slovenia). These 10 countries tend to be large-volume exporters and low-volume importers of furniture (thereby being large net exporters). Industrialized countries on the whole export and import large volumes of furniture with Italy by far the largest net exporter, with Canada, Denmark, Spain and Sweden in third, seventh, tenth and fourteenth places respectively.

The considerable increase in exports is mostly due to mass-producing furniture becoming a viable manufacturing strategy with the advent of flat-pack or ready-to-assemble designed furniture. This product innovation paved the way for firms to design, manufacture, and ship products in large quantities. This type of furniture has led to cost efficiency, ease of transportation, and increased strength and

durability of products. Firms that mass-produce flat-pack furniture tend to supply products for the low- to medium-price markets. Solid wood furniture manufacturers have retained important niche market segments primarily for high-end, expensive, and design-led products. These specialized products tend to be purchased locally while mass-produced, large-volume products are sold both locally and for export.

Other than the effect of entrance of flat-pack or ready-to-assemble designed furniture into the markets, the increased diversity of the materials such as MDF (Medium Density Fiberboard), laminating materials, hardwood, etc. is another innovation in the furniture market. The advantages associated with these materials, such as strength, durability, color variety, ease of processing, cost, etc. make these materials critical inputs for furniture making.

The design innovation is another factor in the success of products in the markets. It is very common in the professional enterprises in the sector that they hire architects and designers, or buy that service. The mass production of furniture goes along with increased variety of furniture designs. While the prevalent designs differ in different market segments, the ergonomic, comfortable, durable, multi-purpose, and adjustable models are generally preferred in the world furniture market (Tanyel, 2000). On the other hand, some forerunner countries, such as Italy, have developed original design patterns mentioned with the country's name, which strengthened their place in world export market.

The innovations in machinery and equipment used in the furniture industry are also critical. The use of high-precision CNC machines is very common in exporter medium or large-sized enterprises as they lead to increase in the quality of the products, and decrease in the production periods. The use of these high-technology machines is another factor making high-quality mass production viable.

4.3.1.3. Furniture industry and Turkey*

The beginning of the Turkish wood processing industry goes back to 19th century. Starting with the hand-made products produced in small workshops of artisans, the major developments in the Turkish furniture industry occurred after

* Information presented n this section is mainly based on Tanyel, 2000

1970s. However, the micro and small-sized enterprises still constitute the majority of the furniture industry. While, in the last 15-20 years, an increase in the number of medium and large-sized institutionalized enterprises is evident, their share in total sale volume is still low with 10-20%. The number of enterprises carrying out mass-production is around 10.

The total number of enterprises in furniture industry, while the data is not exact, is around 650.000 in the records of Turkish Wood Works Federation (TAIF) and Chambers. With this great volume, the trend in furniture production value is provided in Table 10.

Table 10. Furniture production in Turkey (billion Turkish Lira, 1994 prices)

1994	**1995**	**1996**
27060	31513	33135

Source: Tanyel, 2000

The furniture production sub-sector has the greatest share (25%) among other sub-sectors considered under wood products industry, whose share in the general Turkish manufacture industry is 4%. The furniture industry is considered among candidates of locomotive industries of Turkish economy. The growth in the sector and emergence of medium and large-sized, institutionalized and brand-holder enterprises indicate positive signals for the future of industry. That positive signal is evident in the increasing export level of the industry. While the share of exports in the total production is around 5%, since the beginning of 1990s, the export volume is constantly increasing, as well as the number of countries that the Turkish furniture is exported. While the import levels also increase, the foreign trade balance value remains positive through the years (see Table 11). The major customers of Turkish furniture are Russia, Turkish Republics of the former Soviet Union, EU, and Israel. While the increase in the export levels is evident, the share of Turkish furniture industry in the world furniture market is assessed to be still low.

Table 11. Turkish wood furniture foreign trade

Years	export $	import $	trade balance $
1990	14,886,907.-	11,156845.-	3,730,062.-
1991	10,517,370.-	8,940,861.-	1,576,509.-
1992	17,289,062.-	21,774,130.-	-4,485,068.-
1993	26,002,246.-	20,861,880.-	5,140,366.-
1994	27,929,011.-	18,867,125.-	9,061,886.-
1995	37,775,396.-	27,154,610.-	10,620,786.-
1996	33,749,260.-	40,569,220.-	-6,819,960.-
TOTAL	168,149,252.-	149,324,671.-	18,824,581.-

Source: Tanyel, 2000

Turkish furniture industry is evidenced to be concentrated on particular regions. The share of these regions on total production value is provided in Table 12. Each identified region has some advantages over other regions that lead the industry concentrate on these regions. Among these advantages, the presence of supporting industries, easy access to markets, the proximity to raw materials and socio-cultural conditions could be specified.

Table 12. Share of major furniture producing regions in Turkey's total production value

Region	Share in total production value (%)
Ankara	27,2
İstanbul	18,1
İzmir	9
Adana	9
Bursa	5,4
Eskişehir	4,5
Kayseri	4,1

Source: Tanyel, 2000

While there is a positive trend evidenced in the Turkish furniture sector, to fully utilize the existing potential and to increase the export levels, restructuring of the sector's enterprises is needed. The enterprises are mainly structured to serve for the domestic market. To face the global challenge, the Turkish furniture industry has to institutionalize, develop brands, mechanize production, and mass-produce by investing in technology, design, R&D, training and promotion activities. The dispersed structure of the involved enterprises indicates the need for integration and cooperation to be able to carry out above activities and enter into global market. The important success factors in the global market include the cost, quality, variety of designs, conforming to standards, high production volumes, and short response time, that our enterprises should be aware of and follow strategies to accomplish.

4.3.2. Analysis of Kutlukent Furniture Cluster

After presenting the necessary background information, in that section, results of second-stage in-depth analysis of identified Kutlukent Furniture (potential) cluster are discussed in the framework constructed in chapter 2. The discussion basically involves the assessment of cluster potential of the structure, in accordance with common features of clusters, and its performance, in accordance with the competitive advantages associated with clustering. The tables and figures illustrated at this section are generated by the author (unless noted otherwise) by using the results of the enterprise survey, in which 283 of totally identified 377 (potential) member enterprises of the cluster are surveyed. Furthermore, the information presented about the business associations and public business support institutions is based on the interviews with the experts from these organizations and on the web sites of these, if available.

4.3.2.1. The location: Kutlukent

Following the selection of the sector to be analyzed, we have determined the boundaries of potential cluster as the location of the agglomeration of enterprises in the furniture sector. The agglomeration in the Kutlukent town is identified as the target potential cluster initially. The subject of the analysis is defined as

“agglomeration of furniture sector enterprises within the boundaries of Kutlukent Town, spread in three KSSs (19 Mayıs, İlkadım and Örnek Small Industrial Estates) and Samsun OSB”.

We will start the in-depth analysis of the identified potential cluster by giving some relevant information on Kutlukent. The town is located at the east of Samsun between 6th and 13th kilometers of Samsun-Trabzon highway. While the population of the town is 8947 according to year 2000 statistics, when the employment in the industrial areas of the town is added, that number would increase considerably (personal communication with H. Tekin, Mayor of Kutlukent, May 22, 2004). While the town is situated on productive lands of Çarşamba plain, the invasion of the fertile lands by industrial facilities (KSSs and OSBs) caused a decrease in the value created by agriculture.

The importance of the town for the Samsun province is mostly due to the industrial potential being carried by the town. The wide plain plateaus of the town are considered to be an industrial development zone of the province. On that plain geography, three small industrial estates (KSS) and an organized industry zone (OSB) are established. These are İlkadım, Örnek and Ondokuz Mayıs KSSs and Samsun OSB. The SMEs located in the region are working in various sectors, such as, furniture, metal, food, spare parts and car repair workshops. In addition to these defined industrial locations, there are number of retail shops and production facilities on the sides of the highway. These are also important for our analysis as most of the large furniture retail shops are situated there.

While the town is considered important for its industry base, the low level of fullness (given in Table 13) in the KSSs, give hints about the prospective greater importance of the town by this potential. However, to fully utilize that potential and turn it to strength by increasing the fullness rates of the industrial locations, considerable efforts of the public institutions are needed.

Table 13. Fullness rate in three KSSs

	Ondokuz Mayıs	Örnek	İlkadım
Fullness rate	65%	55%	45%

The values are approximate. (Source: personal communication with N. Alıç, from SCIC)

At the time of the establishment of the KSSs and OSB, this region was foreseen to be the industrial zone of the Samsun province. The economic authorities of Samsun had planned to make the enterprises located in other KSSs, which are close to city centre, move to Kutlukent region. Moreover, this region was planned to be divided into locations, each of which would belong to a specific activity sector. The declining attention of the decision-makers during the period of establishment resulted in not pursuing the plans, and the intentions did not materialize. The workplaces are sold without considering the sector, or the buildings were left unfinished. In the lack of control, some infrastructural problems are prevalent in the region. While some of the enterprises moved to the region, many enterprises are still located in old KSS region waiting for the infrastructural problems to be solved.

Current situation in these industrial locations of the town points to necessity of considerable public investments for the solution of the infrastructural problems prevailing in the region. At that point, the unconcern of the municipalities of the Town and Samsun Province deserve mentioning. None of the municipalities takes the responsibility for the solutions of the problems, as it requires considerable investments. Then, the effective sharing of responsibility for these locations is an important concern for the future of industrial development at the town.

4.3.2.2. The geographical map of the cluster

The geographical map of the cluster is provided in the Figure 9. Three KSSs and the OSB is located next to each other. The Samsun-Trabzon highway is also included within the boundaries as some important enterprises in furniture sector are located on the sides of the highway. The shaded areas in the map are indicating the locations of enterprises in the furniture sector.

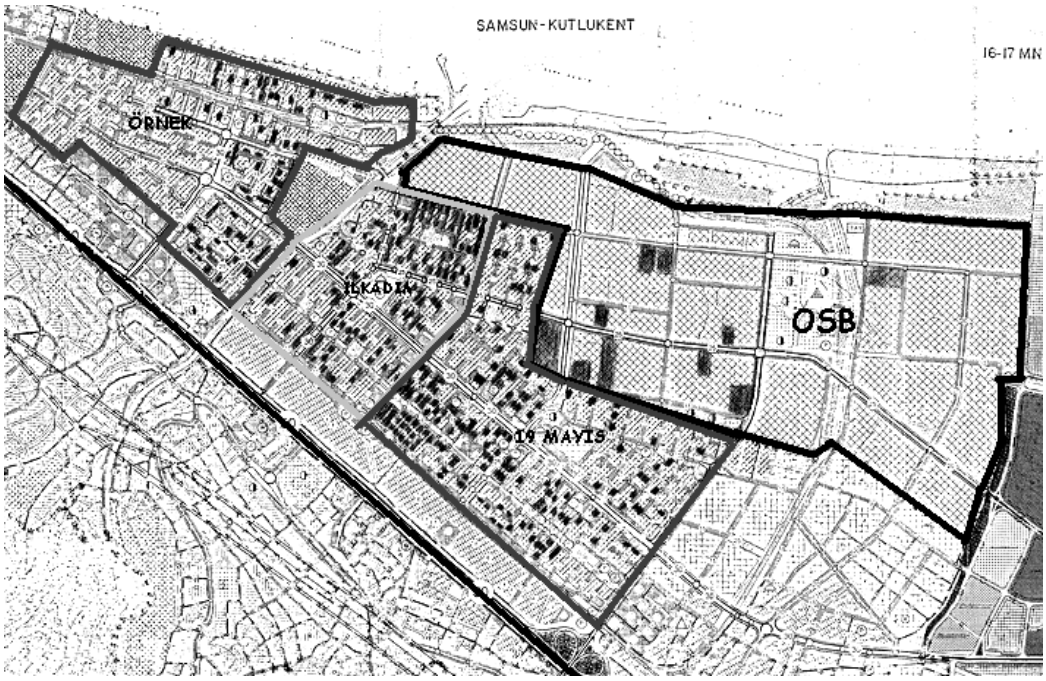


Figure 9. Geographical map of Kutlukent furniture cluster

As it is clear in the Table 14 and Figure 8, the majority of enterprises are located in Ondokuz Mayıs KSS (48.54%), İlkadım KSS, Örnek KSS, the highway sides and OSB follows it with the percentages 28.65%, 16.18%, 3.71% and 2.92% respectively.

Table 14. Number and percentage of furniture sector enterprises in five sub-locations in Kutlukent (identified by enterprise survey)

Five locations number and percentage of enterprises					
ÖRNEK	**İLKADIM**	**ONDOKUZ MAYIS**	**OSB**	**Hway**	**TOTAL**
61	108	183	11	14	377
16,18%	28,65%	48,54%	2,92%	3,71%	100,00%

4.3.2.3. The elements of the cluster

We have analyzed the furniture value and production chain in the section 4.3.1.1. In this section, we will use the same systematic for analyzing the business branches involved in the furniture value chain, adding the public and private business support organizations as well as the business associations into the picture. That is, we will test the realization and completeness of the picture of furniture production industry in our field. The field, again, segmented into five locations next to each other (see table 14).

The businesses and institutions involved in the furniture value chain will be classified into five categories. These are, namely: first category involving the business branches directly or indirectly involved in furniture production, i.e. primary and secondary business branches and suppliers of inputs; private service providers; public business support institutions; business associations; and Public education/training institutions. These will constitute the elements of our (potential) cluster.

4.3.2.3.1. Observed primary business branches and the core business

In accordance with our preliminary furniture production chain discussion, the observed primary business branches are listed in the Table 15 below. The realization of these elements of our cluster is given in terms of number of enterprises belonging to the business branch.

Table 15. Observed primary business branches in Kutlukent Furniture Cluster

Primary business branches	ÖRNEK	İLKADIM	ONDOKUZ MAYIS	OSB	HWAY	TOTAL
Sawmills and kiln-dryers	0	3	1	3	0	**7**
Lumber mills	0	8	8	2	1	**19**
Furniture makers	37	69	110	1	2	**219**
Wood structural frame maker	0	4	3	0	0	**7**
Veneer workshop (pres work)	3	1	2	0	0	**6**
Dyeing	9	14	29	0	0	**52**
Upholstery	0	0	4	0	0	**4**
Furniture stores	11	5	9	0	11	**36**
TOTAL	**60**	**104**	**166**	**6**	**14**	**350**

As it is evident in furniture production chain in Figure 8, the core business in the production chain is the furniture-making business, which generally involves assembly of the components of the product. Some of the furniture makers do the other intermediary stages of production by themselves, rather than making the task done by other workshops. They may do the press work, structural frame making, dyeing and/or upholstery, and even retailing by themselves at the same place. However, the existence of businesses associated with these intermediary production stages indicates the presence of vertical disintegration of production.

4.3.2.3.2. Observed secondary business branches

The presence of secondary business branches in a location indicates a complete picture of furniture production as an advantageous factor for the competitiveness of furniture-makers at that location. As it is evident in Table 16 below, the number and variety of secondary business branches are rather limited at our location. This indicates a weakness for our potential cluster, by not being supported by related and supporting industries, which is a crucial factor contributing

to a cluster's competitiveness. We will analyze that weakness following the determination of importance/localization of the inputs to the production.

Table 16. Observed secondary business branches in the cluster

Secondary business branches	**ÖRNEK**	**İLKADIM**	**ONDOKUZ MAYIS**	**OSB**	**HWAY**	**TOTAL**
Sponge producers	1			2		**3**
Adhesive and sealant producers				1		**1**
Strand and spring producers				1		**1**
Glass producers			1	1		**2**
TOTAL	**1**	**0**	**1**	**5**	**0**	**7**

4.3.2.3.3. Observed suppliers of inputs

Another critical part of the picture is the suppliers of the materials, equipment, and machinery for furniture making. The gap stemming from the absent secondary businesses branches is expected to be filled by the vendors and franchisers of these inputs. However, this result in an increase in input costs. Other than the cost disadvantage, in the lack of the manufacturers of critical inputs in the location, the users of these inputs hardly could access the input with desired properties and quality on time. This causes a delay in the production and makes it difficult to mass-produce. Still, the suppliers of materials are critical elements of the structure. In Table 17 below, the number of suppliers of various inputs and the locations they are sold is given. It should be noted that some of the stores sell several inputs. When we think of all of the required material inputs to the furniture production, the gaps in the suppliers map become evident easily. These missing parts of the picture will be analyzed in detail in the following sections.

Table 17. Observed suppliers of inputs in Kutlukent

Input suppliers	ÖRNEK	İLKADIM	ONDOKUZ MAYIS	OSB	HWAY	TOTAL
Reconstituted wood products sellers		3	3			**6**
Veneer sellers			1			**1**
Adhesive and sealant sellers			2			**2**
Paints and allied products sellers			3			**3**
Plastic materials sellers			1			**1**
PVC sellers			4			**4**
Filling material sellers			1			**1**
Metal accessory, component and hardware sellers		1	3			**4**
Glass sellers			2			**2**
Equipment sellers			1			**1**
TOTAL		**4**	**16**			**20**

4.3.2.3.4. Service providers (private)

A general list of support services that the furniture sector enterprises demand is provided in the Figure 7, the value chain of furniture making. The furniture sector enterprises at Kutlukent benefit from various private service providers. Most of the companies providing these services are located at the city centre. These include accounting, finance, human resources management (HRM), legal support, consultancy, maintenance and transportation. Some of the other support services are provided by public business support organizations and public institutions. KOSGEB is the main public business support organization that provides support SMEs on various issues. The information on the services KOSGEB provides given in the next section. However, it should be noted that the effectiveness and level of the services Samsun KOSGEB offers has remained rather limited particularly for the furniture

sector SMEs. There is no furniture-industry-specific service provided by Samsun KOSGEB, such as R&D, design, training or inspection. Therefore, the absence of these critical services calls for a gap in the private service providers part in the business support structures picture.

Finally, energy provision, telecommunication, customs, and seaport services are provided by the central public institutions, whose divisions are located at Samsun city centre.

4.3.2.3.5. Public business support institutions

Samsun Chamber Of Industry and Commerce

Samsun Chamber of Industry and Commerce (SCIC) is mainly established to promote and to defend the interests of local business community, as the other chambers in the world. The Chamber, based on the principle of encouraging free enterprise in commercial and industrial affairs, since its foundation in 1901, has been providing a series of facilities and means to this end. Samsun Chamber of Industry and Commerce is the biggest organization in Blacksea Region of Turkey with a membership of almost 20.000 (Samsun Economy Report, 2003). We will not give an exhaustive list of activities that the commerce carries out to provide support o local business community. The critical business support services offered by SCIC include: carrying out promotional activities to develop the export potential of enterprises such as dissemination of information and provision of direct knowledge on foreign markets; organizing local participation at the leading fairs/exhibitions of the world; cooperating with its foreign counterparts, and potential investors from around the world, who would like to make a business with Turkey and who look forward to invest in Turkey. Therefore, the chamber represents a channel for local enterprises to access international business opportunities.

Together with the public artisanal chambers, the chamber has an important role in Turkish business registration system. The enterprises above a fixed capital level, either industrialist or tradesman, has to register the chamber to be able to start up a business. Therefore, the registries in the SCIC are the primary source of data about the local business community. However, the prevailing problems with the registration, as explained in the methodology section, make the data unreliable.

Related with our clusters discussion, SCIC is also responsible for carrying out activities to promote cooperation between its members. The profession committees involved in the chamber's structure, are planned to constitute a communication and cooperation platform among the businesses belonging to the same sector. Sector representatives periodically come together in the committee meetings to discuss the current issues, problems, and needs of their sectors and develop common solutions. While the furniture industry is also represented by five representatives in the committee, the effectiveness of these committees is not as intended. There is hardly any considerable output from these sectoral meetings for the furniture sector.

KOSGEB

Small and Medium Industry Development Organization (KOSGEB), established in 1990, is a non-profit, semi-autonomous public organization responsible for the growth and development of SMEs in Turkey. The primary objective of KOSGEB is to improve SMEs' share and efficiency in Turkish economy and enhance their competitive capacity. In order to accomplish this objective, KOSGEB has assumed responsibility for the following functions: developing SMEs' technological skills; improving their training and information level; providing appropriate financial mechanisms; improving their managerial infrastructure. KOSGEB carries out development and support programs for these functions. To perform these, KOSGEB is organized in various regions of Turkey. In Kutlukent OSB, it has a branch of its Enterprise Development Centers (KUSGET).

Being the major instrument of Turkish industry development policy to improve the competitiveness of SMEs and also being located within the boundaries of our potential cluster, KOSGEB is assumed to have a critical function for our cluster. However, the discussions with the major elements, the enterprises, of our cluster reveal that, the realization of or the awareness about the support services KOSGEB provides is very limited at our cluster. This situation is partly due to the lack of interest among the micro enterprises, which constitute the majority of our enterprises, and partly due to the lack of KOSGEB's efforts for awareness rising activities. Furthermore, the target of the KOSGEB's support services is defined to be the enterprises with a larger size, more professional, and carrying growth and

exporting potential, as they see it, rather than small traditional family enterprises. While the provision of services to these small enterprises is kept conditional on their integration, or formal cooperation, KOSGEB do not perform any activities to raise awareness about the advantages and modes of cooperation. However, with its mission and functions, KOSGEB still possesses a great potential for contributing to the competitiveness of our cluster. The specific activities the organization performs are explained below.

KOSGEB financially supports the participation of the enterprises in fairs, either abroad or in Turkey. These fairs are the means of meeting with international customers, suppliers of machinery and special inputs, and also of getting aware of the developments in products, technology and materials in the national and global market. Moreover, KOSGEB also financially supports the business trips to foreign countries for export purposes.

KOSGEB provides support to increase the familiarity of the enterprises with information technologies and Internet. The support instruments include internet hosting service, web page design, e-mail, and membership to specific search engines (KOBINET). By this service, SMEs are able to promote themselves in a specific network, find customers and partners, and they may use internet for acquiring information on the developments in products, production systems, new materials, and world market. Moreover, with the collaborative initiative of KOSGEB and CFCU, an internet café is founded at the old KSS region and introductory courses are arranged for the enterprise-owners in the Samsun furniture sector to encourage the usage of internet and research via it. However, the portion of attendants is noted to remain rather limited.

Common Usage Workshops (ORTKA) is another SME support instrument KOSGEB employs. ORTKA comprises the cooperative usage of a workshop, of which the machinery is provided by KOSGEB, by 10 enterprises of the same sector. By ORTKA, KOSGEB aims to modernize the production systems; improve the quality and variety of products; facilitate the employment of new technologies; and encourage the export activities. However, until now, no such a workshop has been organized for furniture sector enterprises, due to lack demand among enterprises, as KOSGEB representatives claim.

KOSGEB arranges training sessions for employers and workers, on need and demand. The programs of these sessions are of generic type, rather than sector specific issues or issues related to specific production details. The topics discussed include management, professional strategy, quality insurance systems, export procedures, production systems, entrepreneurship, and marketing. All of the related industrialists are welcomed for these sessions. It is noted that while the employers of brand-owner furniture makers participate in these sessions, the participation of workers and owners of small workshops has remained rather limited. The other mean to improve the qualification level and institutionalization among enterprises is the employment support. This mechanism provides the enterprises with the opportunity of employing personnel with higher education. Employment support covers the payment of the salaries of these employees for specific periods. Three of the larger-size furniture sector enterprises in Kutlukent are noted to be benefiting from that support.

While, the support services KOSGEB provides are not sector specific, the organization also engages in the preparation of sectoral analysis reports. Samsun KOSGEB also prepared a report on Samsun furniture sector in 2002. While in this report, the current situation of Samsun's furniture sector is analyzed and the solution recommendations are developed, it is not a scientific work piece at all. It does not depend on a statistical database, or no scientific analysis methods are employed in the analysis of the sector. It represents just a collection of notes, without referring to any data, analysis method, or even date. The scientific quality of the work is in question; indeed, this is a question about the professionalism of KOSGEB. While, this analysis report should be prepared after the collection of the relevant data, it is not possible to access any statistical data on the Samsun's furniture sector in KOSGEB's records, as it is noted by the representative of KOSGEB.

Samsun Organized Industry Zone Directorate

The establishment of Organized Industry Zones is among basic tools of Turkish industrial policy aiming at planned development of Turkish industry. These areas are established with the aim of providing entrepreneurs with appropriate locations to set up and develop businesses. These organized zones serve for the

development of industry on appropriate locations, which have definite boundaries and are supplied with the various advantageous infrastructural facilities related to technology, research, social life, energy, IT, drainage, recycle systems etc. These areas are also subject of urban planning and environmental protection policies. Other than provision of an organized location to set up a businesses, the enterprises established in these areas are also supported by different incentive measures such as simplified bureaucratic procedures; discounts in basic inputs e.g. energy, water, natural gas etc.; assistance in the solution of technical and economic problems etc. The directories of organized zones are public institutions responsible from the appropriate provision of above-mentioned services to provide businesses with an appropriate business environment to start up and carry out their operations.

The establishment of first enterprise in Samsun Organized Industry Zone is in 1989. Today the industry parcels fullness rate is 80.8%, 93 out of total 115 parcels. These parcels are possessed by a total of 60 active enterprises, and the owners of the remaining parcels were identified. Among these, 16 production facilities are under construction and five facilities are at the project phase. Total employment in Samsun OSB is 3158, and after full capacity is achieved, that number is expected to increase to 4211. (see Table 18)

Table 18. Composition of the enterprises in Samsun OSB

	Number of enterprises	**Number of parcels**	**Parcel area (m^2)**	**Employment**
Working	60	93	789.929	3.158
Under construction	16	17	129.977	791
Project phase	5	5	43.550	262
TOTAL	81	115	963.456	4.211

Source: http://www.samsuntso.org.tr/tr/default.asp?eid=samsun_OSB

Since its foundation in 1981, Samsun OSB Directory is working for provision of an effective business environment for its current and prospective enterprises by turning the location into a place that the entrepreneurs will recognize investing in the area as appealing and easy, and the promising enterprises will be attracted to.

However, not all of the enterprises are accepted for locating at OSB. The main applied measures include the prospective employment to be generated, the required period to start production, and export potential of the products.

Six of the enterprises at OSB are working in the furniture sector, among the primary production branches of our classification. Moreover, there are other enterprises manufacturing inputs and complementary products for the sector. The scale of these is much greater than the ones at the KSSs, with an average of 41 employees per enterprise in six furniture-sector enterprises.

The directory is very sensitive to the needs and problems of the enterprises, and it is voluntary to support the projects aiming at increasing the competitiveness of the involved enterprises, including the cooperation promotion projects. Arrangement of sectoral meetings at OSB is among these projects, which is delayed until the establishment of social facilities at OSB.

4.3.2.3.6. Business associations

CFCU

Samsun Chamber of Furniture-makers, Carpenters and Upholsterers (CFCU) is a sector specific public institution. While it was an NGO at its foundation in 1965, since the artisanal chambers' law came into force in 1991, it has gained an official status.

The main objectives in the establishment of the associations are: entering the micro-sized enterprises in a register; promoting cooperation between the businesses in the sector; representing and speaking out the common needs and problems of its members; promoting the sector of the region in national and international trade area; disseminating general technical and market information among its members; and organizing training sessions on general subjects concerning all of its members. While these associations are integral part of the Turkish enterprise registration system, the same problems with the registration of businesses prevail in the registrations in CFCU. While it is a must to register for the artisans to these public associations, the artisans do not fulfill that obligation due to various reasons. This results in the incompleteness and non-currency of the data to be able to utilize it for planning

purposes or for provision of support and services to all of the interested parties in the sector.

Together with the furniture sector, there are some other related sectors that are registered under CFCU. While there are 1300 active members registered in Samsun CFCU, not all of them are active, and also a considerable number of enterprises are operating without registration, the president of Samsun CFCU states.

Being the only sectoral institution (among private or public ones), the association is very important and has a critical mission for cluster perspective. However, the realization of the foreseen objectives is rather limited. The main reasons behind that are: the lack of demand and interest for services; the inaccuracy of registries; the limited resources of the institution to operate; the lack of professional employees to provide or coordinate these services; the lack of promotion of the services to be given by the association among the members, as the president of Samsun CFCU states. In spite of these factors, there are number of services provided to members until now, such as arrangement of training sessions; the establishment of an internet café and a village clinic for the members; fair visits; arrangement of two sectoral fairs; and publication and delivery of a catalogue to promote the member enterprises' products. There are some other plans of the association to promote dialogue and cooperation between the member enterprises such as the arrangement of "evening conversations" activity and occupational training sessions in a specialized laboratory; and the visits to successful regions in the furniture sector.

Therefore, while Samsun CFCU is of great importance in cluster perspective and could undertake a critical role in the cluster promotion activities, the experiences indicating the insufficiency of the profession, resources, and infrastructure of association's directory to take on its mission, point to the need of restructuring and strengthening of association to fulfill its critical mission. Otherwise, establishment of a professional institution to coordinate cooperation promotion activities would be an important policy instrument to achieve the objective of our cluster policy-making.

SAMSIAD

Samsun Industrialists and Businessmen Association (SAMSIAD) is a local NGO established in 1992. It has defined its objective as contributing to the economic

and social development of Samsun. Specifically, it aims at contributing to the establishment of multi-partner companies instead of small family enterprises, developing the economic power of the province and placing the province's economic level among the first eight provinces of Turkey, as it was the case at 1970s. Its activities include meetings with the economic authorities of Samsun and Turkey to declare the problems and needs of its members and Samsun generally, and lobbying. It has 110 members from various sectors currently. The membership is voluntary and the new members are registered mostly by means of friendship relations.

The association could be thought of a cooperation platform for the members. Until now, it has initiated several partnership initiatives including the establishment of multi-partner enterprises. However, until now, these initiatives have been realized in agriculture sector. There are just a few successful attempts, and there are several plans, for which the association is searching for public support.

The association arranges and hosts meetings and conferences, which serves for increase in the relations between enterprises. The common problems and needs of the region are defined and solution recommendations and projects are developed at these meetings. Then, the association carries out the declaration of those to the related institutions and the follow up of solution measures. The association also provides support for the projects concerning the economic and social development of the whole region. The association takes part in the arrangement of events such as conferences, seminars, panels, and workshops on the subjects concerning the social and economic life of industry and public. Other way of information provision handled by the association is the publication of a periodical, called SAMSIAD Bullet-in, including information about economy-specific subjects as well as various social topics.

When Samsun's industry potential is thought, the number of SAMSIAD members seems rather limited to be fully effective. On the other hand, the emphasis attributed to the agriculture and agriculture-based industry by the executive committee causes the contribution of the association to the other industry sectors remaining so low. While, there are members almost from all industry sectors, there has been carried out hardly any activities for development of those. While this is the case, the director of the association declares that, if there is sound project proposals

from other industry sectors, the association's resources will be utilized for providing support for these and the support activities may include campaigns, bullet-ins, meetings, and seminars for raising awareness of public and other businessmen, lobbying, and cooperating with other NGOs of Samsun.

The three of the members of SAMSIAD are from furniture sector. However, until now, there has not been any kind of project proposed by these members concerning the furniture sector.

4.3.2.3.7. Public education/training institutions

First, there are no furniture sector-specific training institutions in Kutlukent or Samsun that provide the manufacturers with qualified workers. While, the regional university on Middle Blacksea Region is located in Samsun its only vocational school on woodworking is not located in Samsun. The workers are mostly educated in general public primary and secondary schools, and vocational, trade, art, and technical high schools. The lack of practical implementation in these schools is expressed as a problem by the surveyed entrepreneurs. Furthermore, as a note, eight-year primary education is a legal obligation for every Turkish citizen.

A very low portion of the workers (5%) in Samsun furniture sector has a higher education degree. On the other hand, 70% are noted to be qualified (KOSGEB Samsun furniture sector report, 2002).

The workers acquire craft-specific skills mostly on the job by apprenticeship. For the enterprises to be able to employ apprentices, it is obliged for their apprentices to own an apprenticeship certificate. The apprentices are sent to apprenticeship schools to get that certificate. The school is located at the city centre. Moreover, furniture craftsmen also are obliged to have a mastery certificate. They acquire that training in related public schools.

As it is explained in section 4.3.2.3.5, KOSGEB also arranges training sessions on need and demand, however, these sessions are not sector specific. The only training providing institution on generic management, quality, and production systems is KOSGEB.

The training for the usage of the high-technology automation machinery is not provided by any institution, which is crucial for effective technology transfer. Instead, that training is provided by the sellers upon delivery of the machinery.

Samsun CFCU also plans to arrange some training sessions for its members, while the feasibility of the plan is noted to be questionable in the lack of a practical training laboratory and financial resources.

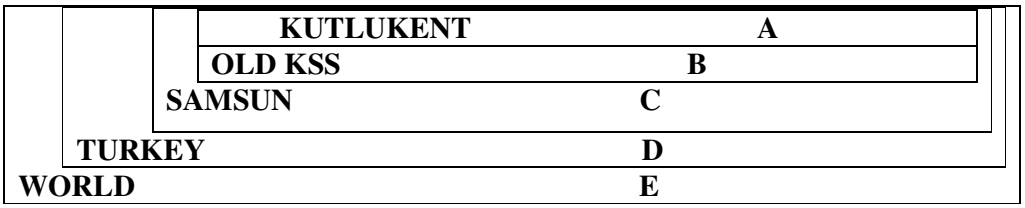
4.3.2.4. The flow of materials/goods in the production chain

In that section, we will analyze the furniture value chain in more detail. We will draw a detailed picture of our potential cluster in terms of backward and forward ties; inputs; outputs; flowing materials and intermediary products; production stages and associated business branches; localization of production and trade linkages to other locations. That picture will also reveal the vertical disintegration of production and horizontal specialization in the localized production process. The factors to comment on the importance of inputs and the intermediary businesses associated with the intermediary production stages are developed. Moreover, to asses the localization of production and links to other locations related to linkages with intermediary businesses and input suppliers, some percentage values are generated. Then, the output of the overall production process, i.e. the finished goods, of the location is defined together with the analysis of the markets in terms of market regions and trends in markets.

Therefore, in that section our aim is to analyze and draw a part of the picture of our potential cluster that will describe the current situation in cluster perspective. As it is evident, at this section, the features our analysis tries to shed light on are the self-sufficiency of our virtual factory and localization of value chain, together with the identification of links to other regions. For that purpose, we develop some numbers and construct tables. The “description” developed at this section will be interpreted and “prescriptive measures” will be developed in the identification of policy needs and development of policy recommendations phases in related sections. Moreover, to prepare the reader for the interpretations, some preliminary comments on the built picture are given.

The world as an economic geography is divided into relevant five segments. These are, our location Kutlukent, old KSS region, where a smaller-size agglomeration of furniture sector exists, Samsun (excluding previous locations), Turkey (excluding Samsun), World (excluding Turkey). See Figure 10 for the locations, A, B, C, D, E letters represent.

Figure 10. The economy environment segmented into five parts



4.3.2.4.1. The material inputs

We have listed all of the possible material inputs to the furniture production in section 4.3.1.1.3. Naturally, the usage of these inputs depends on the goods produced in the production process. Likewise, the material inputs to the furniture production in our potential cluster do not include all of the materials listed before. In the survey, the primary businesses are asked to list their inputs to production and state the place(s) they acquire these inputs. That information has provided us with the information to assess the relative importance of the material inputs according to their usage level. Together with that information, the places where these inputs are acquired and the presence of suppliers or producers of these inputs at our location, will let us assess the self-sufficiency of our furniture producing potential "virtual factory", as well as strength of the linkages to the other locations. The resultant picture is given in the Table 19.

Table 19. Material inputs to furniture production, customers and providers in Kutlukent, backward ties from customers of inputs to locations

				providers in location		the location acquired					
input	**customer businesses**	**total number of customer business**	**the percentage in total demand side (350 businesses)**	**number of producers**	**number of sellers**	**A**	**B**	**C**	**D**	**E**	**TOTAL**
log	Lumber mills, Sawmills and kiln-dryers, furniture makers (indirectly)	245	70,00%	0	0	0,00%	0,00%	33,33%	60,00%	6,67%	100,00%
Reconstituted wood products	Furniture makers	219	62,57%	0	6	68,71%	23,81%	3,40%	4,08%	0,00%	100,00%
Veneer	Furniture makers	219	62,57%	0	1	80,27%	10,88%	3,40%	5,44%	0,00%	100,00%
Glass	Furniture makers	219	62,57%	2	2	71,25%	25,00%	3,75%	0,00%	0,00%	100,00%
Sponge	Furniture makers (doing upholstery), Upholstery	14	4,00%	3	0	36,00%	36,00%	16,00%	12,00%	0,00%	100,00%
metal hardware	Furniture makers	219	62,57%	0	4	53,04%	37,57%	7,73%	1,66%	0,00%	100,00%
Strand and spring	Furniture makers (doing upholstery), Upholstery	14	4,00%	1		27,27%	45,45%	18,18%	9,09%	0,00%	100,00%
Accessory	Furniture makers	219	62,57%	0	4	43,97%	46,10%	7,80%	2,13%	0,00%	100,00%
Paperboard container and other packaging material	Furniture makers (using container)	18	5,14%	0	0	33,33%	29,63%	29,63%	7,41%	0,00%	100,00%
Fabric	Furniture makers (doing upholstery), Upholstery	14	4,00%	0	0	0,00%	10,00%	20,00%	70,00%	0,00%	100,00%
Adhesive and sealant	Furniture makers, Veneer workshop	225	64,29%	1	2	33,33%	33,33%	11,11%	22,22%	0,00%	100,00%
Paints and allied products	Furniture makers (doing dyeing), Dyeing	76	21,71%	0	3	63,83%	27,66%	6,38%	2,13%	0,00%	100,00%
Filling material	Furniture makers (doing upholstery), Upholstery	14	4,00%	0	1	25,00%	25,00%	25,00%	25,00%	0,00%	100,00%

The criticality of an input is assessed by using the number of businesses demanding that input as a reference. Hence, naturally, the inputs demanded by the core business, furniture making, identified to be critical, as they constitute % 62.57 of the total primary business branches with 217 enterprises. As the furniture made of wood and reconstituted wood (fiberboard) is the major product of the potential cluster the importance of the inputs to that kind of furniture production is high, namely, logs, adhesives and sealant, reconstituted wood products, veneer, glass, metal accessory and hardware. The next critical input seems paints and allied products. While the number of enterprises demanding that input relatively low, as the dyeing process is required for the finished furniture, and in that sense represents an indispensable intermediary production stage, we could claim that the criticality of paints and allied products is more than it seems in numbers. However, it is still less than other critical inputs as some fraction of the outputs of production process are transported to other regions unpainted. The inputs demanded by other production line of the furniture production process, the upholstered furniture production, such as sofa and armchair, seem to be of relatively low importance, as the number of enterprises engaged in the upholstered furniture production is relatively limited. However, as the upholstered furniture is a complementary product of wood furniture, the importance of the inputs to upholstery should be assessed taking account into that fact.

The columns in Table 19 show the conditions of existence of the providers of these inputs, either as producer (secondary business) or vendor (supplier). The presence of the providers of the inputs indicates “completeness” in the production process map of our potential cluster. Moreover, the existence of the producer of the input depicts a strong “completeness” with advantages related to cost, quality, delivery period, and variety of inputs.

The data (percentages) provided in the following columns of Table 19 lets us comment on backward relations/links of our potential cluster with other locations. The percentage value depicts the rate of the location’s supply in our cluster’s total demand for that input. The greater is the value, the stronger is the link to that location for that input. Moreover, we could comment on the awareness of the manufacturers about the existence of the input provider making business at the same location with them. See Figure 10 for the locations, A, B, C, D, E letters represent. At the first

instance, it is clear from the Table 19 that all of the inputs with criticality more than 20%, are acquired mostly from Kutlukent, except for adhesive and sealants, and metal accessories. For these inputs, old KSS location competes with providers at Kutlukent.

We should add to these statistics that the providers of these inputs, either as producer (secondary business) or vendor (supplier), do business with not only the customers in Kutlukent, but also with the ones in other locations. Table 20 below shows this fact and reveals forward ties to other locations from the input providers.

Table 20. The forward ties from the providers of inputs

	location of the customers					
	A	**B**	**C**	**D**	**E**	**Total**
the suppliers	60,00%	15,00%	10,00%	15,00%	0,00%	100,00%
secondary business branches	75,00%	25,00%	0,00%	0,00%	0,00%	100,00%

4.3.1.1.1. The intermediate producers and products

The intermediate goods flowing in the production process are the outputs of the enterprises specialized on the intermediary production stages of furniture production chain. We reviewed these business branches that are present at our location in section 4.3.2.3.2. The flow of these intermediate goods is always between the core business, i.e. the furniture making, and the other primary business branches in the production process. That is, the core business is the customer of these intermediate goods, and the intermediate good producer workshops work for the core business, except for the dyer and upholstery workshops, which also work for the furniture sellers.

The Table 21 shows the above mentioned production flow, flowing goods and associated businesses. The numbers of intermediary producers and the outputs from their operation is given in columns 3 and 4 (including the ones not interviewed with). To comment on the importance of these intermediary businesses, the number of enterprises, which demands the intermediate production process from the

intermediary producer, is provided in the column 6. Again, the existence of the producers of demanded intermediate products indicates “completeness” in the production process map of our potential cluster.

Table 21. Intermediary businesses, intermediary products, customers of those, backward ties from the customers to locations

						the locations of the intermediary businesses the furniture makers work with						
Input	**Intermediary business**	**Number of intermediary business**	**Output (intemediary goods)**	**Customer**	**number of demanding customers**	**S**	**A**	**B**	**C**	**D**	**E**	**TOTAL**
Logs	Sawmills and Lumber mills	26	**dried and dimensioned wood**	**furniture maker**	169 (incl. demanding wood st. frame maker)	0,00%	67,66%	18,91%	9,45%	3,98%	0,00%	100,00%
metal profile	metal structural frame maker	0	**metal structural frame**		3	50,00%	33,33%	0,00%	0,00%	16,67%	0,00%	100,00%
Dimensioned wood	Wood structural frame maker	7	**wood structural frame**		9	36,36%	54,55%	0,00%	0,00%	9,09%	0,00%	100,00%
unveneered furniture parts (from furniture maker), adhesives	Veneer workshop (pres work)	6	**veneered furniture parts**		141	7,05%	86,54%	6,41%	0,00%	0,00%	0,00%	100,00%
unpainted furniture (from furniture maker), paints and allied products	Dyeing	52	**painted furniture**		36 (including demanding furniture sellers)	53,19%	40,43%	6,38%	0,00%	0,00%	0,00%	100,00%
furniture structural frame (from furniture maker)	Upholstery	4	**upholstered furniture**		4	71,43%	14,29%	14,29%	0,00%	0,00%	0,00%	100,00%

Again, the data (percentages) provided in the following columns of Table 21, let us comment on backward relations/links of our potential cluster with other locations. The percentage value depicts the rate of the provision of related location in the total demand to that intermediary producer business. The greater is the value, the stronger is the backward link to that location for that branch. Moreover, we could comment on the awareness of the manufacturers about the existence of the intermediary producer making business at the same location with them. See Figure 10 for the locations, A, B, C, D, E letters represent. The letter S stands for the 'self', meaning, that portion of the furniture makers, who produce such products requiring the associated production stage, carry out this production stage themselves. At the first instance, the potential cluster seems self-sufficient when the intermediary production process is concerned, and the transactions related with the intermediary production seem highly localized. However, we should add, this is so in the product span of our potential cluster. That is, when we compare our production chain with the model production chain of furniture giving variety of furniture outputs, we realize that the metal structural frame maker intermediary production branch is missing in our picture. The interpretation of the resultant picture we have drawn will be done in the identification of policy needs and development of policy recommendations sections.

The backward ties, i.e. intermediate product inputs to the core business from the intermediary producers, in the production process at the location are analyzed above. When the forward ties are concerned between the intermediary producers and the core business, the picture reveals that the intermediary producers are not linked to only the furniture makers at the location. While, the percentages in table 22 show, that the primary customers of the intermediary producers at the location are the at the same location, they have also trade links to other locations in Samsun and less than Samsun, to other regions.

Table 22. The forward ties from the producers of intermediary products

				the locations of the customers					
Interm. business	**Number of interm. business**	**Output (interm. goods)**	**Customer**	**A**	**B**	**C**	**D**	**E**	**TOTAL**
Sawmills and Lumber mills	26	Dimensioned wood	**furniture maker**	50,00 %	19,23 %	7,69%	23,08 %	0,00 %	100,00 %
Wood structural frame maker	7	wood structural frame	**furniture maker**	36,36 %	18,18 %	27,27 %	18,18 %	0,00 %	100,00 %
Veneer workshop (pres work)	6	veneered furniture parts	**furniture maker**	80,00 %	20,00 %	0,00%	0,00%	0,00 %	100,00 %
Dyeing	52	painted furniture	**furniture maker and seller**	42,37 %	15,25 %	32,20 %	10,17 %	0,00 %	100,00 %
Upholstery	4	upholstered furniture	**furniture maker**	33,33 %	33,33 %	33,33 %	0,00%	0,00 %	100,00 %

4.3.1.1.1. The finished product span, markets and trends in markets

This section involves the analysis of forward ties in the last stages of furniture value chain, i.e. links between the furniture makers (the core business), the stores, the wholesalers, and the end user.

The outputs from the furniture making core production segment business are essentially two kinds independent of the type of the product. Among the furniture makers, there are manufacturers making just detailed joinery and assembly of furniture parts and selling their product undyed, i.e. not ready for the end user, in other words ‘raw’ furniture. These manufacturers are mostly selling their products to wholesalers and other’s furniture stores. On the other hand, there are some manufacturers whose output is dyed, ready-for-the-end-user furniture. This type of furniture makers are mostly the ones owning a furniture store and a brand name. However, it is also a common observation that, these finished furniture producers sell their products to wholesalers and other’s furniture stores, perhaps sometimes without putting their brand name.

Therefore, we could distinguish three kinds of furniture sellers (stores): ones selling their own finished products; ones selling the finished products produced by other manufacturers; and ones purchasing the undyed furniture, making it dyed and selling it finished. All the three kinds of furniture sellers could engage in wholesale by using their marketing channels. The limited number of furniture makers purchasing or carrying out the dyeing process (25, dyeing themselves + 21, purchasing dyeing = 46 enterprises) indicates that the majority of the furniture makers sell their products unfinished, given that a very limited number of enterprises are producing the kinds of furniture not requiring dyeing process, such as suntalem furniture.

In the furniture market, three major segments of production are distinguished. These are solid wood furniture; wood furniture with major parts made up of veneered fiberboard; and furniture made up of mostly other reconstituted wood materials, such as suntalem, not requiring dyeing operation. The flat pack ready to assemble furniture, which is the most suitable for export as explained earlier, is mostly of the last kind. In our location, the products are mainly of the second kind, whose production requires more time and effort and is more costly than the last kind, while less time and cost than the first kind. Another distinct product segment is the upholstered furniture, which are sold by the manufacturers or sellers carrying out or purchasing the upholstery operation or the ones purchasing upholstered furniture. These include sofas, seats and seat sets, chairs etc.

The product span and the number of enterprises producing that product are given in the Table 23. The values are of the furniture makers including the ones producing finished and raw. As it is evident in the table below, high variety of products are produced by number of producers. The major products are the bedroom furniture, dining room furniture and kid's room furniture as well as the furniture accessories such as coffee tables, tables, and chairs. These statistics reveal that the major product of our potential cluster is the non-upholstered furniture. Comparatively a limited number of upholstered furniture producers exist in the location. Horizontal specialization is also evident in the furniture making business branch, such that, a considerable number of businesses are specialized on the production of furniture accessories and some other furniture makers and sellers, who

sell the finished products, are purchasing these from them. The same case is also evident in the upholstered furniture business segment. That is, finished furniture set sellers, either manufacturers or not, purchase the upholstered furniture from the producers and put on the market. As a complementary product of furniture, the beds are also produced at the location, which is an evidence of advantage for the whole furniture value chain at the location. Therefore, as with the vertical disintegration, horizontal specialization is a feature of our potential cluster.

Table 23. The products and associated number of businesses in Kutlukent

Product	**Number of producers**	**Product**	**Number of producers**
Bedroom furniture	111	Coffee table	64
Dining room furniture	71	TV table	40
Living room furniture	25	clothes hanger	9
Kids' room furniture	40	table lamp	9
Seats and seat sets	27	bed	11
Baby furniture	22	chest	1
Hospital furniture	11	checkroom	2
Office Furniture	14	china cabinet	4
Hotel furniture	13	wardrobe	7
Table	31		
Chairs	19	to order	28

While the products of the location's manufacturers are so, the sale methods, and the locations of the stores or wholesalers are given in the Table 24. As it is seen, majority of the enterprises are selling their products, finished or raw, to other sellers and wholesalers. A smaller number of manufacturers are also single or multi-store retailers having their own stores to sell their products. Other stores purchasing the furniture from the cluster are mostly small-sized one-store retailers situated in Kutlukent, Old KSS region, Samsun or outside the Samsun. The wholesalers are mostly specialized medium-sized buyers, which source from various manufacturers and sell on to retail outlets, usually situated in a single region. The market regions

outside the Samsun include the other provinces in Blacksea Region, especially the east part, which is a kind of traditional market of the Samsun furniture. A smaller fraction of the products is sold in Eastern Anatolia and Aegean Region. It is clear in the table that, the consumers of the products are mainly in Samsun. However, Samsun is still the main furniture supplier of the Eastern Blacksea region, while that situation is claimed to be getting worse year by year by the entrance of the larger-scale manufacturers of mainly İnegöl, Kayseri and Ankara into the market at that region.

The stores of the manufacturers of Kutlukent are dispersed in Samsun, only two of them are outside the Samsun. In these stores, they sell their products retail to the domestic end users and wholesale to other stores in various locations. While some of the stores, or showrooms, are at the same place with their production facility, some manufacturers have a separate showroom facility to sell their brand.

It is a common experience that the producers, especially in the wholesale, sell their products without putting their brand name on it. The number of brands sold region-wide is very limited. That attitude restricts maturing process of the manufacturers in the market, for the ones selling without brand, and in turn, for whole Samsun's manufacturers.

Table 24. Sale method and location of customer

	The location				
	A	**B**	**C**	**D**	**E**
Own Store	17	9	16	2	
Other stores or wholesaler	31	47	122	97	3

While the information given by the core business, i.e. furniture makers, reveal such a picture on the output part of the cluster-specific picture of furniture production, the information provided by the element of the cluster at the end of the value chain before the end user, i.e. the furniture sellers, is also of value. These are

either the showrooms of furniture manufacturers of Samsun, or retail/wholesale vendors of the brands produced in other provinces. In addition, there is one comparatively large store selling the products of other provinces under its own brand name. Eight of totally specified 36 furniture sellers are medium-scale franchisers of the furniture brands of Ankara, Kayseri, İnegöl, Sivas and İstanbul provinces, who also work as a wholesaler for the Middle and Eastern Blacksea Region. The remaining 27 sellers are the showrooms and stores of the manufacturers in Kutlukent and old KSS region. It is also evident that, these stores sell the products produced in other locations too. The Table 25 below reveals that issue (based on info provided by 18 surveyed sellers). S means that the vendor is selling its own product.

Table 25. Forward and backward ties from furniture sellers

Locations	**location of customer**	**Location of producer**	**S**	
A	18	**A**	10	6
B		**B**	1	2
C		**C**		2
D	14	**D**		7
E		**E**		1

As it is explained above, the major locations that Kutlukent furniture, either finished or raw, is sold include mainly Samsun, Middle and Eastern Blacksea Region, and north of Eastern Anatolian Region. However, Samsun furniture loses its market share in these locations year by year. From the early 1960s to the 1990s, Samsun had been the major supplier of furniture of the Northern and Eastern Anatolia. Samsun's products were being sold to the whole Anatolia. However, with the rise of the major furniture making locations such as İnegöl, Ankara and Kayseri, who are able to produce in large amounts in a time and cost effective manner, and selling the products by facilitating effective marketing mechanisms, the share of Samsun's market share, even in its traditional markets, declined. The bad impact of

the economic crisis in 1990s and 2000s affected most of the small furniture makers in Samsun, and a serious decline in production capacity was evident almost in all of the manufacturers. Not being able to face the challenges and falling behind its opponents in terms of capital and technology level, and promotion and marketing operations, Samsun's market was restricted mostly by the Eastern Blacksea region. However, as the income levels of the provinces in that region are considerably low, and also highly sensitive to various factors, and hence unstable, since they earn their living mostly by agriculture, that small market is not meeting the production levels of Samsun's manufacturers. Therefore, Samsun's furniture makers and sellers are in a research for new markets and new marketing methods, perhaps mainly individually. The activities arranged with the support of public institutions for that purpose include the collective visits to and participation in international fairs abroad; collective organization of fairs; collaborative publication of a catalogue; and using World Wide Web to promote the products of individual producers in the national and international market. While these activities have remained rather limited, a few enterprises managed to do export, mainly with the support of Samsun KOSGEB. As it is seen in the Table 24, three of the manufacturers in Kutlukent are noted to be the exporters. These enterprises are the ones with a scale larger than Samsun average, utilizing high technology and producing mostly standardized products in a production line in considerable quantities. One of the exporters is located in OSB, which has the largest size among Samsun's furniture makers. The major export markets of the location's production are Turkish Republics of the former Soviet Union, Middle East Countries, Germany, UK, and France. In addition to these few exporters, there are manufacturers, which produce exportable products of competent qualification; however, they are in need of some support, especially in marketing, to access the foreign markets.

4.3.1.1.2. Mechanisms for reaching the market

Except for the few brand-owner enterprises, the furniture manufacturers and sellers in Kutlukent do not employ effective marketing mechanisms. In fact, the main way of reaching the customer is the bilateral relations with the customers that the manufacturers are acquainted with. Therefore, most of the manufacturers are in a

position to be content with the demands of their old customers, without breaking into the new markets. That is, most of them do business with the stores or wholesalers that they used to. This results in the instability of their market, without alternatives. In the lack of specific marketing methods, the rise of trademarked brands of other regions in the market has had a serious bad impact on these enterprises, and caused them to lose their market share. Together with the decline in the financial power of the enterprises, in the interviews some manufacturers are noted to be waiting for the tradesman to find them to do business. The increased power of tradesmen resulting from that situation has dramatic effects on the manufacturer. Such that, the manufacturer is obliged to go down its price, and this is mostly done by the expense of quality of the products. Unfortunately, it is also noted by the manufacturers that the Samsun furniture is acknowledged by its low price and quality level among tradesmen in other regions. Therefore, in turn, this situation harms Samsun furniture's image and hence, whole furniture sector of Samsun.

The other methods of marketing include the showrooms, franchises, marketing of the products by the owner of enterprise, and hiring of marketing personnel. In the stores, the exchange of products between the enterprises producing complementary products to increase the product scope is evident, as well as the sale of the products of a manufacturer, who does not own a store, in a friend's store. The printing of promotional materials, such as catalogues, is also common tool for marketing among enterprises. However, it is noted by the related enterprises that the lack of catalogue design and printing enterprises with sufficient scale to serve for the furniture sector is an important hindrance for Samsun's producers in marketing operations.

The hiring of marketing personnel is the method that only these few brand-owner enterprises employ. Participating in the public and private tenders is also another method that the businesses sell their products.

The methods to reach the export markets involve the participation in the international fairs abroad; using World Wide Web to promote the products in the international market; training sessions on export procedures; and participation in business trips to foreign countries arranged by public institutions. KOSGEB and SCIC provide support to enterprises for these activities. Moreover, KOSGEB also

financially supports the business trips to foreign countries for export purposes. However, it should be noted that these support mechanisms are designed for the brand-owner medium-scale enterprises in the sector. The micro and small enterprises are not targeted for any of these support mechanisms, or their participation is conditional on their integration or cooperation. At the end, there has been no such cooperative initiative benefited from these services until now. Lack of KOSGEB's interest in designing promotional awareness raising activities about these services, and about methods and benefits of cooperation is partly the reason for the lack of demand for these support services.

There is no sector-specific public or private business support service provider to market the products, or to collect and disseminate the market information as well as the information on product innovations, technological developments, and international standards. As well as the promotion and marketing agencies, in the location, there is no agency for quality certification. The furniture sector enterprises in the cluster are not able to acquire or access any kind of assistance on these subjects.

4.3.1.2. The map of Kutlukent Furniture Cluster

Mapping of a cluster is a common application in cluster analysis practices. Different kinds of maps are reviewed in section 2.3.2.1.3. These maps ease the visualization of an identified cluster and represent an effective tool to present the various results of the cluster analysis. Maps let the reader see what analysis put forward virtually. In the map of Kutlukent Furniture Cluster, we make use of the value chain of furniture by presenting the existing elements within Kutlukent furniture cluster. As it is evident in Figure 11, in the presentation of the involved primary and secondary business branches and suppliers of inputs the identified elements, whose numbers are given, fall within the boundaries of our cluster. On the other hand, in the presentation of the private/public business support service providers, which the elements of the cluster benefit from, are listed even if they do not fall within the cluster, but located in Samsun. The comparison of the map of Kutlukent furniture cluster with the model value and production chain given in Figures 7 and 8 gives idea about the missing elements in the cluster, the presence of

which would be beneficial for the competitiveness of the cluster, in terms of primary business branches, providers of inputs (manufacturer/seller) and business support services. The identification of policy needs in terms of missing elements in Kutlukent furniture cluster and related policy recommendations will be explicitly discussed in section 5.1.3.

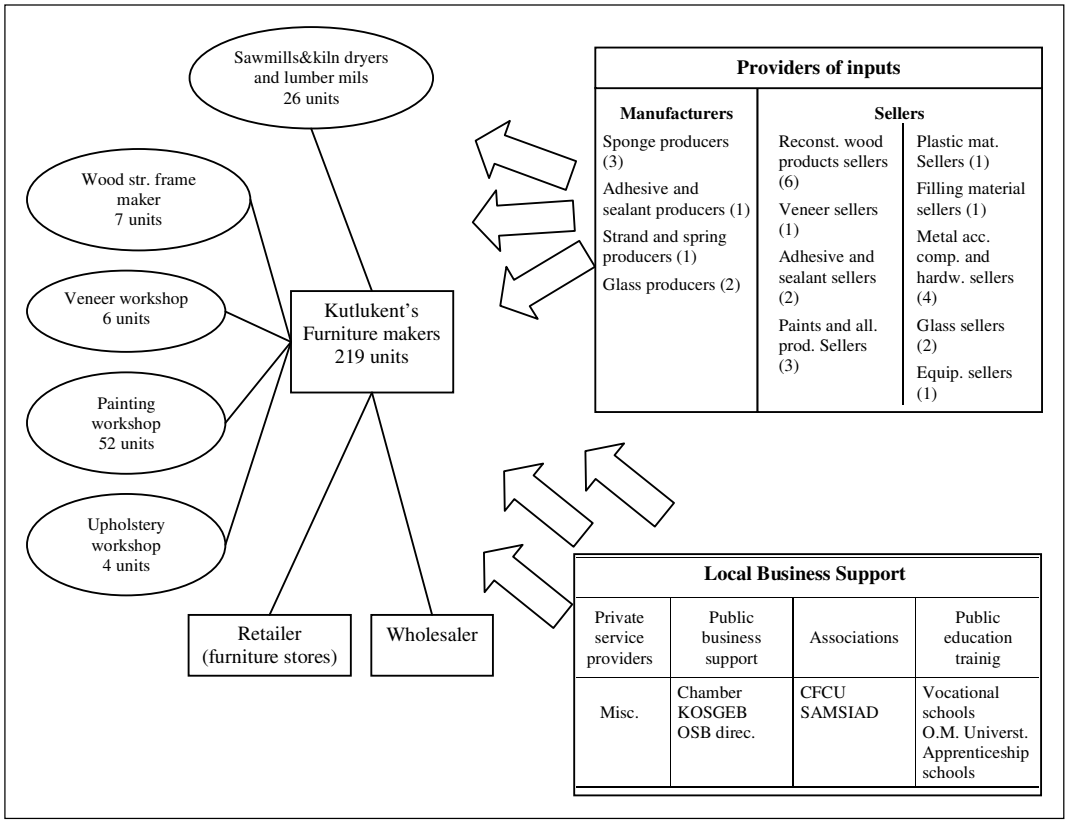


Figure 11. The map of Kutlukent Furniture Cluster

4.3.1.3. The characteristics of the enterprises involved in cluster

The majority of furniture sector enterprises in Kutlukent are micro, family-owned enterprises. While, there is no exact data on the employment, it is estimated that more than 80% of the enterprises have employment less than 10 (Personal communication with İ. Ülker, President of Samsun CFCU). Since the enterprises are

owned by founder families, first or second-generation, there hardly exists any professionalism in management of the enterprises. The basic characteristic of the managerial structure in enterprises is traditional understanding in management. There are just three enterprises that we can call institutionalized, which have their own brand name and employ high technology machinery, as exceptions to the above characteristics. However, these professional-like enterprises are also owned by families. The lack of institutionalization and professionalism is stated to be the basic hindrance for these enterprises that avoid them to improve their technological level, national and international market share, and production capacities, as it is the case for all Turkish SMEs.

The average age of the enterprises in Kutlukent is estimated to be around 15, while there are a few rooted enterprises (Personal communication with İ. Ülker, President of Samsun CFCU). While most of the workshops of the enterprises in Kutlukent are newly established, most of them are the migrant enterprises from the old KSS location. The major sources of start-ups are the setting up of a business by the apprentices, or by second-generation members of enterprise owning families. This is specified as a hindrance in front of growing in size.

The entrepreneurs in the location are mostly uneducated. While they have obligatory vocational training, i.e. mastery training, none of them has higher-education degree. The lack of education also prevails in the management field. Furthermore, as the survey results indicate, the entrepreneurs are not recognizing the lack of management training as a critical problem in the sector. Out of total 165 relevant ones, just 33 enterprises (20%) identify that problem as highly important, while 44.24% of enterprises do not see it as a problem at all. This situation brings about the lack of professionalism and problems in communication. While the entrepreneurship and courage is much, this ability is not complemented by the ability of medium and long-term planning. This results in unsuccessful initiatives or lack of growth. While, the business culture is characterized by a high sense of independency, the same determination is not present for the desire to grow in the lack of professional background. The cultural characteristics related to relations between the enterprises are given in section 4.3.2.8.

As the characteristic of micro-sized workshops, the production of furniture in the location is labor intensive, rather than technology. The use of NC machinery is in just a few enterprises, mentioned as institutionalized above. The workshops of furniture makers are mostly of universal type including conventional type machinery. Both make-to-stock and make-to-order type of production is observed at the location. However, in the lack of financial power and due to high input costs, many of the manufacturers work without stock, or with small amount of stock. The small closed fields of manufacturers also give hints about this situation. The lack of standardization in products and production, and labor intensivity points to flexible product composition as well as low level of production capacity at the location.

4.3.1.4. The characteristics of work force

As the furniture sector is traditional in Samsun, there is an evident skill accumulation in furniture sector. However, recent trends in the labor force signals urgency. While the higher-education degree owner workers hardly exist (5%), 70% of the workers in the Samsun furniture sector are noted to be qualified (Samsun KOSGEB Furniture Sector Report, 2002). In the same report, it is also mentioned that the sector is in need of educated, productive, creative, and technically sufficient workers.

When the enterprises are asked to evaluate the importance of the problem of the lack of qualified workers and vocational training facilities, among the 210 relevant interviewees, 145 enterprises (69.05%) voted that problem as of importance and of vital importance. The expressions of the interviewees on that subject revealed that the major reasons behind the problem are: the increased period of obligatory primary education; the low practical quality of training programs provided in apprenticeship schools, and vocational schools, and the remoteness of these; over mobility of workers between enterprises; and the out- migration of qualified workers to Istanbul, Ankara and South Anatolia. Moreover, that out-migration is also valid for the master workmen. They are moving to regions that attract them with better incentives, such as Istanbul and İnegöl. In addition to that, the poaching of workers among the manufacturers is another problem identified by the surveyed enterprises.

The prevalent financial problems of the enterprises causing low level of motivation and productivity among unpaid or underpaid workers is also another factor badly affecting the labor force. This, in turn, leads to the lower production quality and disruptions in production due to quitting or moving workers.

The lack of qualified workers on upholstery, design, use of NC machinery and marketing is a common issue noted by enterprises. Especially for the medium scale producers of the region, the lack of qualified engineers to be employed in various departments to increase the effectiveness and efficiency of the operations and the competitiveness is another problem.

The lack of furniture sector focused training providers seems to be of importance for the future of the furniture sector in Kutlukent.

4.3.1.5. The interaction and cooperation between the elements involved

The interactions between the involved elements are the main feature characterizing the cluster formula. The elements of a cluster are linked to each other by commonalities and complementarities. The commonalities may include shared labor pool, common technologies and other production factors, common buyers or distribution channels, common culture, common location, common opportunity and threats. The complementarities can be expressed in buyer-supplier relationships, the production of complementary goods and sharing of complementary resources. The relationships in the network are characterized by features such as competition, cooperation, and interdependence. We distinguished various relationship classifications. First, the interactions between the elements could be trade based or non-trade based arising from the collaborative attitude of the “socially proximate” firms. Second, these trade or non-trade based relationships among the elements of a cluster, could be the relationships along the production value chain (vertical), the relationships between the entities at the same level of value chain (horizontal) or relationships between the elements from different related sectors (lateral). Moreover, these relationships between the elements could be formal, i.e. formalized by way of agreements or contracts, or in the form of formal member unions, trade unions or network groups, or informal, i.e. informal agreements based on mutual trust.

The economic success of these interactions, and hence of the cluster, is mainly based on the trustful social relations and collaborative attitudes of the elements involved, i.e. social proximity. That social proximity mainly stems from common social and cultural conditions such as common culture, history, ethnicity, residence, family ties, shared identity and values, business customs, local work ethos, which brings about the major ingredient of effective inter-firm relations, the "mutual trust". Therefore, another characteristic of the ideal type successful regional cluster is close cooperation between the economic agents acting within the cluster. Any close co-operation between firms and institutions, as well as within firms, demands the establishment of a certain degree of mutual trust between people, and that the area is characterized by an "us-and-them" attitude, a common vision of the future and shared identity.

The above explained features are the major ingredients of the cluster formula, whose output is the increased competitiveness of the elements involved, and the whole system. We will analyze the conditions of our potential cluster in terms of relationships between the elements below.

4.3.1.5.1. Traded interactions

The elements of our cluster structure are divided into three main categories; private, public, and NGOs. The private part is divided into four categories, which are primary and secondary business branches engaged in manufacturing; the suppliers of material inputs; and the private service providers. The public part of the picture involves the public business support organizations and training providers, carrying out important functions for the involved enterprises. The NGOs are the primary business associations constituting a cooperation platform for the enterprises.

The trade-based interactions are among the elements of the first category, the primary and secondary business branches, the suppliers of inputs; and private service providers. The flow of materials/goods in the production chain is analyzed in the section 4.3.2.4. The picture drawn at that section reveals that the trade based forward and backward ties (vertical relationships) based on the sell/purchase relations is prevalent among the core business, i.e. furniture makers, the intermediary producers, the suppliers of materials; and the secondary business branches. The presence of

vertical disintegration of production, i.e. the segmentation of production processes into segments each associated with a different intermediary producer, was discussed in section 4.3.2.4. The considerable number of intermediary producers points to high level of vertical disintegration within the cluster, which in turn brings about the enhanced production capacities through flexible specialization.

These vertical sell-buy relations are the prevailing type of trade linkage between the elements along the value chain. Moreover, the horizontal trade linkages between the manufacturers producing complementary products are also evident in the structure. No other kind of horizontal or lateral trade based relationship is noted in the expert interviews. However, there exist relationships based on the mutual benefits of enterprises, and in that sense, indirectly trade based. These types of relationships are examined in the following section, the cooperative relationships.

4.3.1.5.2. Untraded interactions

While the buy-sell trade relationships are the major type of relationships, the involved elements also cooperate in various activities. As the involved same-sector enterprises experience some commonalities, such as a common location; common culture; sharing of common labor pool; common inputs; usage of common technologies; competing in common markets; common opportunity and threats; etc, they carry out some, perhaps limited, cooperative relationships based on these commonalities. The complementarities, like the production of complementary goods and being the suppliers-customers of each other, also contributes to the relationships between the involved elements.

As the survey results and the expert discussions reveal, the existing forms of vertical, horizontal or lateral type cooperative activities include; cooperative procurement of machinery; cooperative purchase of material inputs; cooperation in the development of new products; support of the manufacturer to its supplier in the production of intermediate good it desires; exchange of experiences and technical information. Moreover, the sharing of the machinery and workers, and passing of customers to each other are also observed types of cooperative relations. Cooperatively declaring the issues related to physical infrastructure is another activity noted by the representative of the Kutlukent municipality. These cooperative

initiatives mostly are not formalized by contracts or agreements. While the interview results indicate the existence of these collaborative relations, it is also emphasized that the collaborative attitude is not the feature of the whole structure. In other words, these cooperative relationships are experienced among some small-sized groups of businesses, which operate mostly in isolation with the rest of the structure. The members of these groups are mostly situated at the same street and not competing with each other, either they are the customers of each other or they produce complementary products. Only among the upholsterers, horizontal cooperation between the peer firms is noted.

Therefore, as the survey and the expert discussions reveal, in our potential cluster it is hard to claim that there exists a 'total' social proximity and collaboration potential as industrial districts of Italy. When the factors positively contributing the, perhaps limited, cooperative relations are concerned, the experts mention the family ties, kinship, neighborliness, friendship based on apprentice-master relations and hemşerilik, meaning coming from the same town. All these are the factors contributing to the social proximity of the elements, which brings about the major ingredient of effective inter-firm relations and, in the end, the competitiveness of the cluster: the "mutual trust". As these factors do not prevail in the complete picture, an 'us-and-them' attitude, a common vision, and shared identity are not the features of our potential cluster, as they are in successful cluster models.

The scarcity of the 'overall' mutual trust is also clear in the survey results. The interviewees are asked if they have trust on the colleague furniture manufacturers and if their attitude towards cooperation is positive. While, the answer 'yes' is always expressed to be conditional and thus unreliable; the ratio of the number of 'no's to number of 'yes's could give us hints about the presence of mutual trust and the attitude towards cooperation. Among the 278 interviewees, there are 136 'no's and 124 'yes's. The ratio is 1.1, pointing to the accuracy of above identified experts' opinions.

The major reason for the lack or erosion of overall mutual trust is noted to be the cutthroat competition getting more intense day by day because of the general negative trend in economy and markets. This trend has resulted in bankruptcies and failure in fulfillment of commitments, increasing the suspicion and insecurity of

enterprises and eroding the mutual trust. Another important factor harming the trustful relations is the existence of embezzler manufacturers, who purchase inputs in termed manner, produce, and sell products at loss, and exit without notice by showing the colleagues around. These manufacturers considerably harm other manufacturers, the overall trust, as well as the image of the Samsun in the market as their products are mainly low quality. Moreover, another reason for the lack of shared identity is noted to be the multicultural environment and high presence of migrants from other regions at the cluster.

Here it will be meaningful to mention some identified factors negatively affecting the faith of the enterprises on cooperation, as explained by the experts and entrepreneurs. In the history of the Kutlukent furniture cluster, there are bad experiences of joining of forces. These experiences include the split of the producer consortiums soon after their establishment, and the split of family enterprises owned by the members of the same family. Furthermore, an early initiative for the establishment of Kutlukent Furniture Manufacturers Association is noted to have become unsuccessful, due to the demand of payment without explaining anything. This experience could be considered as another factor to block the success of such future activities.

When we add the lack of meeting places and the ineffectiveness of the cooperation platforms such as SAMSIAD, CFCU, and profession committees at SCIC, and perhaps more importantly, lack of professional managerial attitude and education, onto these factors, the picture of the Kutlukent furniture cluster in terms of the interaction and cooperation between the involved elements is becoming clearer.

While that picture is very disappointing when the fact that the major feature of a cluster contributing to its competitiveness is the high level of interaction between the businesses, is taken into account. However, the survey results indicate that we are at a good starting point for designing and promoting instruments to promote the cooperation potentials, since a high proportion of enterprises recognize problems with interactions, the lack of trust and collaboration as a critical factor behind the negative economic trend and the underdevelopment of the cluster. Among the 233 asked ones, 179 enterprises (77%) voted that factor as critical and highly critical.

As a final point, while Samsun KOSGEB has some instruments, which are mainly based on the collaborative tender procedures for technical and financial support services to be provided, for promoting the cooperation potential among the enterprises, it does not spend any efforts to analyze the current situation in terms of cooperation potentials; and to address the issues discovered in our discussion.

4.3.1.6. Innovation performance and potential

The innovation capability is the main factor contributing to the competitiveness of the economic agents in today's knowledge based economy. The clustering of enterprises constitutes the right environment stimulating the innovation process. The successful cluster models are characterized by heightened innovation capacities owing to the common features of clusters, particularly the interactive environment, as explained in the review part of our research.

The Kutlukent furniture cluster could not be specified as innovator, in either products or the production process. There is no evidence of efforts to innovate among the enterprises involved in the cluster. Rather, the evident, perhaps limited, efforts are spent to be able to follow the improvements in products and production systems.

When the product innovation is concerned, the enterprises do not engage in product innovation to produce new designs, functions etc. The new product designs enter into the cluster by the promotional materials, such as catalogues, web pages etc., of other forerunner furniture manufacturers. The manufacturers of Kutlukent imitate that model and put into the market. Imitation is also prevalent within the cluster. It is experienced that the same model is produced by another manufacturer before the first imitator. These experiences point out the high competence of the manufacturers on furniture production, as well as the rapid diffusion of knowledge. However, they do not utilize their competences for the development of new designs, and ironically, they define the reason for that as the fear of having their new design stolen. While a few brand owner medium-scale enterprises have some original product lines, it is not possible to talk about 'Samsun style' furniture. Only three of the enterprises are noted to hire designers to develop new designs.

The situation is the same with the innovation in production systems. Production is mainly labor-intensive in the small-scale universal type conventional workshops. A few automation technology employing enterprises are also in an effort to follow the new technologies in the production systems in the world market, rather than innovating.

Only a limited number of enterprises are spending effort to follow the innovations in products or production systems. The main method is the search through the web pages. However, a very limited number of manufacturers are familiar with the internet. To encourage the usage of internet and information collection via it, by the collective efforts of CFCU and KOSGEB, an internet café is founded at the old KSS region and introductory courses are arranged for the enterprise-owners in the Samsun furniture sector. However, the portion of attendants is noted to remain rather limited.

There are no sector-specific public or private service providers, such as R&D institutions or consultancies, to assist the enterprises in the improvement of new product designs and development of new production systems as well as in the investigation of information on new materials and technology transfer. KOSGEB has some indirect support mechanisms to encourage the enterprises for upgrading their efforts in following and creating innovations. These mechanisms include the training sessions for the workers and employers; internet hosting service and membership to specific search engines (KOBINET); visits to international sector-specific fairs; and common usage workshops (ORTKA) to facilitate the employment of new technology. However, the realization of these support mechanisms among the furniture sector enterprises has remained low. The reason for the low level is explained as the lack of interest among the entrepreneurs. However, it is also evident that KOSGEB has no interest in the micro and small-sized workshops to encourage them making use of its support mechanisms, and the efforts of KOSGEB to create the demand for its services are very limited.

The lack of willingness to innovate and low level of innovation capacities causes the enterprises not being able to penetrate new markets, especially in the export. The lack of institutionalization, professionalism in management, and the long-term planning ability together with the scarcity of the finance could be thought

of the major reasons behind this situation. However, this is not a case peculiar to Kutlukent furniture makers, rather, the problem of almost all Turkish SMEs. While the generic measures are being applied to improve the innovation capacities of SMEs by public institutions, cluster-oriented assistance policies have not become the concern of the policy makers at all, despite the abundance of practices showing the contribution of clustering of enterprises to innovation and competitiveness, both in industrialized and developing countries. We will develop some policy recommendations in the concluding chapter to improve the innovation capacities at Kutlukent furniture (potential) cluster, in a cluster-oriented perspective, by addressing deficits in the knowledge base of the cluster and the interaction between the businesses involved, which is very crucial for innovation.

For our potential cluster, while the negative aspects related to innovation capacities are serious, and the low level of social proximity and interactions between the businesses, which is the main ingredient for the enhanced innovation capacities of a successful cluster, adds onto those negatives, there are some indicators showing the potential too. As it is explained in the previous sections, the vertical disintegration of production creating a conducive business environment contributing to innovation via flexible specialization is one of the positive aspects. Besides that, the survey results show that, majority of the enterprises specifies the absence of R&D and design facilities as a major hindrance for the development of the cluster. Among the 176 relevant enterprises surveyed, 102 enterprises (58%) voted that problem as critical and highly critical. That represents a fine starting point for the assistance policy intervention, which should be started with the awareness rising activities among the furniture makers about the value and dimensions of innovation in today's global market.

CHAPTER 5

CONCLUSION

The principle goal of this study was the development of policy recommendations to promote cluster potential identified in the descriptive part of the cluster-based policy-making process. In the previous chapter, the results of the research, i.e. cluster analysis, are presented. Therefore, we have comprehensive cluster-related information, i.e. description, about the potential cluster, namely Kutlukent Furniture Cluster, we identified in the geographical area within the boundaries of Samsun province by using "clusters as sectors" approach. In this chapter, the results of analysis are discussed in accordance with the objectives of the study, that is, this chapter represents the final stage of policy-making process, i.e. prescriptive part. Accordingly, first the clustering potential of the identified potential cluster is assessed by a discussion of the presence/absence of the common features of clusters in the structure. As the strong and weak aspects in the clustering potential of Kutlukent Furniture Cluster are identified, the discussion is completed by development of policy recommendations comprising identification of policy needs, determination of corresponding policy goals, and the design/selection of policy instruments. In the final section, suggestions for further research are discussed.

5.1.Identification of Policy Needs and Development of Policy Recommendations

In the previous chapter, we have drawn a profile of our potential cluster, which provide us with the information to identify the policy needs of the structure and to develop policy recommendations and design instruments using the cluster

approach. Therefore, we completed the diagnosis phase, except for the identification of the policy needs of the cluster, which will be followed by prescriptive phase below. The information collected at the diagnosis phase reveals the need for policy intervention implicitly. While, making it explicit is a part of the diagnosis phase of cluster policy-making cycle, we will integrate that part to the prescriptive phase, i.e. cluster-based policy recommendations, without intervening the logical sequence of policy-making process.

We reviewed different policy actions and instruments developed in various applications of cluster-based policy-making in the review part. As it is evident in the comprehensive definition of cluster policy, the policies and instruments are developed with the aim of promoting cluster potentials and strengths, and overcoming the weaknesses and addressing the needs and problems using the cluster approach. The diagnosis phase put forward the initial situation of our structure in terms of cluster potentials assessed by mainly using the common features of clusters, showing "what is available". The information collected in the diagnosis of the policy target, together with the reviewed benefits associated with clustering, also contributed to the development of the notion of "what could be achieved? and where do we want to go?". Therefore, our policy goals are defined in terms of benefits, which arise from the process of clustering (Raines, 2002).

Having all these information about the existing and desired situation, as well as the information of different cluster-based policy-making practices, we are confidently at the descriptive phase, developing policy responses; with a chance of learning from the cluster-based policy-making experiences gained in different initial conditions, which is reviewed in section 2.3.2.2. The design of policy recommendations will be the last part of our field study. The response will include the identification of the specific policy goal, and the recommendation of policy instrument to achieve this goal.

We will start with the identification of the cluster specific characteristics and cluster potential of the structure making use of the different typologies analyzed in the review part. In the following subsections, the specific issues identified in the

cluster analysis will be assessed one by one and the policy recommendations and instruments will be developed to address these issues, i.e. policy needs.

5.1.1. Characteristics and Typology

Each typology of clusters developed in different applications is characterized by a different degree of competitiveness and dynamism and follows different development trajectories, as a consequence, requires different (cluster) policy measures to support and promote ("*Generic Features*", n.d.). Hence, it is necessary to adjust the criteria for planning of assistance strategies to the conditions in different typologies of clusters.

Kutlukent furniture cluster consists of mainly micro and small-sized enterprises. While there are a few medium-sized enterprises, their contribution to the overall cluster by forward and backward ties is very limited.

Proximity to universities, science parks, and research institutions is not a feature of Kutlukent furniture cluster. No link is identified to such institutions except for a few enterprises receiving support from KOSGEB. While this is the existing situation, this is not to deny the potential importance of such institutions for the cluster.

Kutlukent furniture cluster is a sectoral cluster, while backward links to other sectors are evident in the value chain. These sectors include chemicals and rubber, metalworking, glass products, textile, printing & publishing, and paper.

The presence of the horizontal specialization and vertical disintegration in the cluster points to the considerable depth of the cluster in its sector.

The production chain of Kutlukent furniture cluster is mainly traditional and labor-intensive. Both make-to-order and make-to-stock type production is evident in the structure, while make-to-order type is more common.

When the relationships between the elements of the Kutlukent furniture cluster are concerned, the prevailing type of relationship is market, sell-buy relationships characterized by specialization subcontracting and purchase of material inputs. The informal trust-based relationships and cooperation are limited and among specific small groups of enterprises. While the majority is registered in the formal association CFCU, the cooperative activities via association are again limited.

According to level of aggregation, the study, and the cluster, is micro level, implying the study of the network of interrelated individual firms in a value chain.

Finally, according to the evolution stage, Kutlukent furniture cluster cannot be classified as 'working', 'overachieving' or 'self-aware' in Rosenfeld's (1997) terms. Rather, Kutlukent furniture cluster is an emerging potential cluster that carries some key conditions but lack some features, and it certainly needs support to turn into a working cluster in the sense of the theory. The key conditions in terms of cluster potentials, which the Kutlukent furniture cluster carries, include the trade relations, spatial proximity, evident horizontal specialization and vertical disintegration, and the presence of critical elements related to production within the cluster pointing to (almost) complete picture of production chain, i.e. a self-sufficient cluster. However, more importantly, the features that our potential cluster lacks are self-awareness, cooperative activities, specialized supporting institutions and tailored infrastructure, and innovation capacity. Moreover, the picture of production chain and localization of production indicates some missing crucial elements in the cluster structure that would contribute to the competitiveness of the structure as a whole. Therefore, as the lacking features are the critical ones for functioning and the competitiveness of a cluster, Kutlukent furniture cluster could be considered as having a *low cluster potential* that should be promoted by utilizing the existing potentials and strengths and addressing the weaknesses and obstacles, by appropriate cluster-oriented assistance policy measures.

The analysis of Kutlukent furniture cluster represents such a picture of potentials, strengths, weaknesses, and problems. These features of the Kutlukent furniture cluster will be handled together with other aspects specified in the diagnosis phase in order to identify policy needs, and develop policy recommendations to promote our potential cluster.

5.1.2. Lack of Cooperation and Identity

As it is emphasized before, the major factor contributing to the competitiveness of the cluster structure is the intensive inter-firm relations and cooperation. Therefore, the major objective that policy makers, who are interested in developing cluster-oriented development policies, focus on is the promotion of inter-

firm linkages and dialogue between the actors involved. This is evident in many definitions of cluster policy in various applications. Because of its criticality, the first aspect that we will handle in the development of policy responses is the interactions and cooperation. In section 2.3.2.2.5, we put forward general line of activities to promote inter-firm relations and cooperative activities, which are common in most of the applications. There, we stated that design of policy instruments to address the problems related to inter-firm relations, cooperation and identity is highly dependent on the current situation revealed in the analysis of the cluster. Now, we have the information of interaction and cooperation between the businesses in Kutlukent furniture cluster, as well as different practices of promotion of inter-firm cooperation to utilize in the design of policy instruments specific to our conditions.

The information on the initial situation of Kutlukent furniture cluster in terms of inter-firm relations and cooperation potentials is provided in the cluster analysis phase in section 4.3.2.8. According to analysis results:

- Trade-based relationships are the prevalent type of relationship in the cluster and forward and backward vertical links are intense between the business in different segments of value chain.
- While there are various types of cooperative activities observed, these are mostly within the small groups of businesses, and an overall cooperative environment is not evident.
- Various types of commonality and complementarities as well as social ties such as family ties, kinship, neighborliness, friendship based on apprentice-master relations and hemşerilik are the factors contributing to cooperation potential.
- As these factors do not prevail in the complete picture, an ‘us-and-them’ attitude, a common vision, shared identity and an ‘overall’ cooperative attitude are not the features of Kutlukent furniture cluster.
- The reasons for the low level of cooperation are specified as:
    - cutthroat competition getting more intense day by day because of the general negative trend in economy and markets
    - lack of professional managerial attitude and low level of education

  - existence of embezzler manufacturers
  - multicultural environment and high presence of migrants from other regions at the cluster.
  - bad experiences of joining of forces
  - an early unsuccessful initiative for the establishment of Kutlukent Furniture Manufacturers Association
  - lack of meeting places and the ineffectiveness of the cooperation platforms
- KOSGEB has some cooperation promotion instruments but they are not effective.
- The survey results reveal scarcity of trust in the majority of enterprises, but also shows, a great portion of involved enterprises recognize that as an hindrance for the cluster's development.

These facts reveal that we are at a negative starting point, except for the presence of vertical disintegration offering a cooperation potential, the recognition of the problem with cooperation by the actors, and still existing social relations. That information reveals the rationale, and the initial situation of the structure that the cluster-oriented policy response should address Therefore, our policy goal is defined as "*promotion of self awareness, dialogue, and cooperation*".

The analysis of Kutlukent furniture cluster depicted that the cluster lacks identity and self-awareness, and the cooperation potential is very limited. Such an initial situation calls for the importance of initiation and sensitization activities at the beginning of the policy responses to promote the cluster, as the cooperative activities cannot be forced on a cluster. The initiation of dialogue between relevant actors requires the sensitization of all participants (firms, related organizations, public actors) to the importance of cluster formation for enhancement of competitiveness. For that purpose, the main instrument is the arrangement of meetings as platforms for awareness raising and constructive dialogue targeting the identified potential cluster structure. In the preliminary meeting, the starting point should be raising the awareness of the actors about the existing situation, "what they are, and what the prospects for future are as a trajectory from the past and today's situation". The

major source for the presented information could be the results of the cluster analysis. The presentation should put forward the situation clearly in terms of low capacity utilization, decreasing market share, the negative trend in labor force, and other negative aspects as well as the positive situation in their "rival regions". While these are the aspects they all know, the aim is to share the whole picture with each participant, and to tell them "while you do not have a common vision, you will face the common faith of extinction". The major aim in that is to make them know the truth of crisis they all share, just to mobilize their efforts to get rid of this situation. Following the presentation of the problem, the competitiveness potential of the cluster should be introduced making use of the successful cluster cases achieved from the similar or worse existing situations. The success process should be linked to the dynamism gained by clustering process and collaborative attitude. This way, they are informed about "what they could be and what can be achieved via cluster initiatives" with an emphasis on collective identity and collective benefit. The examined models should be mainly from Turkey, such as Kayseri, Ankara and Inegöl models, to convince the participants that such a case is feasible in Turkey-specific conditions. Moreover, the presentation of "what they could be via cluster initiative" should also be clearly linked to the existing needs and problems of the cluster identified in the cluster analysis.

The results of the analysis are shared with the potential participants and the potential of the structure is presented. Besides that, the explanation of the benefits, which could be achieved through cooperation, using the successful practices of comparator structures together with the identification of existing and possible forms of cooperation would be useful in sensitization phase. The notion of "we could win by joining the forces together, or lose altogether individually" and "how to join the forces" is developed in the preliminary meeting.

As it is proposed in the review part, as a an output of the preliminary meeting, to assure the continuity of initiative, a forum could be built, in which potential participants can become acquainted, sharpen their awareness of the advantages associated with clustering, and develop a common vision for the future. Following this, the collective assessment of existing and possible synergy effects of cooperation and joint appraisal of the need for assistance could construct a collective vision for

cluster initiative. These meetings also lead the actors get to know each other. The participation of the local authorities respected in the region will also support the participation of actors in the meetings.

Theme-specific working groups, such as according to the business branch, or the product type, could be formed to assure continuous contact between the relevant actors. These groups could meet at regular meetings; here alternative business strategies can be discussed, possible forms of cooperation can be considered, and perspectives for the future of the cluster can be developed. These groups can act as a catalyst for increased networking. The working groups prepare proposals for the improvement of sector-specific framework conditions. The working groups could, for example, implement initial joint actions such as, joint participation at trade fairs, joint procurement, group marketing; organize lectures and discussions on topics of current interest. Each joint activity contributes to the very important process of trust building between the actors.

The above explained generic process, which is proven to be effective by various practices, would contribute to the development of a common identity, shared vision and promotion of cooperation. However, in order to adapt the process to our specific conditions, some aspects should be handled with care. These aspects include:

- In order to ensure regular participation in the meetings, the discussions should be on the topics which specifically interest the participants and which offer them concrete benefits, already in the short run. The short run benefits should include the increase in the sales, entrance into new markets, and the topics related to the problems and needs identified in discussions and the cluster analysis.
- The initial joint activities should be on less strategic issues that will bring about results in the short run, rather than the complex collaborative initiatives needing profession. Because, the participants would be disillusioned if their first experiences with cooperation are negative (Boekholt & Thuriaux, 1999). These activities may include collective participation in fairs, collective visits to fairs, collective training activities etc. As the results materialize, the confidence of the participants in the cooperative initiative will increase, which will open up the way to more complex cooperative activities.

- Government actors should participate in the meetings in order to ensure cooperation between the government and the cluster, which will improve the confidence of participants on the process by showing the government's sensitivity and support to the initiative. Using the results of the regular meetings, government actors should introduce initial measures to improve the framework conditions, which is their basic part in the initiative. The intervention of the political decision makers i.e. enabling the framework conditions, to improve the cooperation potential should be in parallel with the measures listed in section 2.3.2.2.5.
- For the initial awareness raising activities, no financial support from the participants should be expected. The necessary financial and technical support should be provided by public for the coordinators of these activities. As the promised benefits of the initiatives and expectations materialize eventually, after then the participants will be willing to support the initiative financially. The sustainability of the initiative will be provided in such a way.
- Setting up a firm-to-firm network is a complicated task requiring time and professional mentoring. Together with the initial sensitization activities, the coordination of the following meetings and other cooperative activities should be carried out by professional public agents, who will act as a catalyst in cooperative relations, having experience in such activities. Public agents setting up network activities should have experience in considering networks from the business perspective, while public brokers should be sufficiently trained or experienced to deal with the multifaceted aspects of inter-firm collaboration.
- The ineffectiveness of the cooperation platforms, namely, CFCU, SAMSIAD due to lack of profession, resources, and infrastructure, points to a gap in the meso level support to cooperation. Moreover, as the confidence of the enterprises on these institutions is in question, the requirement of establishment of a business support institution to coordinate the cooperation promotion activities is laid bare. The institution should be settled centrally within the boundaries of cluster. The personnel should be sufficiently trained

and experienced to coordinate the cooperation promotion activities. On the other hand, the institution should have a profession on technical furniture production related subjects, as the gap stemming from the lack of furniture-sector specific business support institutions in the cluster points to such a requirement to contribute to the self-sufficiency. The roles that such an institution will take on should be in parallel with the activities specified for the designed business oriented institutions (the meso-level support to cooperation) in review, section 2.3.2.2.5. The institution should also have appropriate building facilities to provide the enterprises with suitable meeting and training places. As a final point, the personnel working in the agency should be in equal distance to the all members of the cluster, not to harm the fragile trust atmosphere in the cluster.

- Since the low level of education and professionalism among the enterprises in Kutlukent is a fact, the initial awareness-raising activities should be emphasized as well as the training sessions on specific cooperative activities. The low level of trust identified in the survey also points to the importance of sensitization and awareness-raising activities.
- The initial collaborative activities should be encouraged to be the vertical ones as the interaction potential in Kutlukent is of this type. Moreover, the horizontal cooperative activities are harder to materialize as it includes the cooperation of the enterprises rival to each other. The horizontal cooperative activities would be more feasible as a culture of cooperation settles in the structure.
- The presence of embezzler manufacturers is a critical factor harming the trust climate of Kutlukent furniture cluster. They should be eliminated by effective control mechanisms and legal measures.
- Another factor harming the trust climate is the stealing of designs among the enterprises, which also harms the innovation potential of the cluster. The measures to avoid this may include raising awareness of the enterprises about the intellectual property rights, and informing and encouraging them to make their innovations copyrighted.

- Being the primary organ of Turkish industrial policy to provide support for the competitiveness of SMEs, KOSGEB's potential and resources should be facilitated for the improvement of cooperation potential. The ineffectiveness of the activities carried out so far for the promotion of cooperation should be overcome by effective promotion and awareness raising activities to create the demand for the services among SMEs. These activities could include meetings, seminars, training sessions, printing of booklets etc. Moreover, in the forum and meetings of the cluster's actors, KOSGEB's representatives should also take part in so as to develop more tailored, cluster-specific business support services.
- For the effective cooperation of the actors, besides raising awareness about the benefits and modes of cooperation, the actors should also be informed about their mutual rights and responsibilities, which should be preserved by effective appropriate legal measures, such as intellectual property rights and anti-trust laws.
- As the presence of CFCU, SAMSIAD and profession committees of SCIC, in spite of being ineffective, represents a potential cooperation platform that the involved enterprises could collaboratively raise their voices for their common needs and problems to make them heard by the related government institutions, the enterprises should be encouraged to utilize this potential more effectively. The effectiveness could be increased by the effective representation of formed theme-specific workgroups in these cooperation platforms. The network promotion agency should also use the potential and channels, which these associations offer for the involved enterprises, by being in collaboration with these institutions.
- The printing and publication of a cluster-specific periodical could be another instrument both to strengthen the identity of the cluster and to contribute to the dialogue among the actors. The elements should be informed about the progress of the initiative by success stories presented in the publication to improve the confidence among the involved elements. The publication should also be used for the dissemination of information throughout the sector and

cluster about, such as market trends, foreign trade procedures, public incentives, technological developments, new materials and other kind of innovations in the sector.

The application of these instruments could promote the cooperation potential within Kutlukent furniture cluster, and give rise to the establishment of 'regional identity', 'us-and-them attitude', common vision and cooperation culture, which is very crucial for the effective functioning and the competitiveness of the cluster via improved innovation capacities and other kinds of advantages related with intense interaction and cooperation as explained in chapter 2. These policy development and application process should be dynamic, that is, some additional, complementary instruments to increase the efficiency, effectiveness, and continuity of the initiative should be employed based on the information and response received in the initiation and sensitization phase, as these strategy elements provide information for possible new approaches and instruments for cluster-oriented assistance strategies and policies.

5.1.3. Missing Important Elements

We classified the elements of Kutlukent furniture cluster into five categories, namely, first category involving the business branches directly or indirectly involved in furniture production, i.e. primary and secondary business branches and suppliers of inputs; private service providers; public business support institutions; business associations; and public education and training institutions. The explanations and the numbers of these elements of Kutlukent furniture cluster is given in section 4.3.2.3. The picture constructed in that section is completed by the analysis of the flow of materials and goods in the value chain in section 8.2.4. The final picture of the cluster includes backward and forward ties; inputs; outputs; flowing materials and intermediary products; production stages and associated business branches; localization of production and trade linkages to other locations. By this picture, we tried the shed light on the features of our 'virtual factory' related to the 'self-sufficiency' of and localization of value chain, together with the identification of links to other regions. For that purpose, we developed some numbers and constructed

tables. In the following sub-sections, the results of this analysis, i.e. the description, will be interpreted and policy needs will be identified, and appropriate policy recommendations, i.e. the prescription, will be developed.

As it is also assessed in the mentioned sections, the above explained picture drawn indicates some important elements being missing in the value chain of Kutlukent furniture cluster indicating the deficit in the 'self sufficiency' feature of a functioning successful cluster. Therefore, the policy goal is defined as "*addressing the missing links and elements in the value chain of the cluster and bringing about a highly self-sufficient cluster taking advantage of a highly complete cluster structure in terms of the supporting businesses and institutions and tailored infrastructure*".

5.1.3.1.Intermediary producers and the providers of inputs

As these elements are the ones that directly or indirectly involved in the production chain of furniture and feeding the core business, i.e. furniture makers, the completeness of the picture in terms of these elements is very important for the competitiveness of the cluster.

The intermediary producers are the enterprises specialized on the intermediary production stages of furniture production chain, producing the intermediate goods flowing in the production process. Table 21 reveals flowing goods, associated businesses as producers and customers, and backward links from the core of the cluster to the other locations. According to the Table 21, Kutlukent furniture cluster seems self-sufficient when the intermediary production process is concerned, and the transactions related with the intermediary production seem highly localized. However, the results show an inconsistency in the metal structural frame maker intermediary production branch. While it seems missing in our structure, the two customers of that branch declared that they outsource that production stage from Kutlukent. The reason for the inconsistency is that the businesses engaged in metal structural frame making do not belong to the furniture sector, and they are not specialized on production of furniture metal structural frame at all. Hence, they are not considered among the primary business branches in our survey. However, this is not to deny the importance of that segment of furniture production chain. While the number of customers demanding that intermediate product is low with only three, as

the usage of metal structural frame in the furniture is an increasing trend in both the national and international market, mostly due to its strength and durability. When we look from this perspective, and in addition to that, if we desire the presence of a model production chain of furniture giving variety of furniture in Kutlukent furniture cluster, the importance of this intermediary business is laid bare. Therefore, our policy recommendation on that subject will be the provision of support for the establishment of specialized furniture metal structural frame makers at our cluster, together with the encouragement of the furniture makers to produce metal structural framed furniture. The possible incentive mechanisms will be analyzed later on in this section. This way the part of the picture of Kutlukent furniture cluster related to intermediary production will be completed.

The providers of inputs, as it is analyzed in section 4.3.2.4.1, include the secondary business branches (manufacturers) and the suppliers (sellers) of material inputs according to our classification. These elements are also the critical ones whose presence would contribute to the completeness and self-sufficiency of the cluster, and hence its competitiveness. Moreover, the presence of secondary business branches in a location represents a more advantageous aspect than the presence of sellers as the purchase from the vendors and franchisers of these inputs brings about higher input costs. Other than the cost disadvantage, in the lack of the manufacturers of critical inputs in the location, the users of these inputs hardly could access the input with desired properties and quality on time. This causes a delay in the production and makes it difficult to mass-produce. Given these facts, Table 19 reveals that the number and variety of secondary business branches and the suppliers are quite limited at our location. This indicates a weakness for Kutlukent furniture cluster, by not being supported by related and supporting industries and suppliers, which is a crucial factor contributing to a cluster's competitiveness.

Table 19 indicates the situation in Kutlukent furniture cluster in terms of inputs, providers of these inputs, number of customers demanding that input as a measure of importance, and the locations, from where the customers of the input acquire it. The primary measure to develop policy recommendations on is the criticality of the input given in the columns 3 and 4. Using that measure, we will apply the criteria that if an input is of high importance, the idea of 'strong

completeness' the preference of the existence of the producer within the cluster rather than the seller.

The inputs demanded by the core business, i.e. furniture making, identified to be critical, as they constitute 62.57 % of the total primary business branches with 217 enterprises. As the furniture made of wood and reconstituted wood (fiberboard) is the major product of the potential cluster the importance of the inputs to that kind of furniture production is high. These critical inputs are logs, adhesives and sealant, reconstituted wood products, veneer, glass, metal accessory and hardware. The procurement of logs is done in two ways; the purchase of import logs, and purchasing it from the Forest Management Directory (Orman İşletme Müdürlüğü). The institution is a monopoly in the sale of logs. The locations Kutlukent's sawmills and lumber mills acquire the logs from are Samsun's towns Bafra and Asarcık, Giresun and Sinop, which are not far away from the Kutlukent furniture cluster. We do not foresee any policy intervention on this subject, and Kutlukent furniture cluster is in an advantageous position by being close to the sources of logs.

When the inputs, adhesives and sealant, and glass are concerned, as large-scale producers of these inputs are located at Kutlukent, the situation is not pointing to a missing element for these inputs. On the other hand, no producer of reconstituted wood products, veneer, metal accessory and hardware inputs are present in Kutlukent furniture cluster. As these inputs are of high importance, our policy recommendation on that subject will be the provision of support for the establishment of the manufacturers of these inputs at our cluster. The increasing trend of the use of various reconstituted wood products in the furniture, especially in the export market, further increases the importance of this input. Moreover, as the basic material, besides wood, used in the production of reconstituted wood products, i.e. the glue, is produced at Kutlukent, the establishment of the production facility would be easier. In addition to that, the use of metal accessories in the furniture is another increasing trend in domestic and international market, as these parts of the furniture considerably improve the attraction and aesthetics of the product. The possible incentive mechanisms will be analyzed later on in this section.

The inputs of secondary importance are paints and allied products. While the number of enterprises demanding that input is relatively low, as the dyeing process is

required for the finished furniture, and in that sense represents an indispensable intermediary production stage, we could claim that the criticality of paints and allied products is more than it seems in numbers. To increase the value added of the furniture production to the cluster, we will recommend that the output of the cluster should be finished furniture, rather than raw, i.e. undyed. On the other hand, the main output from Kutlukent furniture cluster is raw furniture, as it is identified in the analysis. That recommendation suggests the increase in the importance of paints and allied products input for the cluster. The providers of that input are the three sellers located in Kutlukent. Accordingly, our policy recommendation will be the provision of support for the establishment of the manufacturers of paints and allied products at the cluster. The possible incentive mechanisms will be analyzed later on in this section.

The inputs demanded by other production line of the furniture production process, the upholstered furniture production, such as sofa and armchair, seem to be of relatively low importance, as the number of enterprises engaged in the upholstered furniture production is relatively limited. However, as the upholstered furniture is a complementary product of wood furniture, the importance of the inputs to upholstery is greater than it seems in numbers in this respect. The presence picture of the providers of the inputs to the upholstery indicates that, the providers of sponge, strand and spring, and filling material are present in the location while no provider of fabric exists in Kutlukent. As fabric is the major input to the upholstery process, the lack of any provider indicates a critical gap for the cluster picture. Accordingly, our policy recommendation will be the provision of support for the establishment of the manufacturers or the franchisers of upholstery fabric at the cluster. Moreover, in the Kutlukent several textile factories are observed to exist. This suggests an alternative recommendation that the feasibility of the production of upholstery fabric by these factories should be investigated, by informing the owners of the factories about the present demand for that product. The possible incentive mechanisms will be analyzed later on in this section.

The data (percentages) provided in the last columns of Table 19 let us comment on backward relations/links of our potential cluster with other locations. The percentage value depicts the rate of the location's supply in our cluster's total

demand for that input. At the first instance, it is clear from the Table 19 that, all of the inputs with criticality more than 20%, are acquired mostly from Kutlukent, except for adhesive and sealants, and metal accessories. For these inputs, old KSS location competes with providers at Kutlukent. This is partly due to the franchisers of the major brands being located in old KSS located. The moving of these franchisers to Kutlukent would contribute to the competitiveness of the cluster. Moreover, the moving of the enterprises in Old KSS region is among the concerns of the region's decision makers, as it is mentioned in section 4.3.2.1. However, this will not be possible unless the infrastructural problems of Kutlukent are solved. The recommendations related to infrastructural problems and facilities of Kutlukent locality is discussed below.

To address the problem of lack of important elements related to intermediate producers and the suppliers of materials our policy recommendation is based on the provision of support for the establishment of the manufacturers or the sellers of related inputs in Kutlukent. However, in the current situation put forward in the analysis phase characterized by a downturn in terms of production capacities and market share suggests that the establishment of these will not occur by itself, i.e. only by the decision of private investors. We could express this as such; the conditions for the realization of 'self-reinforcing cycle' are not in place in Kutlukent furniture cluster. There are some major hindrances against the realization, which should be overcome by appropriate incentive measures and interventions to address the problems of the structure. The major problem in front of the establishment of the related elements is the infrastructural problems of the region, particularly three KSSs, which should be overcome by the collective initiatives of regional governments and other related governmental institutions. Otherwise, rather than the establishment of new industry facilities, the existing elements of the cluster are probably going to move to better locations. The results of the survey also show that among the problems and needs that are voted by the interviewees, the ones related to infrastructure have the highest portion of 'highly critical' answer. That is, a great portion of the enterprises suffers from infrastructural problems. The voted infrastructural problems include the problems related to drainage, fresh water, and

surrounding planning and cleaning and the portion of ‘critical’ and ‘highly critical’ votes are occurred to be 80.17%, 28.50% and 86.52% respectively. In the first step, the policy should address these problems of the location, which are vital for the survival of the enterprises.

Addressing the problems related to infrastructure will not suffice, as our intention is turning the location into a place of attraction. At such a location, the required elements to enhance the self-sufficiency level of the cluster will prefer to locate in, as at this location they would be able carry out their operations effectively. While all of our policy goals defined are partly to contribute such an objective, at that section the instrument we will propose will be the elimination of dispersion along the locality by setting up of a specialized/organized furniture production site as an organized ‘virtual factory’ producing end products for the regional/national/international market. Such a site will represent an appropriate spatial concentration location that provide Kutlukent furniture cluster a geographical space conducive to growth and to the realization of advantages of clustering related to spatial concentration of involved elements. These advantages are analyzed in detail in the review part (section 2). Such an objective makes us decide on which location is the most appropriate for the organized furniture production site. As each KSSs has available (empty) workplaces to establish business, each is among the candidates. The criteria to be applied in the selection include number of existing elements, the number of available workplaces, dispersion level of existing elements along the KSS, and the level of infrastructural problems. According to Table 26 below, in terms of number of existing elements, and number of available workplaces, Ondokuz Mayıs KSS seems to be the most suitable one. The level of infrastructural problems and the quality of workplaces also verifies the selection. According to the geographical map of the cluster, Figure 9, the dispersion of elements along the KSS is the case for each KSS. Therefore, our proposal for the location of the desired organized furniture production site is Ondokuz Mayıs KSS location. This furniture site will be a location of attraction for tradesmen, wholesaler, and end user, who plans to purchase any kind of furniture, and for the entrepreneur, who intends to invest in furniture sector. However, to strengthen the attractiveness of the site, the solution of infrastructural problems does not suffice. A complete picture of an

attractive site suggests the presence of social facilities, such as restaurants, a nice surrounding, banks, a village clinic, markets, transportation facilities, etc. to serve for both the visitors and the entrepreneurs. As a final point, the enterprises wishing to move to this site should be supported financially and technically to cover the cost they incur for the moving of the workshop.

Table 26. Available capacity in three KSSs in Kutlukent

	Number of workplaces	**Fullness rate (%)**	**Number of available workplaces**	**Number of existing cluster elements**
19 Mayıs KSS	1162	65	406	183
Örnek KSS	582	55	261	61
İlkadım KSS	678	45	372	108

Source: Samsun Economy Report, 2003; personal communication with N. Alıç from SCIC; and enterprise survey

The organized furniture production site could be an incentive instrument for the entrepreneurs to invest in the location. However, such a site in a KSS would be an option only for the entrepreneurs that could make business in workshops of limited size. That is, the workplaces are suitable for the intermediary producers and the sellers of inputs that we identified as lacking in Kutlukent. However, the manufacture of inputs, which we propose it to be manufactured in Kutlukent, namely, reconstituted wood products, veneer, metal accessory and hardware, paints and allied products, and upholstery fabric, requires large-scale investments and large-sized factories. Hence, the manufacturers of these could not be located in the proposed organized furniture production site. OSB is the only option for these large-scale manufacturers. This indicates a problem for the location of the plants, as all the parcels in Samsun OSB are reserved. The alternative OSBs close to Samsun are the Bafra and Kavak OSBs, whose infrastructure is not in place yet. Moreover, these options are not preferable due to the distance factor to the facilities that the enterprises would demand. Here our recommendation is the enlargement of the area of Samsun OSB, which is feasible geographically. On the other hand, another fact of Kutlukent indicates the importance of such a policy action that, some of the owners of furniture making enterprises, which grow and demand a larger workplace to

increase production capacity, are considering to move to the OSBs of the neighboring provinces, due to the absence of larger plant locations in Samsun. In addition, this is partly due to the incentives promised to be provided by the economic authorities of these provinces. This is an alarm signal for the industrial development of Samsun. As a result, we recommend that, enlargement of Samsun OSB should be among the concerns of the decision makers of Samsun, for Kutlukent furniture cluster and general industrial development of the province.

The establishment of an organized furniture production site and the generation of large plant location alternatives by the enlargement of Samsun OSB are important instruments to encourage the entrepreneurs to invest in the location, and hence, to complete picture of Kutlukent furniture cluster by addressing the problem of lack of important elements. However, we recommend that these incentive mechanisms should be completed by additional incentive measures to further convince the entrepreneurs. The initial action could be informing the entrepreneurs within the cluster or from outside the cluster about the need for this production segment or supplier, the opportunities the cluster structure and the province offers and associated profitability of the start-up by utilizing all channels of information dissemination. The collaborative initiatives that could be raised by the SME elements of Kutlukent furniture cluster should also be supported by additional incentive measures to promote the cooperative environment of cluster. The awareness raising activities could be completed by various incentives in terms of financial contribution, plant locations, loans with easy repayment schemes, etc. It should be remembered here that, these incentive schemes are the ones employed by the 'rival regions' of Samsun.

The policy recommendations for the self-sufficiency and the completeness of the Kutlukent furniture cluster in terms of intermediate producers and the suppliers of materials are explained above. The other critical elements of the cluster are business support institutions, which are specified as insufficient for Kutlukent furniture cluster.

5.1.3.2. Public and private business support institutions

Presence within a system of supporting institutions is specified as a critical factor contributing to a cluster's competitiveness. However, the enterprises at Kutlukent furniture cluster do not benefit from any kind of business support institutions specialized on furniture sector. The business support elements of Kutlukent furniture cluster is analyzed in sections through 4.3.2.3.4 to 4.3.2.3.7, under the headings of private service providers, public business support institutions, business associations and public education/training institutions. The recommendations related to the associations and the organizations for promotion of cooperation are given in section 5.1.2.

The list of support services provided in Figure 7, which could contribute a model cluster's competitiveness, indicates that enterprises of Kutlukent furniture cluster are deprived of specialized service providers of training, R&D, design, promotion and marketing, and transportation. As the services of training, R&D, and design is of 'club good' nature and contribute to the overall performance of the cluster, the initial initiatives for the initiation of these sector specific business service providers should come from public. The very limited financial power of the cluster's enterprises also stresses the necessity of public support for the initiation.

The establishment of furniture-specific *R&D and design* business service provider (or business support institution) is of critical importance as these services are critical inputs to the increased innovation capacities for a cluster, together with the intensive inter-firm interaction. Such an institution will assist the enterprises in the improvement of new product designs and development of new production systems as well as in the investigation of information on innovations in technology, products, materials, and technology transfer. The initial activities that the service provider should carry out include the raising awareness among the furniture makers about the value and dimensions of innovation in today's global market, to create demand for the services it provides. The outputs of the provider will be the common good of the cluster and hence should be within reach of each element. Together with acting as the information channel to the cluster about the innovations, the dissemination of relevant information will also be handled by the institution. In the dissemination of information, the institution could utilize publications, bullet-ins,

conferences, and ICT. However, more importantly, to be able to disseminate the relevant information to all interested parties, the institution should always be in contact with the theme-specific workgroups and arrange periodic meetings with the representatives of the workgroups. The assignment of roles and responsibilities to these representatives would be an effective option to improve the effectiveness of their participation. The institution should operate in cooperation with other public business support institutions and the associations and utilize the opportunities these offer. Other than disseminating information to the cluster, the institution should also arrange training sessions to improve the capabilities of the enterprises in accessing the information, such as training on ICT, usage of search engines, communicating via internet etc. The establishment of this institution within the cooperation promotion agency is another option to improve the coordination of the services provided for enterprises. As the benefits of the institution materialize and the confidence of the beneficiaries on the initiative is built, the public status of the institution should be changed into an association, whose operations are financed by the beneficiaries by suitable financing schemes.

Transportation service is another crucial service that is lacking in Kutlukent furniture cluster. By transportation, the manufacturers in the cluster are linked to the customers in other locations. Just a few of the enterprises has their own transportation facility, others acquire this service from the city centre. While there are number of transportation companies located at the city centre, we cannot specify these as tailored service providers for furniture makers. By tailored, we mean that the transportation of furniture requires a particular care, since the product is fragile and can be damaged easily. Hence, the generic transportation facilities are not suitable for the transportation of furniture. The problem related to transportation is also among the particularly declared problems by the interviewees. The establishment of a transportation facility within the cluster seems feasible as Kutlukent sends considerable amount of products to other provinces specified in section 4.3.2.4.3. As market regions of the enterprises are mostly common, and individual enterprises send small amounts in one go, the collaboration in the usage of the facility will be needed. Besides that fact, to cut down the cost that transportation would add up to the cost of the product, the cooperative establishment of the facility is highly reasonable. The

needed action to initiate that initiative could include proposing that subject for the agenda of the cooperation platforms and meetings.

The gaps in the picture of Kutlukent furniture cluster in terms of the business support service providers also indicate the need for effective *marketing & promotion* services. The products, markets and the marketing mechanisms the enterprises employ are analyzed in the sections 4.3.2.4.3 and 4.3.2.4.4. The current situation put forward in the analysis indicates that Kutlukent furniture cluster do not employ effective marketing mechanisms and no collaborative marketing initiatives are observed in the cluster, the market is restricted to their traditional market, i.e. Samsun and Eastern Blacksea Region, and the market share in even these areas are declining. While there are some generic support mechanisms provided by KOSGEB and SCIC to enhance the market reach of the enterprises, the beneficiaries of these are mostly the a few larger size manufacturers. Hence, the majority of the enterprises in the Kutlukent furniture cluster are not able to acquire or access any kind of assistance on marketing. The related problems laid bare in the analysis are one commonality of the elements of Kutlukent furniture cluster that could and should be addressed by cluster-oriented policy intervention in marketing support without causing market distortion, and the support provided will be the club good of the cluster.

The enterprises in Kutlukent furniture cluster are restricted with their traditional, and unstable, market areas in Eastern Blacksea and they sell in Samsun market. Moreover, the traditional market of Samsun's manufacturers is not meeting the production levels of Samsun's manufacturers. Decrease in the production capacity is evident almost in all of the manufacturers. Survey results show that 46% of the surveyed enterprises are work with a production capacity less than 50% (Table 27). Therefore, entering into new markets and strengthening the place of the Samsun furniture in the current markets is a common urgent need for the enterprises. As the creation of demand-pull is the basic prerequisite for any intervention to succeed, the cluster-oriented policy targeting to address that problem is of high priority.

Table 27. Production capacity utilization rates data of surveyed enterprises

Capacity utilization (%)	0-20	21-49	50-70	71-100	total
Frequency	55	59	71	60	245
Percent in total	22,45%	24,08%	28,98%	24,49%	100,00%

The cluster-oriented policy should be designed to address the issues arisen in the analysis of the cluster. The current situation points to deficits in the knowledge base of the cluster related to market and marketing. One way of addressing the deficit could be the establishment (or providing incentives for the establishment) of information providing organizations to collect and disseminate cluster specific information on market and marketing mechanisms. The establishment of a public marketing and promotion agency is the primary instrument of our policy recommendation. The main responsibility of the agency is promoting the cluster in the national and international market and act as link between the buyers (end user-wholesaler-retailer-global buyers outsourcing from many countries-distribution channels) and the producers. The particular activities that the agency will carry out include:

- The agency should have the information related to Kutlukent's manufacturers' profiles (and who-does-what), product span and furniture market segments (high-volume, price-sensitive, design-intensive, material-sensitive etc.), and furniture quality measures.
- The preliminary activity should be raising the awareness of the manufacturers about the trends in markets in terms of quality requirements, innovations; standards and certification; export procedures; the various incentive mechanisms provided by public institutions to improve the export potential, and the conditions of those; and finally how the agency will assist them. This way the enterprises are informed about the prerequisites to be able to enter into new markets, and the mechanisms they could benefit in their efforts.
- The agency should have marketing profession and inform the enterprises about the importance of marketing, unit cost determination and pricing methods, brand development, marks and logos, and registering trademarks.

This way some basic capabilities will be built among the enterprises related to marketing. The enterprises should be encouraged to develop brands and register them.

- To encourage the utilization of internet for marketing purposes and retrieval of relevant information, training sessions should be arranged by the agency and the enterprises should be informed about relevant search engines, web sites etc.
- For carrying out the above-mentioned awareness-raising activities, agency should operate in cooperation with other public business support institutions (especially cooperation promotion and R&D institution) and the associations and utilize the opportunities these offer. The establishment of the agency within the cooperation promotion agency is another option to improve the coordination of the services provided for enterprises.
- The agency will engage in advertising activities for the promotion of the cluster under the specific name of 'Kutlukent's furniture' using national and local press, catalogues, brochures, and especially internet. An internet database of Kutlukent's enterprises and products using an effective systematic emphasizing the usability as well as fine appearance would present an effective interface linking the producer to customer. These efforts should also be oriented towards changing Samsun's negative image in minds of the customers. This could be achieved via raising the consciousness of the customers about the attributes of furniture quality in an associative manner with Kutlukent's products.
- The agency should collect and disseminate information about the public and private tenders, and the conditions of participating in tenders as well as global buyers.
- The agency should also inform the enterprises about the benefits of cooperation, and how they could cooperate in order to access the markets not within individual reach. Especially the export market is of this kind, necessitating production in large amounts in a timely manner, and small

enterprises need to cooperate in order to reach into and compete in the market.

- The agency should be in contact with the cooperation platforms, such as cooperation promotion agency, theme-specific workgroups, associations, and should attend periodic meetings with the representatives of the workgroups as the marketing subject is highly dynamic. In these interactions, the agency should identify the common needs and problems, and information deficits in terms of marketing and act to address them.
- As the services of the agency is the club good of the Kutlukent furniture cluster, the dissemination of the information to the all beneficiaries is very critical. The agency could utilize periodic bullet-ins, seminars, meetings, ICT and training sessions if needed.
- The building facilities of the agency are also important. It should have appropriate meeting places for the enterprises and customers, and perhaps a common showroom facility, in which the samples of products will be demonstrated and the domestic end users as well as traders will be attracted. The agency should welcome customers and provide them information about the 'Kutlukent furniture production zone', where they could find the product they desire, and also about the quality measures of the furniture to improve consumer consciousness.
- The agency could also affect the product pattern of the cluster by informing the manufacturers about the national and international trends in market. For example, in the current situation of Kutlukent furniture cluster, a very limited number of enterprises are engaged in the production of flat-pack furniture, which has considerable export potential. Some enterprises having appropriate conditions and capabilities could be encouraged to shift their production to that type of furniture by providing incentives and by informing the enterprise about the availability of the market for that product.

The establishment of this agency within the cooperation promotion agency is another option to improve the coordination of the services provided for enterprises. As the benefits of the agency materialize and the confidence of the beneficiaries on

the initiative is built, the public status of the agency should be changed into an association, whose operations are financed by the beneficiaries by suitable financing schemes.

The establishment of the promotion and marketing agency will contribute to the rising of the Kutlukent or Samsun brand in the furniture market, which represents a form of 'shared identity' among the elements of the cluster. As the enterprises recognize the outcomes of the built common identity in terms of increased market access, the confidence of the entrepreneurs in the collaborative initiatives will be enhanced. Other than the efforts and services of the agency, cluster-oriented assistance measures to improve the market reach of the cluster may include provision of incentives to: collective visits to overseas factories and regions having marketing power and export experience; collective participation in international fairs by joint stands; collaborative hiring of marketing personnel; and collaborative publication of catalogues. The application of collaborative tender procedures also represents another cluster-oriented policy measure to improve the market share of SMEs as well as the cooperation potential suitable for the conditions of Kutlukent furniture cluster. Attraction of the professional marketing agencies to the Kutlukent by appropriate incentive mechanisms as explained in section 2.3.2.2.1 could be another effective policy option to fill the gap of the cluster's picture in terms of marketing.

As it is mentioned in the analysis, KOSGEB has some mechanisms to improve the export potential and market access of the enterprises. However, the realization of or the awareness about the support services KOSGEB provides is very limited at our cluster. This situation is partly due to the lack of interest among the micro enterprises, which constitute the majority of our enterprises, and partly due to the lack of KOSGEB's efforts for awareness-raising activities. Furthermore, the target of the KOSGEB's support services is defined to be the enterprises with a larger size, more professional, and carrying growth and exporting potential, as they see it, rather than small traditional family enterprises. While the provision of services to these small enterprises is kept conditional on their integration, or formal cooperation, KOSGEB do not perform any activities to raise awareness about the advantages and modes of cooperation. At the end, there has been no such cooperative initiative benefited from these services until now. This situation points to a market

distortion caused by KOSGEB as the enterprises benefiting from KOSGEB are the rivals of other enterprises, who are deprived of the information and support KOSGEB provides, in the same market. The ineffectiveness of the activities carried out so far should be overcome by effective promotion and awareness raising activities to create the demand for the services among SMEs. By addressing this problem, micro and small enterprises in Kutlukent furniture cluster will be able to benefit from the services KOSGEB offers for increasing the market reach.

The picture of business support providers for marketing indicates also a need for *catalogue design and printing* companies with sufficient scale to serve for the furniture sector. This is identified to be an important hindrance for Samsun's producers in marketing operations. The policy should act to attract the companies with appropriate capabilities to the location by informing relevant entrepreneurs about the opportunity of this profitable start-up by utilizing all channels of information dissemination. Additional financial incentive mechanisms could also be employed to support the start-up.

The policy recommendation of the establishment of an organized furniture production site also contributes to the improvement of market access as such an organized site attracts the attention of buyers of any kind, which improves the chances for clustered firms to sell their products. The reason for that attraction is the presence of many producers in a specific area. This will provide the buyer to select among a wide span of choices of quality, price, design, and other factors, which could effect his decision. That is, as a variety of furniture is sold in a specific location, Kutlukent furniture cluster will turn out to be a great outlet from which the customers could find everything related to furniture and decoration. Together with the efforts of the marketing and promotion agency, the presence of the organized furniture production site will contribute to the rising of 'Kutlukent collective brand' and the idea of 'furniture is purchased from Kutlukent Furniture Zone' in customers' minds.

As it is noted in the analysis of the cluster, there are domestic mid-size retail and wholesale stores, who employ effective marketing mechanisms but prefer to sell the products of other locations, such as Ankara, İstanbul and İzmir. These enterprises should also be encouraged to sell furniture produced in Kutlukent, and utilize their

marketing mechanisms for the benefit of their own location. Furthermore, this could occur by itself by the rise of the Samsun brand in the national market. Here, our intention is expressing the potential carried by these stores for the market power of Kutlukent furniture cluster.

As a final point, the market success of collective initiatives will significantly improve the confidence of the elements in the collaborative initiatives and contribute to the formation of identity and mutual trust, which will open up the way for prospective collaborative initiatives.

5.1.4. Deficits in qualified labor pool

The presence of a skill pool in terms of qualified workforce is a common feature of the clusters contributing to the competitiveness of the structure. As the furniture sector is traditional in Samsun, there is an evident skill accumulation in furniture sector. However, recent trends in the labor force signals urgency as discussed in the section 4.3.2.7. The survey results also indicate that the lack of technically qualified personnel and training facilities is among the major problems of the cluster, as discussed in the same section. Therefore, our policy goal is "*strengthening the skill pool of Kutlukent furniture cluster to make the elements of the cluster take advantage of a qualified labor pool*". To achieve this goal, our policy recommendations will entail addressing the specific issues arisen in the analysis of the cluster, as well as the establishment of a training providing institution. To address the identified issues in terms of deficits in the labor pool the recommendations are:

- In the growth process, the cluster will be needing qualified technical personnel holding a higher education degree. The only higher education institution in Samsun, i.e. Ondokuz Mayıs University, should be sensitized about the need of a woodworking-specific vocational school. The public authorities should encourage the establishment of the vocational school, preferably in Kutlukent, by sensitizing and receiving support of relevant governmental actors.
- The establishment of an apprenticeship school within the agglomeration

- In the vocational high schools, on site and laboratory training should be emphasized in order to address the need of practically trained labor force
- The establishment of furniture-specific training service provider in Kutlukent, as a club good of the cluster, represents an effective instrument to fill the gap in the picture of Kutlukent furniture cluster in terms of the business support service providers. Such an institution will work in collaboration with the cooperation platforms of the cluster and provide training service according to the common needs and demands declared by the manufacturers. Rather than having fixed personnel, it should always be in contact with the people that have education or experience on furniture production, and apply to those if a need is identified. The furniture masters in Kutlukent also should be encouraged to give training upon need. The institutions should also have links to furniture-specific training providers in other regions and if a common need is identified not to be able to be addressed by the facilities in Kutlukent, the workers should be sent to these institutions.
- The training in furniture production requires a laboratory or workshop. As the production is mostly done in small workshops with universal system, establishment of a laboratory will not be too costly. It could be established within the building of the training institution. The facilities of the vocational school to be established within the university could also be utilized as a laboratory as an option.
- The training on upholstery, design, and usage of NC machinery should be emphasized, as the skill accumulation on these specific technical subjects is identified to be insufficient by the furniture makers themselves.

As identified by the interviewees, 8-year obligatory primary education represents a negative aspect in the feed of skilled intermediary workers and apprentices to the furniture sector. That aspect also increases the importance of the establishment of these additional training facilities to fill the labor gap caused by this situation.

The problem of out- migration of qualified workers and master workmen to other regions could be overcome eventually as the economic situation of the enterprises gets better. As the workers get paid on time with appropriate wages, the migration trend could be avoided. Furthermore, as in successful models, the cluster will become a location of attraction for the qualified workers.

5.2.Concluding Remarks

Through the section 5.1, we discussed the policy implications of the findings of analysis of the identified potential cluster, i.e. Kutlukent Furniture Cluster, which was conducted in section 4. The development of policy recommendations based on the analysis results entailed a process, which comprises successive stages of: identification of policy needs of the cluster; determination of corresponding policy goals; and the design/proposition of instruments to achieve these goals, which could be generally stated as promotion of the cluster potential of the identified cluster.

The analysis investigating the cluster potential of Kutlukent furniture cluster basically indicated that identified agglomeration of furniture sector enterprises in Kutlukent locality represents a potential cluster that carries some key conditions observed in successful clusters, but lack some features, and it certainly needs support to turn into a working competitive cluster in the sense of the theory. These key conditions, which the Kutlukent furniture potential cluster carries, include the trade relations; spatial proximity; horizontal specialization and vertical disintegration; and the presence of critical elements related to production within the cluster. The existence of these features points to a (almost) complete picture of production chain, i.e. a self-sufficient cluster. However, more importantly, the features that our potential cluster lacks are self-awareness; cooperative activities; specialized supporting institutions and tailored infrastructure, and innovation capacity. Moreover, the picture of production chain and localization of production indicates some missing crucial elements in the cluster structure that would contribute to the competitiveness of the structure as a whole. Therefore, as the lacking features are the critical ones for functioning and competitiveness of a cluster, Kutlukent furniture

cluster was considered as having a *low cluster potential* that should be promoted by utilizing the existing potentials and strengths and addressing the weaknesses and obstacles, by appropriate cluster-oriented assistance policy measures.

The analysis of Kutlukent furniture cluster presented such a picture of cluster potential in terms of strengths, weaknesses, and problems. These features of the Kutlukent furniture cluster handled together with other aspects specified in the diagnosis phase in order to identify policy needs, and develop policy recommendations to promote the cluster potential. Accordingly, the policy needs were identified in terms of three aspects of the cluster related to missing or weak features, the potential cluster exhibits compared to the successful cluster models. These aspects are lack of cooperation and identity; missing important elements; and deficits in qualified labor pool. Following the review of the findings of cluster analysis on these features of the potential cluster, related policy goals were determined as:

i. promotion of self awareness, dialogue, and cooperation
ii. addressing the missing links and elements in the value chain of the cluster and bringing about a highly self-sufficient cluster taking advantage of a highly complete cluster structure in terms of the supporting businesses and institutions and tailored infrastructure
iii. strengthening the skill pool of Kutlukent furniture cluster to make the elements of the cluster take advantage of a qualified labor pool

respectively. The determination of policy goals were followed by design/proposition of policy instruments to achieve these goals. In this concluding section, rather than explaining all proposed policy instruments, we will present highlights of these.

For the promotion of self awareness and dialogue, the policy instruments and the cluster-specific conditions that should be taken into account and addressed were discussed in a comprehensive manner. The initiation and awareness raising activities had a special emphasis at the beginning of the initiative, as the cluster-specific conditions characterized by lacking professionalism, low level of education, and negative attitude towards cooperation indicated the particular importance of these activities. By these activities, the purposes could be summarized as:

- to present: “what they are, and what the prospects for future are as a trajectory from the past and today’s situation”
- to present: “what they could be and what can be achieved via cluster initiatives” with an emphasis of collective identity and collective benefit, with success stories
- development of the notion of “we could win by joining the forces together, or lose altogether individually” and “how to join the forces”

For continuity of the initiative, establishment of a forum and theme-specific working groups was proposed. For the coordination of the cooperation promotion activities establishment of a public business support institution, whose personnel should have profession on setting up a firm-to-firm network, was proposed. The proposed instruments also included the publication of a cluster-specific periodical to strengthen identity and promote dialogue. For the eradication of factors harming the cooperation climate, elimination of embezzler manufacturers by appropriate legal measures, and preservation of mutual rights by effective anti-trust and IPR laws were proposed as important points. The improvement of the effectiveness of institutions, such as KOSGEB, CFCU and SAMSIAD, which are supposed to contribute to the cooperation potential, was among the concerns in the design of instruments.

The instruments for addressing the missing links and elements in the value chain and production chain of the cluster to bring about a highly self-sufficient cluster taking advantage of a highly complete cluster structure in terms of the supporting businesses and institutions and tailored infrastructure were identified in terms of missing parts in intermediary producers and the providers of inputs, and in public and private business support structure. Accordingly, in terms of intermediary producers and the providers of inputs, Kutlukent furniture cluster demonstrates a highly complete picture, but the missing parts indicated the need for:

- Establishment of:
  - specialized furniture metal structural frame makers
  - manufacturers of reconstituted wood products, veneer, metal accessory and hardware inputs
  - manufacturers of paints and allied products

  - manufacturers or the franchisers of upholstery fabric at the cluster
- to support establishment, addressing the infrastructural problems of KSSs and OSB.

Further instruments proposed to achieve the defined goal included:

- elimination of dispersion along the locality by setting up of a specialized/organized furniture production site to increase the attraction of the location (in 19 Mayıs KSS),
- extension of OSB's geographical area to locate manufacturers of inputs,
- development of additional incentive measures to further convince the entrepreneurs planning to invest within the cluster.

On the other hand, in terms of public and private business support structure, the picture of Kutlukent furniture cluster indicated the need for:

- Establishment of:
  - R&D and design facilities (public)
  - marketing & promotion facilities (public) for creation of demand-pull and rise of shared "Kutlukent brand" identity
  - transportation service provider
  - catalogue design and printing service provider
- increasing effectiveness of KOSGEB's activities by promotion and awareness raising activities to create the demand for the offered services among micro enterprises and SMEs,
- increasing the contribution of CFCU and SAMSIAD to the cluster.

Finally, for strengthening the skill pool of Kutlukent furniture cluster to make the elements of the cluster take advantage of a qualified labor pool, the proposed policy instruments included:

- establishment of woodworking-specific vocational school in Kutlukent,
- establishment of an apprenticeship school in Kutlukent,
- increasing the emphasis on on-site and laboratory training in the vocational high schools,

- arrangement of training sessions on upholstery, design, and usage of NC machinery

Therefore, through the proposed cluster-oriented assistance measures, the clustering potential of Kutlukent furniture potential cluster will be promoted, and SMEs involved in the cluster will be able to benefit from the competitive advantages associated with clustering.

5.3.Suggestions for Future Research

In our study, we had constraints related to time, budget, and information, which made us conduct an analysis in definite boundaries mostly based on the qualitative data collected by expert interviews and the survey. The results of our study indicate the need for further research to increase the effectiveness and accuracy of the research and obtained results, on which the policy recommendations are based.

In the beginning of the research, we define the geographic boundaries of our research as the boundaries of Samsun province due to our constraints. In the phase of identification of the target cluster, we identified the borders of the target as within Kutlukent town. We used these borders as a starting point as we are aware of that it is not the geography that draws the borders of a cluster, but the strength of the identified linkages. Now, the results of our analysis within Kutlukent show that, identified Kutlukent potential cluster is strongly linked to Old KSS region (location B in Figure 10), which is 10 kilometers away from our location, in terms of input/output relations. That is, there are strong forward/backward ties between the two location in terms of intermediate goods and intermediary producers; providers of inputs (the manufacturers and the sellers) and inputs; and finished products and market. The tables 19 to 25 reveal these linkages explicitly. The linkage to Samsun city centre (Location C in Figure 10) is also evident especially in terms of forward ties. The identification of the strong linkages to these locations leads us to suggest the inclusion of these locations in the cluster analysis, i.e. broadening the borders of the target potential cluster including these two locations. That is, the survey results

show that our identification process has some shortages that should be addressed by the inclusion of these locations in the cluster analysis in the future research.

The investigation of interrelations between the businesses, and specifically the cooperation potential including the examination of experiences of cooperation and assessment of the attitude towards cooperation, is carried out via expert opinion surveys and the face-to-face surveys with involved enterprises, each of which represent an interview. However, when the importance attributed to intense non-trade based inter-firm relations, which forms the essence of the 'social proximity', in the cluster concept and associated competitive advantages is concerned, we identify the need for application of additional analysis instruments to further explore the interrelation patterns and sources of cooperation between the involved elements. Such an analysis would provide us with information to develop more effective and tailored policy recommendations to promote cooperation and networking within the cluster. This analysis necessitates a multidisciplinary approach especially entailing sociology, industrial psychology, and management disciplines. The instrument could be professionally designed surveys and the survey groups could be formed by random selection in business branches and categories developed in our study. The assessment of the answers to our survey question, which is related to trust, could also be used in the formation of survey groups, i.e. by classifying the interviewees into two groups of 'yes's and 'no's.

The other major constraint of our study, which avoided us to conduct a cluster analysis using quantitative methods, is the lack and inaccuracy of necessary statistical data. This constraint made us to pursue 'cluster-as-sectors' approach in the identification and analysis of clusters making use of the qualitative information acquired by expert interviews and the survey. Particularly, the lack of input/output data is the primary hindrance for conducting an effective cluster analysis, entailing the identification of the clusters by an overall scan of the regional economy. The presence of I/O data would lead us to pursue a two-stage cluster analysis process including no pre-determination, such that; an initial comprehensive investigation of virtually all sectors (or business groups) to distill the industrial complexity of the region by an initial scan of the regional economy using the I/O data to identify potential regional industry clusters and their core industries; and the initial scan is

completed by a qualitative analysis for detailed investigation of specific industrial features/groupings and relations between them, identified in the scan. Here, our suggestion for future research includes the analysis of the regional economy by above explained cluster analysis method when the relevant I/O data is available, and using the results of our research as inputs to such a comprehensive analysis. For such a suggestion to be feasible I/O data should be available at business level, and we develop some additional recommendations based on the results of our research as such:

- The problems related to the official registration of businesses should be overcome by development of effective business registration and update system.
- The transactions between the businesses should be registered using an appropriate systematic.
- The problems related to sector definitions should be solved. The sector definitions should be harmonized with the international standards to improve the comparability of the research and policy-making efforts in international economic area with the ones in Turkey in order to draw lessons from them. All the institutions responsible from keeping track of the economy should use this standardized sector definitions to be able to synthesize the data acquired from different data sources for planning purposes.
- Following the identification of the potential regional clusters, the selection of the target cluster is done by comparing some statistical indicators as explained in the review section 2.3.2.1.4. The relevant statistical data should be kept to be able to pursue an effective cluster policy-making process.

Cluster-based economic development policy-making model – as with most policies – comprises an iterative process of analysis, experimentation, evaluation and adaptation (Raines, 2002). Our discussion is finalized with the development of policy recommendations, which indicates that the policy-making cycle is not completed yet. The required dynamism of cluster policy-making cycle necessitates the evaluation and adaptation stages, to be truly effective. Therefore, our final suggestion for future

research is that: if the results of our study are turned into practice, the cycle should be completed by an extensive evaluation of the results of the operational phase, and using the results of the evaluation as input for the adaptation of the analysis and cluster policy responses.

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APPENDICES

APPENDIX-A
Various Definitions of Clusters

Different definitions of clusters, some examples drawn from the cluster literature (based on Martin and Sunley, 2001)

Porter (1998b, p. 199) "A cluster is a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities."

Rosenfeld (1997, p. 4) "A cluster is very simply used to represent concentrations of firms that are able to produce synergy because of their geographical proximity and interdependence, even though their scale of employment may not be pronounced or prominent."

Feser (1998, p. 26) "Economic clusters are not just related and supporting industries and institutions, but rather related and supporting institutions that are more competitive by virtue of their relationships."

Swann and Prevezer (1996, p. 139) "Clusters are here defined as groups of firms within one industry based in one geographical area."

Swann and Prevezer (1998, p. 1) "A cluster means a large group of firms in related industries at a particular location".

Simmie and Sennett (1999, p. 51) "We define an innovative cluster as a large number of interconnected industrial and/or service companies having a high degree of collaboration, typically through a supply chain, and operating under the same market conditions."

Roelandt and den Hertog (1999, p. 9) "Clusters can be characterised as networks of producers of strongly interdependent firms (including specialized suppliers) linked each other in a value-adding production chain."

Van den Berg, Braun and van Winden (2001, p. 187) "The popular term cluster is most closely related to this local or regional dimension of networks … Most definitions share the notion of clusters as localised networks of specialized organisations, whose production processes are closely linked through the exchange of goods, services and/or knowledge."

Enright (1996, p. 191) "A regional cluster is an industrial cluster in which member firms are in close proximity to each other."

Albu (1997, p. 14) "Industrial clustering broadly signifies any form of industrial organization featuring a spatial concentration of numerous firms belonging to a similar industrial branch or *filière* (Brusco 1992)."

Czamanski and de Ablas (1979, p. 62) "An industry cluster is a subset of industries of the economy connected by flows of goods and services stronger than those linking them to the other sectors of the national economy."

APPENDIX-B
Profile of the Experts Interviewed with

Expert's Name	Organization	Position
Sinan Turgut	OSB Directorate	Director
Necmi Alıç	SCIC	Vice General Secretary
İbrahim Ülker	Samsun CFCU	President
Mustafa Erdoğan	SAMSIAD	Director
Alp Arslan	KOSGEB	Specialist
Şeref Aydın	Kutlukent Municipality	General Secretary

APPENDIX-C
First Stage Expert Interview Questions

BİRİNCİ AŞAMA UZMAN MÜLAKATI SORULARI

1. Kimleri temsil ediyorsunuz? Üyeleriniz kimler? Kaç üyeniz var ve bu üyelerin çalışma alanları nedir? Kayıtlarınızda bir sınıflandırma mevcut mudur?
2. Kurumunuzun statüsü ve tarihi hakkında bilgi verir misiniz?
3. Resmi olarak tanımlanmış görev ve sorumluluklarınız, tabi olduğunuz yönetmelikler var mı? Sağlar mısınız?
4. Tanımlanmış hizmetlerinizin gerçekleşmesi ne ölçüdedir? Bu tanımlanmışlığın dışında üstlendiğiniz misyonlar, yerine getirdiğiniz hizmet ve fonksiyonlar var mı?
5. Temsil ettiğiniz üyelerinizin size üyelikleri ne şekilde gerçekleşiyor? Bu üyelerin hangi bilgilerini elinizde tutuyorsunuz (zorunlu ve isteğe bağlı)? Bu bilgiler güncellenmekte midir? Ne sıklıkta?
6. Sorumluluk tanımına bağlı ya da bağımsız tamamladığınız / yürüttüğünüz / destek verdiğiniz projeler var mı? Bununla ilgili bilgi verir misiniz?
7. Sorumluluk alanınızda (sektör, alan, tanımlanmış sorumluluk) bir istatistiksel bilgiye ihtiyaç duyarsanız nereye başvurursunuz? (TSO, KOSGEB, DİE, Kendi kaynaklarınız…)
8. Tecrübelerinize göre bölgede KOBİ'lerle ilgili bir profil çıkarılmak istense hangi bilgiler kayıt altındadır (ve geçmiş yıllar bilgileri ile trend), ulaşılabilir?

APPENIX-C (continued)
First Stage Expert Interview Questions

• Sektöre dahil edilebilecek/sektörle bağlantılı olan iş alanları/sektörler/alt sektörler • Bu alanlara dahil edilebilecek firma sayıları • Sektöre girdiler, ara mamuller ve çıktılar (+ girdilerin geldikleri, ara mamullerin üretildikleri, son mamullerin satıldıkları yerler) • Ürün çeşitleri • Firma yaşları • Firma ölçekleri • İstihdam bilgisi (ölçek aralıklarına düşen firma sayıları)	• Satışlar bölge içi / bölge dışı/ ihracat (ve trend) • Firma sayıları trendi • Üretim tipi (emek yoğun/teknoloji yoğun) • Üretim tipi (sipariş üzerine/stoğa) • Sektörle bağlantısı olan (hizmet sağlayan) kurum kuruluş ve örgütler ve sorumluluklar/hizmetler • Mobilya üretimi haritası • Firmaların birbirleriyle ticari ilişkileri kaydı

Sektör ve bölge seçimi

9. Objektif bir bakış açısı ile, size göre Samsun'un önde gelen sanayi kolu hangisidir? Şehrin toplam ekonomik gelişimine (potansiyel) etkisi en çok olan sektör hangisidir?
Kriterlerimiz:

- Firma sayısı
- Yarattığı istihdam, bölge sanayisindeki istihdam payı
- İhracat varlığı – potansiyeli
- Köklü olma (geçmiş, yetenek birikiminin/uzmanlaşmanın varlığı)
- Hammadde varlığı
- Bağlı alt iş gurupları ve alt sektörlerin bölgede varlığı (derinlik ve uzmanlaşma)
- Bağlı sektörlerle birlikte bölgenin ekonomisine katkı düzeyinin yüksekliği
- Uzmanlaşmanın varlığı ve ürün yelpazesinin genişliği
- İthal ikamesine hizmet etmedeki önemi
- Geleneksel pazarların varlığı ve yeni pazarlara ulaşım imkanı
- Bölgede sektöre yapılan yerel yatırımın fazlalığı (altyapı, eğitim imkanları, sektörle ilgili diğer kuruluşların varlığı)
- Sektör firmalarının ve ilgili kuruluşların belirli bölgelerde yoğunlaşmasının gözlenmesi
- Sektör varlıkları arasındaki etkileşimin yoğunluğu
- Sektör varlıkları arasında sosyal yakınlığın varlığı
- Kullanılan teknoloji düzeyi ve yeni teknoloji trendlerine göre gelişme potansiyeli
- Yenilikçilik potansiyeli

APPENIX-C (continued)
First Stage Expert Interview Questions

10. Samsun ilinde belirli bir bölgede konumlanmış birbiriyle ticari/ticari olmayan ilişkilerin seçilebildiği firmaların tanımlanabildiği sektör dediğimizde aklınıza hangi sektör geliyor? Bu sektörün kümelendiği bölge neresidir?

APPENIX-D
Second Stage Expert Interview Questions

İKİNCİ AŞAMA UZMAN MÜLAKATI SORULARI

Mobilya üretimi aşamaları – Kutlukent mobilya (potansiyel) kümesinde tanımlanabilir iş alanları, sektör profili, firmalar arası ilişkilerin incelenmesi

1. Mobilya üretiminin hammaddeden son ürüne kadarki akış şemasını bölgede sektördeki iş alanlarını da dikkate alarak ortaya koyabilir misiniz?
Mobilya Üretimi Resminin içermesi gerekenler:

a) en küçük bölünebilen parçaya kadar üretim aşamalarının tanımı
b) üretim aşamalarının girdileri ve çıktıları
c) üretim aşamalarının gerçekleştiği bölge
d) üretime bağlı sektörlerden / mobilyacılık sektöründen girdiler nerelerden geliyor (oran olarak ne kadarı bölgeden)
e) üretimden çıktılar nerelere satılıyor (oran olarak ne kadarı bölgede kalıyor, ne kadarı şehirde, ne kadarı ülkede, ne kadarı ihraç)
f) resimde tanımladığımız her bir elemanın (girdi, üretim aşaması) kaynağı ve gerçekleştiği firmalar olarak bölgedeki varlığı (resmi bölge özeline indirgemek) her elemana düşen firma sayısı ve niteliği
g) üretime girdi olarak sağlanan hizmetler, hizmet sektörleri ve konumları

ÜRETİM	HİZMET	
Hammade sağlayıcıları Tomruk, suntalem, tutkal vs...	Sermaye malları tedarikçileri	Eğitim
Keresteciler	Bakım-onarım	Yemek
İskeletçiler	Enerji	Depo
Boyacılar	İletişim	Muhasebe
Döşemeciler	Bankalar ve kredi sağlayıcılar	Avukatlık
Kaplamacılar	Danışmanlık	Laboratuar
Paketlemeciler	Sigorta	Kamu kurumları
Montajcılar	Tanıtım promosyon	
Son ürün satıcıları	Pazarlamacı ve son ürün satıcıları	

APPENIX-D (continued)
Second Stage Expert Interview Questions

h) üretime hizmet sağlayan, ilgisi olan kamu / özel / STK kuruluşları, hizmetleri ve konumları

• KOSGEB • STO • OSB • Belediye • Eğitim kurum/kuruluşları (üniv, meslek lisesi, diğer)	• Dernekler (SAMSİAD, KASİAD, Mobilyacılar dernekleri, KSS dernekleri…) • Odalar • KSS yönetimleri • Standart koyucular • Ar-ge kurum ve kuruluşları

ı) üretime girdi olarak girmesi gereken bilginin kaynakları

Pazar bilgisi
Girdi bilgisi
Yeni tasarımlar
yeni teknoloji
yeni üretim yöntemleri

Bölgede sektördeki firmaların kompozisyonu

2. Sektördeki firmalar arasında ölçek, kapasite ve satış bilgilerine göre (+üretiminin sektördeki diğer KOBİ'lere iş sağlaması kriteri – geniş bir tedarikçi ağı) bir sınıflandırma oluştursak ve en yüksek değerleri taşıyan üreticileri merkeze koyacak olsak merkezde kaç firma bulunur ve bunlar hangileridir?

3. Bu firmaların bölgede sektördeki geri bağları göz önüne alarak bir kapsama alanı çizsek sektördeki firmalar hangi oranda bu kapsama alanı içinde yer alır?

4. Bölgedeki firmaların karakteristik özelliklerini sıralamak gerekirse: Aile şirketleri? Yönetim alışkanlıkları? Yenilikçi ve girişimci? Dinamik? Bilgili?

Firmalar arası ilişkiler ve işbirliği

5. Bölgede sektördeki firmalar arasında ticari ilişkilerin yanı sıra ticari olmayan ilişkiler de var mıdır? Bu ilişkilerin kaynağı nedir?

• Aile bağları • Coğrafi yakınlık • Okul, gidilen kurslar, eski işyeri gibi ortamlarda kurulan arkadaşlıklar	• Ticari öncelikler • Diğer.....

APPENIX-D (continued)
Second Stage Expert Interview Questions

Gözlenen işbirliği çeşitleri ve işbirliğine yaklaşımın analizi

6. Bölgemizde konumlanmış mobilyacılık sektörüne dahil olan firmaları göz önüne aldığımızda firmalar arasında tanımlanabilir/tecrübe edilmiş işbirliği etkinlikleri var mıdır?

Gözlenebilecek işbirliği çeşitleri:

• Aynı müşteriye ortak çalışmak • Firmanın tedarikçisine bilgi aktarımı/birlikte çalışmaları • Teknik bilgi paylaşımı • Pazar bilgisi paylaşımı • İşçi paylaşımı • Ortak işgücü eğitimi almak/düzenlemek • Ortak problemlerin ortak hareketle çözümü • Devlet kurumlarından talebi ortak dile getirmek • Finansal destek alma	• Makine parkı, depo, satış noktası paylaşımı Birlikte danışmanlık almak • Birlikte fuarlarda stand açmak • Ortak ürün geliştirmek • Ortak üretim hattı geliştirmek • Ortak marka geliştirmek • Ortak pazarlama çalışması • Ortak makine/ekipman satınalma • Ortak girdi alımı • Firmalar arası işgücü hareketliliği • Diğer.....

7. Bölgede sektördeki firmaların işbirliğine yaklaşımı olumlu mudur? Göstergeler? Tecrübeler? Firmalar gerektiğinde ortak hareket edebiliyorlar mı?

8. Firmalar arası mevcut ilişki işbirliğinin kaynağını ne olarak görüyorsunuz?

9. Firmalar arası işbirliğinin gelişmesini teşvik edecek bir yapı bölgede mevcut mudur? (kooperatif-dernek-birlik-merkez-kurum) Evetse bu yapının etknliği ve tecrübeleri ile ilgili bilgi veriniz.

10. Kuruluşunuzun bölgedeki firmalar arası ilişkilerin geliştirilmesine ve işbirliğine yönelik bir teşviki/katkısı/etkinliği olmuş mudur?

- Bu anlamda tanımlanmış görevlerin varlığı
- İşbirliği teşvik edici projeler
- Kuruluş bir işbirliği platformu sağlamaktadır (mı?)
- İşbirliğine dolaylı yoldan etki eden yayınların varlığı
- Bilgi alışverişinde aracılık yapmak
- Eşleştirme hizmeti vermek
- Firmalara bilgi (teknik/pazar/yenilik/sektörde yeni gelişmeler…) aktarmak

11. firmalar arası iletişim ve işbirliğine imkan verecek iletişim etkinlikleri (periyodik ya da değil) olmakta mıdır? Kim tarafından düzenlenmektedir?

• Sektör toplantıları	• Seminerler
• Buluşmalar	• Eğitimler

APPENDIX-E.1
ENTERPRISE SURVEY – for primary business branches - Sawmills and kiln-dryers

Girdi		**Üretim Aşaması**	**Çıktı**	
Üretim aş.	**ürün**	**Bıçkı ve Fırınlama**	**Ürün**	**Üretim aş.**
-	Tomruk **A** **B** **C** **D** **E**		Fırınlanmış ağaç	Keresteci **A** **B** **C** **D** **E**

SORU 1) Ne iş yapıyorsunuz (mobilya üretimi şemasındaki iş dallarına göre, birden fazla iş dalı belirtilecek)

SORU 2) Girdilerinizi nereden alıyorsunuz? (Girdiler listesi ve 5 bölge)

SORU 3) Çıktılarınızı nereye satıyorsunuz? (Çıktılar listesi ve 5 bölge)

SORU 4) Atölyenin mülkiyeti - kira - kendi yerim

SORU 5) Kapasitenizin yaklaşık ortalama ne kadarını kullanmaktasınız? %

SORU 6) Herhangi bir mesleki derneğe üye misiniz? Hangisi?

SORU 7) Bölgenizdeki mobilyacılık sektöründeki ve/veya iş yaptığınız işetmelerle işbirliği yapmayı düşünür müsünüz? Güven duyuyor musunuz?

SORU 8) Size göre bölgede işinizi geliştirmek/iyileştirmek için nelere gereksinimiz vardır? Bölgenin işlerinizi etkileyen önemli sorunları nelerdir?

APPENDIX-E.1 (continued)

Sorun / Gereksinim	AĞIRLIK				
	1	2	3	4	5
1) …. Üreticisinin (üretim aşamasının) yokluğu					
2) …. Tedarikçisinin yokluğu					
3) …. Hizmet sağlayıcısının yokluğu					
4) mesleki eğitim imkanlarının ve nitelikli elemanın yokluğu					
5) pazarlama/ihracat ajansının yokluğu					
6) teknolojik yardımın yokluğu					
7) finansal desteğin yokluğu (krediler)					
8) ar-ge ve tasarım imkanlarının yokluğu					
9) işletme yönetim eğitimi yokluğu					
10) kanalizasyon altyapısı sorunları					
11) içme suyu sıkıntısı					
12) çevre düzenleme ve temizlik					
13) işletmeler arası iletişim sorunu, görüş ayrılıkları, güvensizlik					
14) sitelerde yerleşimin düzensizliği					
15) Diğer …….					
16)					
17)					
18)					
19)					
20)					

APPENDIX-E.2
ENTERPRISE SURVEY – for primary business branch - Lumber mills

Girdi		Üretim Aşaması	Çıktı	
Üretim aş.	**Ürün**	**Keresteci**	**Ürün**	**Üretim aş.**
Bıçkı ve Fırınlama	Fırınlanmış ağaç		kereste	Mobilyacı ve koltukçu
	A		kereste	İskeletçi
	B			
	C			
	D			
	E			

SORU 1) Ne iş yapıyorsunuz (mobilya üretimi şemasındaki iş dallarına göre, birden fazla iş dalı belirtilecek)

SORU 2) Girdilerinizi nereden alıyorsunuz? (Girdiler listesi ve 5 bölge)

SORU 3) Çıktılarınızın ne kadarını mobilya sektörüne satıyorsunuz? %
Mobilya sektörüne sattığınız çıktılarınızı nereye satıyorsunuz? (Mobilya sektöründeki müşterileriniz neredeler?) (Çıktılar listesi ve 5 bölge)

Üretim aş.	**A**	**B**	**C**	**D**	**E**
Mobilyacı ve koltukçu					
İskeletçi					

SORU 4) Atölyenin mülkiyeti - kira - kendi yerim

SORU 5) Kapasitenizin yaklaşık ortalama ne kadarını kullanmaktasınız? %

SORU 6) Herhangi bir mesleki derneğe üye misiniz? Hangisi?

SORU 7) Bölgenizdeki mobilyacılık sektöründeki ve/veya iş yaptığınız işetmelerle işbirliği yapmayı düşünür müsünüz? Güven duyuyor musunuz?

SORU 8) Size göre bölgede işinizi geliştirmek/iyileştirmek için nelere gereksinimiz vardır? Bölgenin işlerinizi etkileyen önemli sorunları nelerdir?

APPENDIX-E.2 (continued)

Sorun / Gereksinim	AĞIRLIK				
	1	**2**	**3**	**4**	**5**
1) …. Üreticisinin (üretim aşamasının) yokluğu					
2) …. Tedarikçisinin yokluğu					
3) …. Hizmet sağlayıcısının yokluğu					
4) mesleki eğitim imkanlarının ve nitelikli elemanın yokluğu					
5) pazarlama/ihracat ajansının yokluğu					
6) teknolojik yardımın yokluğu					
7) finansal desteğin yokluğu (krediler)					
8) ar-ge ve tasarım imkanlarının yokluğu					
9) işletme yönetim eğitimi yokluğu					
10) kanalizasyon altyapısı sorunları					
11) içme suyu sıkıntısı					
12) çevre düzenleme ve temizlik					
13) işletmeler arası iletişim sorunu, görüş ayrılıkları, güvensizlik					
14) sitelerde yerleşimin düzensizliği					
15) Diğer …….					
16)					
17)					
18)					
19)					
20)					

APPENDIX-E.3
ENTERPRISE SURVEY – for primary business branch - Wood st. frame maker

Girdi		**Üretim Aşaması**	**Çıktı**	
Üretim aş.	**Ürün**	**İskeletçi**	**Ürün**	**Üretim aş.**
keresteci	Kereste **A** **B** **C** **D** **E**		İskelet	Mob. Ve Koltukçu **A** **B** **C** **D** **E**

SORU 1) Ne iş yapıyorsunuz (mobilya üretimi şemasındaki iş dallarına göre, birden fazla iş dalı belirtilecek)

SORU 2) Girdilerinizi nereden alıyorsunuz? (Girdiler listesi ve 5 bölge)

SORU 3) Çıktılarınızı nereye satıyorsunuz? (Çıktılar listesi ve 5 bölge)

SORU 4) Atölyenin mülkiyeti - kira - kendi yerim

SORU 5) Kapasitenizin yaklaşık ortalama ne kadarını kullanmaktasınız? %

SORU 6) Herhangi bir mesleki derneğe üye misiniz? Hangisi?

SORU 7) Bölgenizdeki mobilyacılık sektöründeki ve/veya iş yaptığınız işetmelerle işbirliği yapmayı düşünür müsünüz? Güven duyuyor musunuz?

SORU 8) Size göre bölgede işinizi geliştirmek/iyileştirmek için nelere gereksinimiz vardır? Bölgenin işlerinizi etkileyen önemli sorunları nelerdir?

APPENDIX-E.3 (continued)

Sorun / Gereksinim	AĞIRLIK				
	1	**2**	**3**	**4**	**5**
1) …. Üreticisinin (üretim aşamasının) yokluğu					
2) …. Tedarikçisinin yokluğu					
3) …. Hizmet sağlayıcısının yokluğu					
4) mesleki eğitim imkanlarının ve nitelikli elemanın yokluğu					
5) pazarlama/ihracat ajansının yokluğu					
6) teknolojik yardımın yokluğu					
7) finansal desteğin yokluğu (krediler)					
8) ar-ge ve tasarım imkanlarının yokluğu					
9) işletme yönetim eğitimi yokluğu					
10) kanalizasyon altyapısı sorunları					
11) içme suyu sıkıntısı					
12) çevre düzenleme ve temizlik					
13) işletmeler arası iletişim sorunu, görüş ayrılıkları, güvensizlik					
14) sitelerde yerleşimin düzensizliği					
15) Diğer …….					
16)					
17)					
18)					
19)					
20)					

APPENDIX-E.4
ENTERPRISE SURVEY – for primary business branch - Metal st. frame maker

Girdi		**Üretim Aşaması**	**Çıktı**	
Üretim aş.	**ürün**	**Metal İskeletçi**	**Ürün**	**Üretim aş.**
	Profil **A** **B** **C** **D** **E**		Metal İskelet	Mob. Ve Koltukçu **A** **B** **C** **D** **E**

SORU 1) Ne iş yapıyorsunuz (mobilya üretimi şemasındaki iş dallarına göre, birden fazla iş dalı belirtilecek)

SORU 2) Girdilerinizi nereden alıyorsunuz? (Girdiler listesi ve 5 bölge)

SORU 3) Çıktılarınızı nereye satıyorsunuz? (Çıktılar listesi ve 5 bölge)

SORU 4) Atölyenin mülkiyeti - kira - kendi yerim

SORU 5) Kapasitenizin yaklaşık ortalama ne kadarını kullanmaktasınız? %

SORU 6) Herhangi bir mesleki derneğe üye misiniz? Hangisi?

SORU 7) Bölgenizdeki mobilyacılık sektöründeki ve/veya iş yaptığınız işetmelerle işbirliği yapmayı düşünür müsünüz? Güven duyuyor musunuz?

SORU 8) Size göre bölgede işinizi geliştirmek/iyileştirmek için nelere gereksinimiz vardır? Bölgenin işlerinizi etkileyen önemli sorunları nelerdir?

APPENDIX-E.4 (continued)

Sorun / Gereksinim	AĞIRLIK				
	1	**2**	**3**	**4**	**5**
1) …. Üreticisinin (üretim aşamasının) yokluğu					
2) …. Tedarikçisinin yokluğu					
3) …. Hizmet sağlayıcısının yokluğu					
4) mesleki eğitim imkanlarının ve nitelikli elemanın yokluğu					
5) pazarlama/ihracat ajansının yokluğu					
6) teknolojik yardımın yokluğu					
7) finansal desteğin yokluğu (krediler)					
8) ar-ge ve tasarım imkanlarının yokluğu					
9) işletme yönetim eğitimi yokluğu					
10) kanalizasyon altyapısı sorunları					
11) içme suyu sıkıntısı					
12) çevre düzenleme ve temizlik					
13) işletmeler arası iletişim sorunu, görüş ayrılıkları, güvensizlik					
14) sitelerde yerleşimin düzensizliği					
15) Diğer …….					
16)					
17)					
18)					
19)					
20)					

APPENDIX-E.5
ENTERPRISE SURVEY – for primary business branch – Dyeing workshops

Girdi		Üretim Aşaması	Çıktı	
Üretim aş.	**ürün**	**Mob. Boyacısı**	**Ürün**	**Üretim aş.**
Mob. Ve Kolt.	Boyanmamış mobilya		Boyanmış mobilya	Mob. Ve Kolt.
-	Boyama malz.			**A**
				B
				C
				D
				E

SORU 1) Ne iş yapıyorsunuz (mobilya üretimi şemasındaki iş dallarına göre, birden fazla iş dalı belirtilecek)

SORU 2) Girdilerinizi nereden alıyorsunuz? (Girdiler listesi ve 5 bölge)

ürün	A	B	C	D	E
Boyanmamış mobilya					
Boyama malz.					

SORU 3) Çıktılarınızı nereye satıyorsunuz? (Çıktılar listesi ve 5 bölge)

SORU 4) Atölyenin mülkiyeti - kira - kendi yerim

SORU 5) Kapasitenizin yaklaşık ortalama ne kadarını kullanmaktasınız? %

SORU 6) Herhangi bir mesleki derneğe üye misiniz? Hangisi?

SORU 7) Bölgenizdeki mobilyacılık sektöründeki ve/veya iş yaptığınız işetmelerle işbirliği yapmayı düşünür müsünüz? Güven duyuyor musunuz?

SORU 8) Size göre bölgede işinizi geliştirmek/iyileştirmek için nelere gereksinimiz vardır? Bölgenin işlerinizi etkileyen önemli sorunları nelerdir?

APPENDIX-E.5 (continued)

Sorun / Gereksinim	AĞIRLIK				
	1	**2**	**3**	**4**	**5**
1) …. Üreticisinin (üretim aşamasının) yokluğu					
2) …. Tedarikçisinin yokluğu					
3) …. Hizmet sağlayıcısının yokluğu					
4) mesleki eğitim imkanlarının ve nitelikli elemanın yokluğu					
5) pazarlama/ihracat ajansının yokluğu					
6) teknolojik yardımın yokluğu					
7) finansal desteğin yokluğu (krediler)					
8) ar-ge ve tasarım imkanlarının yokluğu					
9) işletme yönetim eğitimi yokluğu					
10) kanalizasyon altyapısı sorunları					
11) içme suyu sıkıntısı					
12) çevre düzenleme ve temizlik					
13) işletmeler arası iletişim sorunu, görüş ayrılıkları, güvensizlik					
14) sitelerde yerleşimin düzensizliği					
15) Diğer …….					
16)					
17)					
18)					
19)					
20)					

APPENDIX-E.6
ENTERPRISE SURVEY – for primary business branch – Veneer workshop (pres work)

Girdi		**Üretim Aşaması**	**Çıktı**	
Üretim aş.	**ürün**	**Presçi**	**Ürün**	**Üretim aş.**
Mob. Ve Kolt.	Kaplanmamış mobilya + kaplama malz.		Kaplanmış mobilya	Mob. Ve Kolt.
-	Yapıştırıcı malz.			**A** **B** **C** **D** **E**

SORU 1) Ne iş yapıyorsunuz (mobilya üretimi şemasındaki iş dallarına göre, birden fazla iş dalı belirtilecek)

SORU 2) Girdilerinizi nereden alıyorsunuz? (Girdiler listesi ve 5 bölge)

ürün	A	B	C	D	E
Kaplanmamış mobilya + kaplama malz.					
Yapıştırıcı malz.					

SORU 3) Çıktılarınızı nereye satıyorsunuz? (Çıktılar listesi ve 5 bölge)

SORU 4) Atölyenin mülkiyeti - kira - kendi yerim

SORU 5) Kapasitenizin yaklaşık ortalama ne kadarını kullanmaktasınız? %

SORU 6) Herhangi bir mesleki derneğe üye misiniz? Hangisi?

SORU 7) Bölgenizdeki mobilyacılık sektöründeki ve/veya iş yaptığınız işetmelerle işbirliği yapmayı düşünür müsünüz? Güven duyuyor musunuz?

SORU 8) Size göre bölgede işinizi geliştirmek/iyileştirmek için nelere gereksinimiz vardır? Bölgenin işlerinizi etkileyen önemli sorunları nelerdir?

APPENDIX-E.6 (continued)

Sorun / Gereksinim	AĞIRLIK				
	1	**2**	**3**	**4**	**5**
1) …. Üreticisinin (üretim aşamasının) yokluğu					
2) …. Tedarikçisinin yokluğu					
3) …. Hizmet sağlayıcısının yokluğu					
4) mesleki eğitim imkanlarının ve nitelikli elemanın yokluğu					
5) pazarlama/ihracat ajansının yokluğu					
6) teknolojik yardımın yokluğu					
7) finansal desteğin yokluğu (krediler)					
8) ar-ge ve tasarım imkanlarının yokluğu					
9) işletme yönetim eğitimi yokluğu					
10) kanalizasyon altyapısı sorunları					
11) içme suyu sıkıntısı					
12) çevre düzenleme ve temizlik					
13) işletmeler arası iletişim sorunu, görüş ayrılıkları, güvensizlik					
14) sitelerde yerleşimin düzensizliği					
15) Diğer …….					
16)					
17)					
18)					
19)					
20)					

APPENDIX-E.7
ENTERPRISE SURVEY – for primary business branch – Upholstery workshop

Girdi		**Üretim Aşaması**	**Çıktı**	
Üretim aş.	**Ürün**	**Döşemeci**	**Ürün**	**Üretim aş.**
Mob. Ve Kolt.	Döşenmemiş mobilya		Döşenmiş mobilya	Mob. Ve Kolt.
-	Kumaş			
-	Dolgu malz.			**A**
-	İplik			**B**
	Zımba teli			**C**
	Fermuar			**D**
Süngerci	Sünger			**E**

SORU 1) Ne iş yapıyorsunuz (mobilya üretimi şemasındaki iş dallarına göre, birden fazla iş dalı belirtilecek)

SORU 2) Girdilerinizi nereden alıyorsunuz? (Girdiler listesi ve 5 bölge)

ürün	A	B	C	D	E
Döşenmemiş mobilya					
Kumaş					
Dolgu malz.					
İplik					
Zımba teli					
fermuar					
Sünger					

SORU 3) Çıktılarınızı nereye satıyorsunuz? (Çıktılar listesi ve 5 bölge)

SORU 4) Atölyenin mülkiyeti - kira - kendi yerim

SORU 5) Kapasitenizin yaklaşık ortalama ne kadarını kullanmaktasınız? %

SORU 6) Herhangi bir mesleki derneğe üye misiniz? Hangisi?

SORU 7) Bölgenizdeki mobilyacılık sektöründeki ve/veya iş yaptığınız işetmelerle işbirliği yapmayı düşünür müsünüz? Güven duyuyor musunuz?

SORU 8) Size göre bölgede işinizi geliştirmek/iyileştirmek için nelere gereksinimiz vardır? Bölgenin işlerinizi etkileyen önemli sorunları nelerdir?

APPENDIX-E.7 (continued)

Sorun / Gereksinim	AĞIRLIK				
	1	**2**	**3**	**4**	**5**
1) …. Üreticisinin (üretim aşamasının) yokluğu					
2) …. Tedarikçisinin yokluğu					
3) …. Hizmet sağlayıcısının yokluğu					
4) mesleki eğitim imkanlarının ve nitelikli elemanın yokluğu					
5) pazarlama/ihracat ajansının yokluğu					
6) teknolojik yardımın yokluğu					
7) finansal desteğin yokluğu (krediler)					
8) ar-ge ve tasarım imkanlarının yokluğu					
9) işletme yönetim eğitimi yokluğu					
10) kanalizasyon altyapısı sorunları					
11) içme suyu sıkıntısı					
12) çevre düzenleme ve temizlik					
13) işletmeler arası iletişim sorunu, görüş ayrılıkları, güvensizlik					
14) sitelerde yerleşimin düzensizliği					
15) Diğer …….					
16)					
17)					
18)					
19)					

APPENDIX-E.8
ENTERPRISE SURVEY – for primary business branch – Furniture makers

Girdi		**Üretim Aşaması**	**Çıktı**	
Üretim aş.	**Ürün**	**Mobilyacı ve Koltukçu**	**Ürün**	**Satım**
Keresteci	Kereste		Yatak Odası,	Toptancı
İskeletçi	İskelet		Yemek Odası	
Kaplamacı	Kaplama		Salon Takımları	
Presçi	Kaplanmış mobilya		Genç Odaları	
Mob. Boyacısı	Boyanmış mob.		Koltuk ve Oturma Grupları	
Döşemeci	Döşenmiş Mob.		Bebek Mobilyası	
Camcı	Cam, Ayna		Hastane Mobilyaları	Kendi mağazası
Süngerci	Sünger		Ofis Mobilyaları	
-	Çivi, vida		Otel Mobilyaları	
yaycı	Yay		Masa	
Aksesuarcı	Aksesuar		Sandalye	
-	Paket malz. (naylon, köpük, mukavva)		Zigon	
Metal iskeletçi	Metal iskelet		Orta Sehpa	Diğer Mağaza
			TV Sehpası	
			Yan Sehpa	
			Askılık	
			Abajur	
			Yatak	

SORU 1) Ne iş yapıyorsunuz (mobilya üretimi şemasındaki iş dallarına göre, birden fazla iş dalı belirtilecek)

SORU 2) Girdilerinizi nereden alıyorsunuz?

APPENDIX-E.8 (continued)

ürün	A	B	C	D	E
Kereste					
Sunta					
İskelet					
Kaplama					
Kaplanmış mobilya					
Boyanmış mob.					
Döşenmiş Mob.					
Cam, Ayna					
Sünger					
Çivi, vida					
yay					
Aksesuar					
Paket malz. (naylon, köpük, mukavva)					
Metal iskelet					

SORU 3) Ne üretiyorsunuz (liste) - Ürünlerinizi hangi yöntemle ve nereye satıyorsunuz?

	A	B	C	D	E
Kendi Mağazama					
Diğer Mağazalara					
Toptancıya					

SORU 4) Atölyenin mülkiyeti - kira - kendi yerim

SORU 5) Kapasitenizin yaklaşık ortalama ne kadarını kullanmaktasınız? %

SORU 6) Herhangi bir mesleki derneğe üye misiniz? Hangisi?

SORU 7) Bölgenizdeki mobilyacılık sektöründeki ve/veya iş yaptığınız işetmelerle işbirliği yapmayı düşünür müsünüz? Güven duyuyor musunuz?

APPENDIX-E.8 (continued)

SORU 8) Size göre bölgede işinizi geliştirmek/iyileştirmek için nelere gereksinimiz vardır? Bölgenin işlerinizi etkileyen önemli sorunları nelerdir?

Sorun / Gereksinim	**AĞIRLIK**				
	1	**2**	**3**	**4**	**5**
1) …. Üreticisinin (üretim aşamasının) yokluğu					
2) …. Tedarikçisinin yokluğu					
3) …. Hizmet sağlayıcısının yokluğu					
4) mesleki eğitim imkanlarının ve nitelikli elemanın yokluğu					
5) pazarlama/ihracat ajansının yokluğu					
6) teknolojik yardımın yokluğu					
7) finansal desteğin yokluğu (krediler)					
8) ar-ge ve tasarım imkanlarının yokluğu					
9) işletme yönetim eğitimi yokluğu					
10) kanalizasyon altyapısı sorunları					
11) içme suyu sıkıntısı					
12) çevre düzenleme ve temizlik					
13) işletmeler arası iletişim sorunu, görüş ayrılıkları, güvensizlik					
14) sitelerde yerleşimin düzensizliği					
15) Diğer …….					
16)					
17)					
18)					

APPENDIX-E.9
ENTERPRISE SURVEY – for secondary business branches

SORU 1) Ne iş yapıyorsunuz?

Yapay mobilya mlz. üretici (sunta, MDF, duralit, laminat, kontra..)	
Kaplama ürt.	
Sünger ürt.	
Yapıştırıcı ürt.	
Metal profil ürt.	
Boya mlz. ürt. (lake, polyester, boya, vernik…)	
Elyaf ürt.	
Naylon ürt.	
Plastik mlz. ürt.	
PVC ürt.	
Dolgu mlz. ürt. (kıtık, pamuk, yün…)	
İplik ürt.	
Kumaş ürt.	
Metal hırd. Ürt.	
Yay ürt.	
Metal aks. ürt.	
Cam, ayna ürt.	
Ambalaj mlz ürt. (mukavva, karton, naylon…)	
Makine üret.	
Ekipman üret.	

SORU 2) Mobilya sektörüne yönelik ürün üretiyor musunuz? E H
Çıktılarınızın ne kadarını mobilya sektörüne satıyorsunuz? %
Mobilya sektörüne sattığınız çıktılarınızı nereye satıyorsunuz? (Mobilya sektöründeki müşterileriniz neredeler?)

A	B	C	D	E

SORU 3) Atölyenin mülkiyeti - kira - kendi yerim

SORU 4) Kapasitenizin yaklaşık ortalama ne kadarını kullanmaktasınız? %

SORU 5) Herhangi bir mesleki derneğe üye misiniz? Hangisi?

SORU 6) Bölgenizdeki mobilyacılık sektöründeki ve/veya iş yaptığınız işetmelerle işbirliği yapmayı düşünür müsünüz? Güven duyuyor musunuz?

APPENDIX-E.10
ENTERPRISE SURVEY – for suppliers of inputs

SORU 1) Ne iş yapıyorsunuz?

Tomruk Satıcı	
Kaplama Satıcı	
Profil satıcı	
Yapay mob. Malzeme satıcısı	
Sünger satıcı	
Yapıştırıcı satışı	
Boya mlz satışı	
Elyaf sat.	
Naylon sat.	
Plastik mlz. sat.	
PVC sat.	
Dolgu mlz. sat.	
İplik sat.	
Kumaş sat.	
Metal hırd. sat.	
Yay sat.	
Metal aks. Sat.	
Cam, ayna sat.	
Ambalaj mlz. sat.	
Makine sat.	
Ekipman sat.	

SORU 2) Sattıklarınızın ne kadarını mobilya sektörüne satıyorsunuz? %
Mobilya sektörüne sattığınız çıktılarınızı nereye satıyorsunuz? (Mobilya sektöründeki müşterileriniz neredeler?)

A	B	C	D	E

SORU 3) Atölyenin mülkiyeti - kira - kendi yerim

SORU 4) Herhangi bir mesleki derneğe üye misiniz? Hangisi?

SORU 5) Bölgenizdeki mobilyacılık sektöründeki ve/veya iş yaptığınız işetmelerle işbirliği yapmayı düşünür müsünüz? Güven duyuyor musunuz?

APPENDIX-F

The development performance of Samsun according to various indicators

State Planning Organization, year 2003 data

(Dincer, B., Özaslan, M., & Kavasoğlu, T., 2003. [p. 209])

YIL	BİRİM	DEĞİŞKEN	SAMSUN	KARADENİZ	TÜRKİYE
		DEMOGRAFİK GÖSTERGELER			
2000	Kişi	Toplam Nüfus	1 209 137	8 439 213	**67 803 927**
2000	Yüzde	Şehirleşme Oranı	52,54	49,03	**64,90**
1990-00	Binde	Yıllık Ortalama Nüfus Artış Hızı	4,04	3,65	**18,29**
2000	Kişi/Km2	Nüfus Yoğunluğu	133	73	**88**
2000	Adet	Doğurganlık Hızı	2,55	2,39	**2,53**
2000	Kişi	Ortalama Hanehalkı Büyüklüğü	4,81	4,87	**4,50**
		İSTİHDAM GÖSTERGELERİ			
2000	Yüzde	Tarım İş Kolunda Çalışanların Toplam İstihdama Oranı	63,37	66,10	**48,38**
2000	Yüzde	Sanayi İş Kolunda Çalışanların Toplam İstihdama Oranı	6,86	7,29	**13,35**
2000	Yüzde	Ticaret İş Kolunda Çalışanların Toplam İstihdama Oranı	7,87	5,97	**9,67**
2000	Yüzde	Mali Kurumlar İş Kolunda Çalışanların Toplam İstihdama Oranı	1,67	1,45	**3,11**
2000	Yüzde	Ücretli Çalışanların Toplam İstihdama Oranı	28,94	27,48	**43,52**
2000	Yüzde	Ücretli Çalışan Kadınların Toplam İstihdama Oranı	5,50	4,44	**8,81**
2000	Yüzde	İşverenlerin Toplam İstihdama Oranı	1,98	1,46	**2,61**
		EĞİTİM GÖSTERGELERİ			
2000	Yüzde	Okur-Yazar Nüfus Oranı	86,21	85,82	**87,30**
2000	Yüzde	Okur-Yazar Kadın Nüfusun Toplam Kadın Nüfusa Oranı	79,52	78,49	**80,62**
2000	Yüzde	Üniversite Bitirenlerin 22+ Yaş Nüfusa Oranı	6,51	5,92	**8,42**
2000-01	Yüzde	İlkokullar Okullaşma Oranı	107,27	87,39	**98,01**
2000-01	Yüzde	Liseler Okullaşma Oranı	39,37	31,70	**36,92**
2000-01	Yüzde	Mesleki ve Teknik Liseler Okullaşma Oranı	21,79	23,04	**20,49**
		SAĞLIK GÖSTERGELERİ			
2000	Binde	Bebek Ölüm Oranı	48,00	42,33	**43,00**
2000	Hekim	Onbin Kişiye Düşen Hekim Sayısı	13,87	8,73	**12,70**
2000	Diş Hekimi	Onbin Kişiye Düşen Diş Hekimi Sayısı	1,22	1,08	**2,22**
2000	Adet	Onbin Kişiye Düşen Eczane Sayısı	2,84	2,22	**2,94**
2000	Adet	Onbin Kişiye Düşen Hastane Yatağı Sayısı	27,14	23,65	**23,04**
		SANAYİ GÖSTERGELERİ			
2000	Adet	Organize Sanayi Bölgesi Parsel Sayısı	258	1 561	**28 726**
2000	Adet	Küçük Sanayi Siteleri İşyeri Sayısı	2 322	12 732	**81 302**
2000	Adet	İmalat Sanayii İşyeri Sayısı	96	761	**11 118**
2000	Adet	İmalat Sanayii Yıllık Çalışanlar Ortalama Sayısı	8 340	80 118	**1 130 488**
2000	Beygir Gücü	İmalat Sanayii Kurulu Güç Kapasite Miktarı	154 069	1 786 457	**13 478 078**
2000	Kws	Fert Başına İmalat Sanayii Elektrik Tüketimi	310	371	**550**
2000	Milyon TL	Fert Başına İmalat Sanayii Katma Değeri	83	128	**350**
		TARIM GÖSTERGELERİ			
2000	Milyon TL	Kırsal Nüfus Başına Tarımsal Üretim Değeri	1 241	955	**1 124**
2000	Yüzde	Tarımsal Üretim Değerinin Türkiye İçindeki Payı	2,66	15,35	**100**
		İNŞAAT GÖSTERGELERİ			
2000	Adet	Daire Sayısı	255 042	1 602 619	**16 235 830**
2000	Yüzde	Borulu Su Tesisatı Bulunan Daire Oranı	98,60	95,22	**96,60**
		MALİ GÖSTERGELER			
2000	Yüzde	Gayri Safi Yurt İçi Hasıla İçindeki Pay	1,41	9,46	**100**
2000	Milyon TL	Fert Başına Gayri Safi Yurt İçi Hasıla	1 452	1 396	**1 837**
2000	Adet	Banka Şube Sayısı	95	749	**7 786**
2000	Milyon TL	Fert Başına Banka Mevduatı	358	320	**939**
2000	Yüzde	Toplam Banka Mevduatı İçindeki Pay	0,68	4,24	**100**
2000	Yüzde	Toplam Banka Kredileri İçindeki Pay	0,69	7,24	**100**
2000	Milyon TL	Kırsal Nüfus Başına Tarımsal Kredi Miktarı	100	244	**138**
2000	Milyon TL	Fert Başına Sınai, Ticari ve Turizm Kredileri Miktarı	124	132	**392**
2000	Milyon TL	Fert Başına Belediye Giderleri	72	55	**82**
2000	Milyon TL	Fert Başına Genel Bütçe Gelirleri	155	111	**464**
2000	Milyon TL	Fert Başına Gelir ve Kurumlar Vergisi Miktarı	64	53	**165**
1995-00	Milyon TL	Fert Başına Kamu Yatırımları Miktarı	305	244	**248**
1995-00	Milyon TL	Fert Başına Teşvik Belgeli Yatırım Tutarı	576	924	**2 668**
1995-00	ABD Doları	Fert Başına İhracat Miktarı	406	662	**2 249**
1995-00	ABD Doları	Fert Başına İthalat Miktarı	1 522	809	**3 967**
		ALTYAPI GÖSTERGELERİ			
2000	Yüzde	Kırsal Yerleşmelerde Asfalt Yol Oranı	28,76	25,59	**45,23**
2000	Yüzde	Yeterli İçmesuyu Götürülen Nüfus Oranı	78,41	83,73	**84,98**
2000	Yüzde	Devlet ve İl Yolları Asfalt Yol Oranı	95,89	89,90	**91,28**
		DİĞER REFAH GÖSTERGELERİ			
2000	Adet	Onbin Kişiye Düşen Özel Otomobil Sayısı	527	435	**652**
2000	Adet	Onbin Kişiye Düşen Motorlu Kara Taşıtı Sayısı	899	755	**1 056**
2000	Mws	Fert Başına Elektrik Tüketim Miktarı	0,89	0,99	**1,43**
2000	Adet	Fert Başına Telefon Kontör Değeri	1 448	1 223	**1 852**
2000	Yüzde	Yeşil Karta Sahip Nüfus Oranı	31,78	23,95	**14,93**