AN ASSESSMENT OF THE CURRENT STATUS, AND FUTURE DEVELOPMENT, OF THE PIETERMARITZBURG FOOTWEAR INDUSTRY AS A CLUSTER

BY

BARRY STRYDOM

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF BUSINESS ADMINISTRATION IN THE SCHOOL OF BUSINESS, UNIVERSITY OF NATAL, PIETERMARITZBURG.

October 2003

EXECUTIVE SUMMARY

While the South African footwear industry is a relatively modest contributor to both GDP and employment in the South African economy, it has historically played a dominant role in the economy of Pietermaritzburg. The opening up of South Africa's markets to the import of cheap shoes from the Far East, particularly China, together with large quantities of shoes smuggled into the country, has had a catastrophic impact upon the South African footwear industry. Due to its relative concentration of footwear manufacturers, the Pietermaritzburg footwear industry has been particularly hard hit by these developments and has suffered a decline in both production and employment.

The well-documented success of footwear clusters in Italy, Brazil and Mexico have lead local researchers and policy-makers to conclude that clustering provides a potential solution to the challenges facing the Pietermaritzburg footwear industry. The discussion concerning the future development of the Pietermaritzburg footwear industry has, to date, simply assumed that it is a cluster without any actual research to verify this assumption. In addition, the concept of clustering is often used by these authors without defining what is meant by the term or how the concept of clustering can practically be applied in the context of the Pietermaritzburg footwear industry.

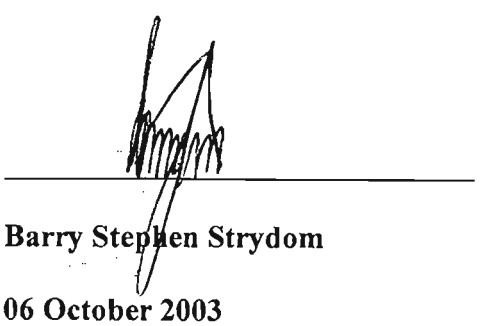
This study seeks to address this deficiency by firstly examining the theory pertaining to the clustering concept, particularly what a cluster is, what types of clusters exist and how clusters can be developed, and secondly by conducting exploratory research to evaluate to what extent the Pietermaritzburg footwear industry can be viewed as a cluster, and if so what type of a cluster, and what steps are required to develop it as a cluster. Secondary data analysis was performed on material relating to the South African footwear industry in general and the Pietermaritzburg footwear industry in particular. This analysis was combined with primary data gathered by means of interviews conducted with stakeholders in the Pietermaritzburg footwear industry to assess the industry's conformity to the theoretical definition of a cluster.

A sample of thirty-three individuals, including manufacturers, suppliers and trade union representatives, was interviewed using a non-scheduled structured interview technique. The study concluded that the Pietermaritzburg footwear industry exhibits a high degree of geographic concentration and active business channels that do achieve significant synergies in certain areas. However, it was found that the industry does not meet the final characteristic of collective action. As a result it is argued that the Pietermaritzburg footwear industry would appear to show sufficient conformity to the requirements to warrant its description as a cluster but that it probably conforms most closely to the 'latent' or 'underachieving' cluster classification.

Finally, the dissertation presents a number of recommendations for policy-makers and other role players for the development of the Pietermaritzburg footwear industry as a cluster. Salient recommendations include the importance of conducting research that can be used to persuade manufacturers of the benefit of clustering together; the need to appoint an experienced broker to actively facilitate the development of the cluster concept; and the importance of addressing gaps in the supply-chain.

DECLARATION

I declare that thus research is my own work. Where use has been made of the work of others it is duly acknowledged in the text. It is being submitted in partial fulfillment of the requirements for the degree of Master of Business Administration in the School of Business, University of Natal, Pietermaritzburg. It has not been submitted before for any degree or examination in any other university.



Barry Stephen Strydom

06 October 2003

ACKOWLEDGEMENTS

I would like to extend my great appreciation to my supervisor, Mike Hickson, for his generous support and commitment to the completion of this thesis. His enthusiasm and advice was a great help and encouragement.

I would also like to thank Professor Debbie Vigar for her support and guidance which made a great difference to the final result. Thank you for the effort you made.

I particularly wish to thank my wife Lisa for her love, understanding and support, not to mention proofreading, through many evenings and weekends lost to this thesis. Thank you.

I wish to thank all those persons involved with the Pietermaritzburg footwear industry who assisted in this study by making themselves available for interviews or by providing me with documents and statistics.

Finally, I would like to thank God for blessing me with the opportunity and ability to complete this study.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1 INTRODUCTION AND METHODOLOGY

1.1 BACKGROUND TO THE STUDY

Historically, the footwear industry has been the single most important sector within the Pietermaritzburg economy accounting for some 25% of formal employment in the city (KwaZulu-Natal Regional Economic Forum, 1997: 5). Nationally, however, the footwear industry has experienced a period of intense pressure with cheap imports from the Far East rapidly diminishing local manufacturers' share of the South African market leading to extensive factory closures and job losses (Ballard, 2001: 41-49; Stilwell, 2001: 42). The effect of this decline in the footwear industry nationally has been particularly felt within the Pietermaritzburg area because of its high concentration of footwear manufacturers. The relative importance of footwear to the Pietermaritzburg economy makes it a matter of extreme importance that the current negative trend in the footwear industry, al least at a local level, is arrested.

The shift in production from South African manufacturers to low cost producers in the Far East, particularly China, mirrors a global trend with the footwear industries in the United States and Europe suffering similar declines (ILO, 1992; ILO, 2002). Notable exceptions have been noted, however, in the footwear industries of countries such as Italy, Brazil and to a lesser extent Mexico which, despite their disadvantage in labour cost relative to Far Eastern producers, have succeeded in maintaining, and even increasing, their share of the global market (Rabellotti, 1997: 30; Nadvi & Schmitz, 1994: 6). Researchers have ascribed the success of these footwear industries to their high degree of geographic concentration, strong inter-firm networks and degree of specialisation (Isaksen, 1998: 15). It has been argued that by 'clustering' together these firms have been able to achieve economies of scale and of specialisation that have allowed them to remain competitive.

The success of these clusters or industrial districts in Italy and Brazil has lead a number of researchers, analysts and even the government, to conclude that the solution to the footwear industry in South Africa's problems is clustering. It has been argued that by applying the industrial district model employed by the footwear industry in Italy the local industry could also unlock sufficient 'agglomeration economies' to allow it to compete internationally. The

relatively high concentration of footwear related firms in Pietermaritzburg lends itself to this type of analysis and a number of authors including Harrison, Futter and Meth (1996); the Industrial Development Corporation (1997); Malla (1999); and Stilwell (2001) in their analysis of the footwear industry in Pietermaritzburg have concluded that clustering provides a solution to the challenges facing it. The Industrial Development Corporation report explicitly assumes that the Pietermaritzburg footwear industry is a cluster and uses this as a starting point for its analysis of the industry.

Given this apparent consensus regarding the usefulness and applicability of the cluster concept to the Pietermaritzburg footwear industry, it is surprising that no formal research has been undertaken to critically analyse to what extent the Pietermaritzburg footwear industry actually conforms to the theoretical model of an industrial district. In addition, the concept of clustering is often used by these authors without defining what is meant by the term or how the concept of clustering can practically be applied in the context of the Pietermaritzburg footwear industry. It is these omissions that this dissertation seeks to address.

1.2 OBJECTIVES

The objectives of this report are as follows:

- To provide a theoretical understanding of clustering as a management and development tool.

- To review the literature on clustering in order to identify guidelines for cluster development.

- To establish the pattern of linkages in the Pietermaritzburg footwear industry and examine the extent to which it can be described as a cluster and if so what sort of a cluster.

- To identify appropriate steps policy-makers can take for the development of the Pietermaritzburg footwear industry as a cluster.

1.3 SCOPE AND METHOD OF STUDY

This study was focused on clustering in the footwear industry in Pietermaritzburg. The literature review was thus confined to the theory of clustering and cluster development. The research conducted was exploratory in nature employing secondary data analysis and experience surveys to obtain an understanding of the Pietermaritzburg footwear industry. The small population size of the footwear industry in Pietermaritzburg allowed the study to identify a sample that represented a majority of the total population. To achieve maximum coverage and to include informal manufacturers a snowball technique was used to identify respondents. Information was obtained by means of non-scheduled structured depth interviews. The information gathered was then analysed using a case study approach. Specifically, the monographic approach of cluster identification was employed which makes use of cluster charts and qualitative data to construct a picture of a cluster (Hoen, 1997: 3).

1.4 PLAN OF THE STUDY

Firstly, in chapter two the academic literature on clustering will be reviewed in order to establish a firm grasp of what the terminology used means, what constitutes a cluster, what types of clusters exist, and what the benefits of clustering are. Limitations and drawbacks of clustering will also be discussed. Following on from this discussion, the literature on clustering will be reviewed in chapter three to address the policy implications of clustering. Drawing on the experiences of researchers and practitioners, the question of how clusters can be established and developed in practice will be discussed with the aim of identifying a framework for cluster policy that can be applied in the Pietermaritzburg context.

In chapter four the study's research methodology will be described in detail. Chapter five will comprise of secondary data analysis. The historic and economic context of the Pietermaritzburg footwear industry will be described including recent developments in the industry's environment and its responses to these developments. By placing the Pietermaritzburg footwear industry in context and by examining the strategies that have already been suggested it is possible to relate the theoretical benefits of clustering to the actual situation of the Pietermaritzburg footwear industry.

Having established a theoretical basis for a discussion of clustering, and having provided a description of the Pietermaritzburg footwear industry's historical development, chapter six provides a detailed description of the existing linkages within the Pietermaritzburg footwear industry. This description is then applied to the model of clustering developed in chapter two in order to analyse the extent to which the Pietermaritzburg footwear industry conforms to the theoretical requirements of a cluster, and what type of a cluster it would represent.

Finally, in chapter seven the theory on cluster development is applied to the Pietermaritzburg footwear industry to formulate a set of recommendations for the development of the industry as a cluster. Areas for further research arising out of this study are also identified. At the conclusion of this dissertation, this study will hopefully have provided a comprehensive analysis of clustering within the context of the Pietermaritzburg footwear industry that will address certain deficiencies in the policy debate concerning the Pietermaritzburg footwear industry and will provide insight for the various stakeholders involved in this sector.

2 THE THEORY OF CLUSTERING

2.1 INTRODUCTION

The concept of clustering or industrial districts is not a new phenomenon. As early as 1890 Alfred Marshall's observations on the textile and metalworking industries of England, Germany and France led him to conclude that small firms operating within a specific industrial activity in close geographic proximity to each other could achieve economic gains (Marshall 1890). Marshall (1919) argued that these gains could be attributed to the specialized knowledge pool available to all within the cluster and to individual firms within the industrial district specializing in a particular stage of the production process resulting in inter-firm division of labour (Nadvi & Schmitz, 1994: 3).

The concept of clustering as a model for studying economic development was largely neglected by theorists and researchers, however, until the mid 1980's when a number of writers, led by Porter and Schmitz, began to highlight the potential significance of industrial districts or clustering in economic development. Porter's focus on clustering was part of a theoretical analysis of the effects of globalisation and competition on the success of nations within the context of a global economy (Porter, 1998c: 197). Researchers such as Schmitz, Nadvi, Pike and Sengenberger, however, were more interested in observing the *phenomena* of successful industrial districts in places such as Italy, Brazil and Pakistan in an attempt to understand the dynamics that allowed for the success of these clusters. The work of these, and many other, authors has provided an extensive literature on clusters and how they work and, perhaps more significantly, has begun to identify a policy framework of actions that can be taken at national, regional or local level to stimulate the development of successful clusters.

In this chapter the available literature on clustering will be reviewed in order to develop a comprehensive theoretical understanding of the concept of clustering particularly the meaning of the term and the theoretical benefits of clustering.

2.2 TERMINOLOGY

Obviously, the starting point in any discussion of clustering is to define exactly what is meant by the term. While the notion of an industrial district or cluster may at face value seem fairly straightforward, in reality there are a range of definitions of clustering that have been put forward in the literature on the subject and no general agreement exists on the definition of a cluster (Creusen, 2001: 1). While these various definitions share many similarities, they also differ in ways that can have significant implications for one's understanding of what constitutes a cluster; and different analysts tend to use the concept in different ways to suit their own needs (Martin & Sunley, 2001: 12).

For example, Rosenfeld (1997: 7) comments that governmental agencies, needing to avoid the appearance of favouritism, tend to apply very broad, inclusive definitions and to use territories that match political boundaries. As a result, broad categories of businesses, such as mining, professional services or tourism, are classified as clusters even if they have no obvious connections that bind the firms into a productive system.

Academics and researchers, on the other hand, prefer to focus on standard industrial classifications, agglomeration features and business transactions that facilitate statistical or econometric analyses. For example, DRI/McGraw-Hill has carried out numerous analyses for states in America using a weighted formula to identify clusters. Based on their classification system, DRI/McGraw-Hill has identified 380 U.S. clusters that together account for 57% of the U.S. workforce, 61% of the country's output and 78% of its exports (Enright & Ffowcs-Williams, 2001: 8). However, as Rosenfeld (1997: 8) points out, because their classifications are so inclusive, the results of this type of analysis must be approached with some caution as the potential exists for the degree of real inter-relatedness to be overstated. This is not to diminish the significance of clustering, as Porter (1998b: 149) observes, "...the phenomenon of industry clustering is so pervasive that it appears to be a central feature of advanced national economies."

Finally, business schools have tended to employ models based on comparative advantages in global markets, examining factors such as competitive forces, specialized infrastructure and labour; the most widely accepted example of such models being Porter's 'diamond'. The

differing agendas and starting points of researchers, commentators and policy-makers obviously colour their understanding of what clustering entails.

In addition to differences concerning the definition of a cluster, the actual process of identifying clusters can be problematic. Using only a quantitative analysis is insufficient because it misses the fullness and complexity of the business and technical relationships that are not captured by Standard Industrial Classification codes while using a qualitative approach can be just as difficult as it is subject to preconceived ideas of clusters, prejudice or historical prominence (Austrian, 2000: 98). Not only do different authors interpret and use the cluster concept in different ways, they use different types of data and different empirical methods to identify clusters with the result that varying claims are made for how many clusters exist and what their geographic boundaries are (Martin & Sunley, 2001: 29).

2.2.1 CLUSTERS

In order to fully understand the concept of clustering, therefore, it is necessary to firstly closely examine the definitions of clustering and related terms that have been presented in the literature. The lack of clarity surrounding the cluster concept has prompted Martin and Sunley (2001:11) to go so far as to state that "[t]he concept has acquired such a variety of uses, connotations and meanings that it has, in many respects, become a 'chaotic concept', in the sense of conflating and equating quite different types, processes and spatial scales or economic localisation under a single, all-embracing universalistic notion." To support this standpoint they present the following selection of definitions, overpage, that highlights the range and variety of meanings assigned to the term. Central to their criticism of this range of definitions is the vagueness and divergence of their treatment of the issue of geographic proximity. Some definitions require no spatial relationship whilst others do but do not indicate the nature or extent of this relationship.

Table 2.1 Clusters: The Confusion of Definitions (Some Examples Drawn from the Cluster Literature)

Porter (1998, p. 199) " A cluster is a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities",
Crouch and Farrell, (2001, p. 163) "The more general concept of 'cluster' suggests something looser: a tendency for firms in similar types of business to locate close together, though without having a particularly important presence in an area.
Rosenfeld (1991, 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 (19993, 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 Hertag (1999, p.9) "Clusters can be characterized as networks of producers of strongly interdependent firms (including specialised 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 specialised 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. "

Source: (Martin & Sunley, 2001: 15).

Porter (1998a: 78) employs a fairly inclusive definition of a cluster which he describes as " [a] geographic concentration of interconnected companies, specialized suppliers, service providers, firms in related industries and associated industries in particular fields that compete but also cooperate" or more succinctly as "a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementaries." The question of geographic proximity is clearly evident in Porter's understanding of clustering. He emphasizes geographic concentration because proximity greatly facilitates the flow of information about needs, techniques and technology which is essential for a cluster to innovate and upgrade its competitive advantage (Clancy, O'Malley, O'Connell & van Egeraat, 2001: 10). Competitive advantage is at the heart of Porter's understanding of clustering which he essentially views as self-reinforcing systems that stimulate the competitive strategies of firms in a cluster and hence the competitiveness of the cluster itself (Martin & Sunley, 2001: 19).

Although Porter (1998c: 761) argues that an industry cluster benefits from member firms being located close to one another, he does not necessarily consider geographic proximity to be a defining characteristic of a cluster (McCormick, 1998: 6). For Porter (1998b: 79), therefore, a cluster's boundaries are defined by the linkages and complementarities existing across industries and institutions. As Dahl (2001: 1) observes, this broad definition of a cluster allows it to be broader than a single industry and captures important linkages and spillovers of technology between industries. The geographic scope of a cluster can therefore range from a single city or region to a country or even a grouping of regions across a number of neighbouring countries. Of course this also means that linkages can be traced to such an extent that any cluster so defined becomes so large and all encompassing that it loses practical usefulness.

Contrary to Porter, Schmitz argues that a cluster is characterized by a geographical and sectoral agglomeration of enterprises (McCormick, 1998: 6). This emphasis on geographic proximity is characterized by Hill and Brennan's (2000: 67) definition of a cluster as "a geographic concentration of competitive firms or establishments in the same industry that either have close buy-sell relationships with other industries in the region, use common technologies, or share a specialized labour pool that provides firms with a competitive advantage over the same industry in other places." In their opinion the first part of this

definition, the 'geographic concentration' is a precondition combined with at least one of the other three parts before a group of industries can be considered an industrial cluster (Hill & Brennan, 2000: 68).

While Schmitz, as has been discussed above, regards geographic concentration as a precondition for a cluster he also strongly makes the point that a group of producers making the same or similar things in close proximity to each other brings, in itself, few benefits. For clustering to produce significant benefits a number of subsequent developments need to occur which include the division of labour and specialisation amongst firms; the provision of their specialized products and services at short notice and great speed; the emergence of suppliers who provide raw materials and components; the emergence of agents who sell to distant national and international markets; and, the growth of specialised producers' services in technical, financial and accounting matters (Schmitz, 1995: 4). A similar sentiment is echoed by Saxenian (in Kotval & Mullin, 1998: 311) when she argues that while proximity might promote repeated interaction between industry participants that will allow the necessary mutual trust to be established needed to sustain collaboration, spatial clustering alone does not create mutually beneficial synergies. Instead, she believes that the existence of a significant complex of institutional and social relationships which connect the producers within a region is equally vital.

This dimension of interaction between industry participants is further emphasized by Rosenfeld who, whilst acknowledging the obvious importance of geographic concentration, asserts that 'active channels' are as important as concentration in determining the success of a cluster. He therefore defines a cluster as a "... geographically bounded concentration of interdependent businesses with active channels for business transactions, dialogue, and communications, and that collectively shares common opportunities and threats" (Rosenfeld, 1997: 9). Central to this definition is the understanding that active channels are crucial for the existence of a cluster and that without such active channels a concentration of related firms, even if they represent a critical mass, does not represent a local production or social system and therefore does not operate as a cluster. Rosenfeld's definition thus emphasizes cluster dynamics in determining competitiveness as opposed to size or individual firm capabilities. This interaction is once again highlighted when he states, "... a 'cluster' is very simply used to represent concentrations of firms that are able to produce synergy because of

their geographic proximity and interdependence, even though their scale of employment may not be pronounced or prominent" (Rosenfeld, 1997: 3).

From the above discussion it is possible to identify at least four elements that are generally accepted as integral to the existence of a cluster. The first component is geographic proximity. While the degree of spatial concentration may vary it is clear that the notion of locality is central to the notion of a cluster. The second element in clustering is the requirement of interaction between the industry participants, both horizontally and vertically, often in the form of specialisation. Thirdly, a further aspect required for the existence of a cluster is that the geographic proximity of firms and their specialisation and/or cooperation is capable of generating significant synergies for the firms involved. Finally, as Rosenfeld identifies a cluster collectively shares common opportunities and threats.

For the purpose of this study then, a cluster will be defined as *a geographic concentration of related firms and institutions sharing common opportunities and threats and achieving significant synergies through specialisation, interaction and their physical proximity.*

2.2.2 INDUSTRIAL DISTRICTS

Closely related to clustering, but not necessarily synonymous, is the concept of industrial districts. McCormick (1997: 110) describes an industrial district as "... geographic concentrations of firms involved in similar productive activities." This definition of an industrial district, however, appears too broad to be particularly helpful. Marshall (1890 in van Dijk & Rabellotti, 1997: 2) argued that if a cluster is effectively characterized by some degree of division of labour then it could be defined as an industrial district. This distinction is also applied by Bagella and Pietrobelli (1997: 207), who suggest that the term cluster emphasizes physical proximity and not necessarily productive location. Brusco, (in McCormick, 1997: 110) suggest a far more comprehensive definition of an industrial district as "... a set of companies located in a relatively small geographical area [that] ... work, either directly or indirectly, for the same end market ... [and] share a series of values and knowledge so important that they define a cultural environment; and they are linked to one another by very specific relations in a complex mix of competition and cooperation".

According to Rabellotti (1997: 31) a cluster matches the ideal-type of industrial district if the following key elements are exhibited:

- a strong, relatively homogenous cultural and social background linking economic agents and creating a common and widely accepted behavioral code, sometimes explicit but often implicit;
- an intense set of backward, forward, horizontal and labour market linkages, based both on market and non-market exchanges of goods, services, information and people; and,
- a network of public and private local institutions supporting the economic agents in the cluster.

Markusen (in Pietrobelli & Barrera, 2002: 543) proposes an operational definition of a Marshallian industrial district based on the following elements:

- predominance of SMEs in the local industrial structure;
- geographical and industrial concentration of SMEs;
- independent firms' decision-making;
- high level of disintegration of the productive process often through subcontracting;
- important trade and exchanges among the agents within the district;
- scale economies relatively small at the enterprise-level, but high at district-level;
- substantial economies of scope, a consequence of the product differentiation;
- flexible and efficient local labour markets;
- important local cultural identity;
- important role of local institutions; and,
- dynamic entrepreneurial attitudes to compete through quality, flexibility, and innovation.

While Markusen's definition is more exhaustive than Rabellotti's they both reflect an emphasis on a high degree of specialisation and interaction between parties bound by a common culture. They also both highlight the role of supporting institutions assisting the activities of the industrial district. The key elements that Markusen's definition adds are the emphasis on SMEs and their geographical concentration.

It is clear from the above discussion that while closely related, and indeed they are often used synonymously in the literature, a distinction can be made between the concept of a cluster and that of an industrial district. Typically, the distinction between the two terms relates to

the degree of specialisation evident and the extent and depth of the relationships linking producers, suppliers, and buyers and supporting institutions. An industrial district can thus be regarded as a more mature, developed form of cluster. The implication then, is that an industrial district is by definition a cluster but a cluster would not necessarily qualify as an industrial district.

A third term, networks, is often used to describe the long-term structure of relationships between firms that, while related to the concepts of clusters and industrial districts, has a significantly different meaning.

2.2.3 NETWORKS

Rosenfeld (1997: 9) observes that the matter of defining clusters has been complicated by policy interest in networks or inter-firm cooperation in that, having studied the success of northern Italy's economy, officials from around the world have concluded that the region's success could be attributed to its rate of inter-firm cooperation or networks. However, Rosenfeld argues that networks are the result of mature and active clusters, not the source of a local production system and that while networks are collaborative activities, carried out by discrete usually small groups of firms in order to generate sales and profits, clusters are systems in which membership is informal and is simply based on interdependence and on making a contribution to the functioning of the system. The table overpage, presented by Rosenfeld, clearly distinguishes the important differences between networks and clusters.

As can be seen from his comparison, the two terms represent very different arrangements of firms but are not mutually exclusive. Networks can exist within a cluster but are not required for a cluster to exist and their existence is not in itself evidence of clustering. Perhaps the most important distinction between networks and clusters is that networks are created with the specific aim of fostering active cooperation between members whilst clusters do not require active cooperation between members and in fact the intense competition and rivalry between members of a cluster is seen by many authors as a key element in the success of a cluster. Kotval and Mullin (1998: 313), for example, argue that local rivalry with mutual cooperation can result in an environment that has a strong competitive advantage. As

Rabellotti and Schmitz (1999: 97) point out, even though firms within a cluster feed on each other, they can vary a great deal in the strategies they employ and in the growth they achieve.

Table 2.2 Networks versus Clusters

NETWORKS	CLUSTERS
Networks allow firms access to specialized services at lower cost.	Clusters attract needed specialized services to a region.
Networks have restricted membership.	Clusters have open 'membership'.
Networks are based on agreements.	Clusters are based on social values that foster trust and encourage reciprocity.
Networks make it easier for more firms to engage in complex business.	Clusters generate demand for more firms with similar and related capabilities.
Networks are based on cooperation.	Clusters take both cooperation and competition.
Networks have common business goals.	Clusters have collective visions.

Source: Rosenfeld (1997: 10).

Research conducted by Schmitz (2000: 330) on industrial districts in South Asia and Latin America found that while local external economies accrue cluster wide, cooperation tends to be selective leading him to conclude that it does not help to expect all firms to cooperate. Furthermore, while Schmitz (2000: 331) found evidence of increasing vertical cooperation, the evidence regarding horizontal cooperation produced mixed results. Schmitz thus concluded that an increased number of collective actors does not mean more collective action and that the extensive existence of private collective institutions (what he terms 'institutional thickness') is insufficient to address all the challenges posed by global competitive pressures. The implication of Schmitz's work is that while networking may facilitate the exploitation of synergistic benefits between firms it is not in itself sufficient and the external economies generated by the wider interaction and competition present in a cluster exceeds the benefits attainable by mere networking. These issues of synergies and external economies will be discussed in greater detail in section 2.4.

Pietrobelli and Barrera (2002: 542) define a network as "...a group of persons sharing a common cultural, economic, social or political objective." They suggest that a network can exist without its members' physical proximity because it is simply based upon their communication. They thus make a distinction between networks and clusters by stating that while geographic proximity is not essential for a network to exist it is a prerequisite for the existence of a cluster. Gordon and McCann (2000: 515), on the other hand, suggest that a network is one of three basic forms of clustering. They argue that there are different types of clusters defined by different structural characteristics. The evident heterogeneity of clusters has prompted a number of researchers to study clusters in an attempt to understand and categorise the differences between clusters.

2.3 TYPES OF CLUSTERS

2.3.1 GORDON AND McCANN's THREE FORMS

Gordon and McCann identify three basic forms of clustering, namely the Pure Agglomeration Model; the Industrial-Complex Model and the Social-Network Model. In all three cases economic benefits are derived by the cluster but a distinction is made between types of clusters with regards to the manner in which these benefits are achieved, specifically in relation to the degree of interaction between the cluster participants. The Pure Agglomeration model is based upon Marshall's notion of external economies (which will be discussed in detail in section 2.4) as a benefit of, and motivation for, clustering. The important distinction that Gordon and McCann (2000: 517) make here is that these benefits can accrue naturally without deliberate cooperation between the relevant parties other than what is in their own best interests in a competitive environment. In addition, they suggest that there is nothing inherently spatial in this concept (Gordon & McCann, 2000: 516).

These characteristics separate the Pure Agglomeration Model from the Industrial –Complex Model which is identified by sets of identifiable and stable relations among firms, conceived primarily in terms of trading links, which are in part manifested in their spatial behaviour. Geographic concentration is an inherent aspect of this type of cluster with the minimization of distance costs through the formation of crucial, pre-planned linkages (Gordon & McCann, 2000: 518-519). The final model proposed by Gordon and McCann, the Social-Network

Model, posits that social networks of strong interpersonal relationships can transcend firm boundaries and that when strong levels of trust are present these social networks allow firms to undertake risky cooperative and joint-ventures together and are willing to act as a group in support of common mutually beneficial goals (Gordon & McCann, 2000: 520). Martin and Sunley (2001: 24) question the separation of social networks as a separate type arguing that social networks are merely a particular form of external economy associated with agglomeration. They are also critical of the fact that these three theoretical models are ideal-types which they argue never fit reality exactly and that, as Gordon and McCann themselves acknowledge, in practice a given cluster is likely to contain elements of more than one model.

2.3.2 HOEN'S TYPOLOGY

The apparently conflicting views of the role of geographic proximity can be reconciled within the extremely useful system of classifying clusters proposed by Alex Hoen. Hoen (2000: 1) suggests that the variety of clusters can be classified along two dimensions namely the scope or level of analysis, and the nature of the relationship between the entities in a cluster. He firstly identifies three levels of analysis: the *micro level* refers to clusters of firms while the *meso level*, and the *macro level* refer to clusters of sectors. Secondly, the relation between units in a cluster are identified with either *innovative efforts* or *production linkages* connecting members. Clusters typified by innovative efforts relate to firms or sectors that cooperate in the development and diffusion of new products or technologies; the much studied Silicon value cluster being a prime example. Clusters based on production linkages, on the other hand, relate to firms or sectors that contribute to a production or value chain such as the often quoted footwear cluster of northern Italy. Hoen's typology can be represented in the following table, overpage.

In terms of Hoen's typology, theorists such as Porter tend to examine the concept of clustering at the macro level whilst writers such as Schmitz and Nadvi tend to focus their attention at the micro level. Hoen himself argues that it is easier to study meso clusters than micro clusters and that meso clusters can be used in international comparative analyses. He therefore deliberately focuses his attention on meso clusters and consequently his operational definition of a cluster as "a set of sectors that use relatively large amounts of each other's

products" is extremely broad. Porter (1998c: 205) makes the important observation that clusters can be examined at various levels of aggregation.

Table 2.3 Types of Clusters

	Innovative Efforts	Production Linkages
Micro	Diffusion of technologies and knowledge between firms, research institutions, etc.	Suppliers and buyers in a value-added or production chain of firms.
Meso	Diffusion of technologies and knowledge between sectors.	Backward and forward linkages between sectors; partial analyses.
Macro	A split up of the economic system in sectors that diffuse knowledge or technologies.	A split up of the economic system in sectors that form value added or production chains.

Source: Hoen (2000: 1).

This distinction between micro and macro clusters is also clearly identified by the Small Business Project (henceforth SBP), a South African based research group which has studied the potential of clusters as a vehicle for SME development. The SBP analysis is useful as it makes the point that historically in South Africa the term 'clusters' has been used to mean an entire industry, such as the 'tourism industry cluster' for example, which the SBP describes as a macro approach. In addition it states that government, through the Department of Trade and Industry (henceforth DTI), has adopted a macro approach to developing clusters in South Africa as a means to promoting economic development but with only marginal success (SBP, 1999: 15).

While acknowledging that the macro approach has merit, the SBP suggests that DTI cluster initiatives have achieved few significant results because their interpretation of macro has included such a diverse group of stakeholders as to make it impossible to nurture close relations and joint activity. For this reason the SBP advocates a micro cluster focus for South Africa involving " a small number of firms generally operating in similar sectors, in most cases geographically close to each other and lacking the capacity to compete on their own" (SBP, 1999: 19).

2.3.3 THE SBP TYPOLOGY

The SBP (1999: 21-22) identify four distinct types of clusters based specifically on the structural dynamics of a cluster namely vertical; horizontal; mixed and emerging clusters. The vertical cluster is characterized by strong buyer-seller relationships, often following the supply chain with firms being vertically integrated by means of sub-contracting to suppliers, outsourcing services or beneficiating raw materials, for example. It may comprise a whole chain of vertical specialisations from raw material to consumer or it may be specialized in a single or a few links of the chain (Pedersen, 1997: 19). The horizontal cluster is based on the sharing of common resources and similar production processes or technologies with firms usually being from the same industry and/or closely allied industries. The mixed cluster is a composite of both the vertical and horizontal cluster and tends to emerge when well-established clusters extend outwards from the original cluster group into the local business and industrial sectors. Finally, the emerging cluster, as the name suggests, is formed by early cluster development with less formal linkages between firms.

2.3.4 PEDERSEN'S TYPOLOGY

Another researcher who has sought to identify different types of clusters is Pedersen (1997: 23). His typology is particularly interesting, because it is drawn from an exclusively African context. Based on his analysis of African clusters, Pedersen identifies four general types: the diversified industrial cluster; the subcontractor cluster; the market town or distribution center; and, the specialized petty commodity cluster, with enterprises specialized horizontally. Pedersen's breakdown, while useful in describing typical African forms of clusters, is less helpful in analyzing cluster dynamics (McCormick , 1998: 6) and provides limited insight into the Pietermaritzburg footwear cluster.

2.3.5 CREUSEN'S ANALYTICAL FRAMEWORK

Creusen (2001: 2) draws upon the work of Hagedoorn *et al* to describe four different theoretical schools of thought, each with its own emphases, that leads them to identify different types of clusters. The strategic management school focuses on information networks combining regional elements of networks of firms, institutes and governments and

emphasizes the informality of clusters due to the proximity of cluster participants. The regional economy school, as the name suggests, is focused on regional agglomerations of firms into specialised clusters. The school of industrial organization/endogenous growth theory, on the other hand, is concerned with studying cooperative innovation and knowledge exchange between competitors, suppliers and customers in the product market. In addition to these three schools of thought identified by Hagedoorn *et al,* Creusen proposes a fourth concept: 'supply-demand clusters' based on the empirical input/output analysis associated with meso-cluster identification.

Using these four approaches as a framework, Creusen has constructed a table summarising the main views of these four cluster-concepts. This table is presented in Appendix A. Blank cells are areas he believes current research has not yet addressed; where possible, however, he has tried to fill these cells with his own insights, which are presented in italics.

2.3.6 MYTELKA AND FARINELLI

Mytelka and Farinelli's focus is on the level and nature of innovation within clusters. They first distinguish between 'spontaneous clusters', clusters that originate as spontaneous agglomerations of firms and other participants, and 'constructed' clusters, those brought about by public policies. They then further identify five variables that they state demonstrate a cluster's potential for dynamic change and on the basis of these variables they differentiate between three types of spontaneous clusters namely informal, organized and innovative clusters. They present the typical habits and practices of these three cluster types in the following table overpage.

Table 2.4 Types of Clusters and Their Performance

Types	Spontaneous Clusters		
	Informal Clusters	**Organised Clusters**	**Innovative Clusters**
Examples	Suame Magazine (Kumasi, Ghana)	Nnewi (Nigeria) Sialkot (Pakistan)	Jutland (Denmark) Belluno (Italy)
Critical Actors	Low	Low to medium	High
Size of Firms	Micro & Small	SMEs	SMEs & Large
Innovation	Little	Some	Continuous
Trust	Little	High	High
Skills	Low	Medium	High
Technology	Low	Medium	Medium
Linkages	Some	Some	Extensive
Cooperation	Little	Some, not sustained	High
Competition	High	High	Medium to High
Product Change	Little or None	Some	Continuous
Exports	Little or None	Medium-High	High

Source: (Mytelka & Farinelli, 2000: 12).

2.3.7 ENRIGHT'S TYPOLOGY

An alternative approach to describing clusters is that proposed by Michael Enright of the Harvard Business School (in Rosenfeld, 1997: 10) who has suggested examining cluster dynamics in terms of a progressive typology. According to Enright's typology, clusters can be separated into three categories:

- working or 'overachieving' clusters – clusters that are self-aware and are able to realize their full potential and achieve synergistic benefits;
- latent or 'underachieving' clusters – clusters where opportunities exist but are unexploited with potential synergies not yet being realized; and,
- potential or 'wannabe' clusters – clusters where some of the requirements of a successful cluster are in place but critical mass and/or key conditions or inputs are missing.

Martin and Sunley (2001: 17) point out that Enright's 'potential' classification is problematic, "...since it becomes difficult to exclude almost any firm from a 'potential' cluster, especially when aspirational policy-makers are eager not to be left out of the cluster promotion game." As they complain, there are probably very few firms that do not have horizontal or vertical links of some sort with another firm that can loosely be described as geographically proximate. Martin and Sunley thus pose the question that if virtually every firm could be considered part of a 'potential' cluster how meaningful is this classification? Enright's classification does provide useful insight into the developmental stage of a cluster but clearly caution must be exercised in its application to avoid over optimism in identifying 'potential' clusters.

The Pietermaritzburg footwear industry will be evaluated in detail, in terms of these typologies, in chapter six. In that chapter the nature and extent of clustering evident in the Pietermaritzburg footwear industry will be examined in the context of the four criteria identified in section 2.2.1, namely geographic concentration; specialisation; synergies and shared threats and opportunities and the typologies presented in this section. No matter what form a cluster takes, however, there must be some reason for its existence in the first place. Starting with Marshall, much attention and discussion has centered on the economic benefits created by clusters.

2.4 BENEFITS OF CLUSTERS

In the past, researchers have generally attempted to explain concentrations of firms in terms of economies of agglomeration or external economies, with specific focus on cost minimization arising from proximity to inputs or to markets (Porter, 1998c: 213). This emphasis on costs goes back to the work of Marshall (1920) who defined external economies as cost saving due to the general development of an industry (Visser, 1997: 61). One of the effects of globalisation, however, has been to alter the way firms compete, with modern competition depending on productivity, not access to inputs or on the scale of individual enterprises (Porter, 1998a: 80). Globalisation has lead to an increase in international competition which has exposed many clusters to competition from international sources not previously experienced, as is the case with the South African footwear industry.

The discussion of the benefits of clustering is sometimes obscured by the different terminology employed. Agglomeration benefits are the benefits that accrue to firms within a cluster from their close geographic proximity. This term is often used interchangeably with that of external economies. "External economies are the unplanned gains that occur as a consequence of the unintentional influence that firms have when they are in close proximity with each other" (Mishan in Albaladejo, 2001: 4).

The economic theory pertaining to external economies is the subject of much technical debate. An in-depth economic analysis of external economies is outside the scope of this study. It is merely sufficient for the purposes of this discussion to state that typically, external economies represent cost savings that accrue to firms in a cluster due to their combined scale or proximity. Pedersen (1997: 11) points out that agglomeration economies represent external economies *passively* obtained by enterprises located close to one another and ignore the advantages that enterprises may achieve through active collaboration. Together the benefits of external economies and of active collaboration form what Schmitz has described as *collective efficiency*.

Nadvi clearly demonstrates the differences between these two components of collective efficiency in the following table. He stresses that agglomeration economies accrue passively to clustered firms by virtue of their location but that joint action gains require active and deliberate inter-firm cooperation. Nadvi (1999: 85) also makes the important point that these two components of collective efficiency are neither independent of each other nor in opposition to each other but rather that they are closely connected.

Table 2.5 Deconstructing Collective Efficiency

	Collective Efficiency	
Type of component gains	External economies	Joint action gains
Nature of inter-firm ties	Passive	Active
Type of effect	Largely static, some dynamic	Static and dynamic

Source: (Nadvi,1999: 84).

Rabellotti (1997: 31) goes even further and distinguishes between static and dynamic external economies and between different co-operation effects. She defines an external economy as

the by-product of activities undertaken within a cluster from which every economic actor in the cluster can benefit. Cooperation effects, on the other hand, are the result of explicit and voluntary actions that differ from external economies because of two factors namely excludability and compensation. When external economies and cooperation effects impact upon the level of productivity of the system these effects are described as static and they are described as dynamic when they affect the system's ability to grow and innovate.

The collective efficiency achieved through clustering and the distribution of the benefits attained depends on the structure of the cluster and the manner in which it is linked to the rest of the economy (Pedersen, 1997: 12). In other words, different clusters are structured differently and will consequently achieve different levels of efficiency and the benefits of the cluster's collective efficiency will be spread amongst the cluster participants in different ways. As a result, the benefits of clustering discussed below cannot be automatically assumed to accrue to every cluster and may vary substantially in size and significance between clusters. In addition, Enright & Ffowcs-Williams (2001: 9) make the point that at some point in any typical product life cycle, the advantages of market proximity can be overcome by cost considerations, which implies that clusters need to continually seek what they describe as 'higher order advantages'.

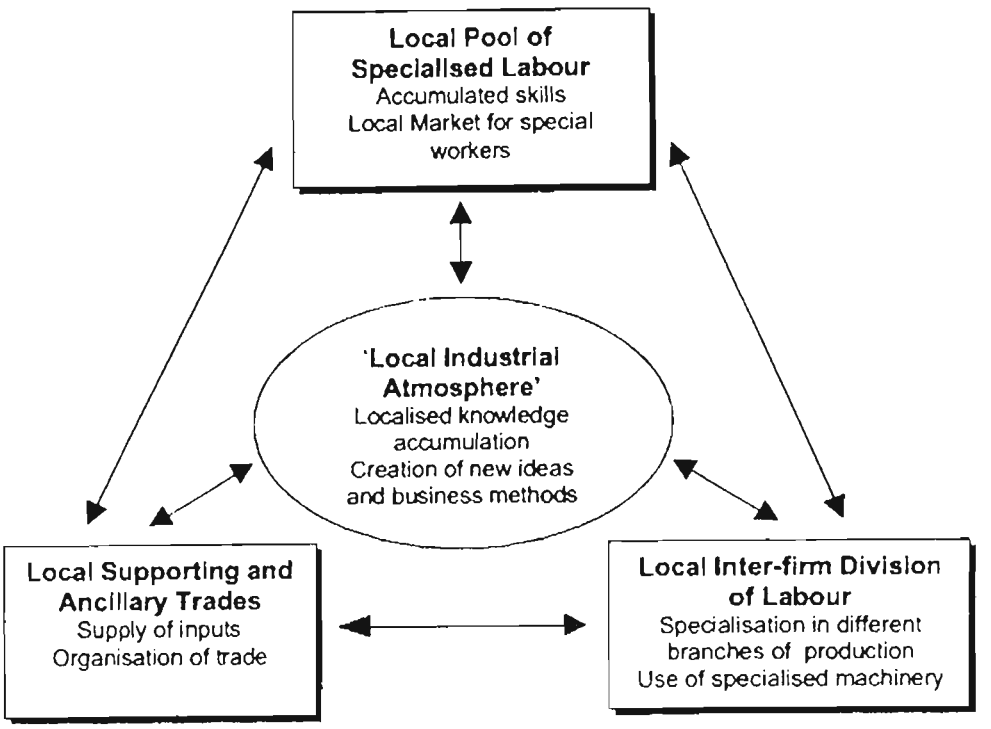
2.4.1 EXTERNAL ECONOMIES

Marshall (1890) identifies three main types of external economies in enterprise clusters namely labour-market pooling; the development of specialized local suppliers and services; and, technological spillovers. Some of these sources of external economies can be broken down into more specific areas, however, and so the following discussion covers more than three headings. In addition, it must be commented that many of these benefits can occur 'passively' through normal market functioning but can also be pursued actively by cluster participants. At times, therefore, the distinction between external economies and collaborative benefits can lose its significance. While this discussion maintains the distinction between external economies and collaborative benefits, it is important to remember that the lines between them can be blurred and that it is equally valid to simply think of them as collective efficiencies, whether actively or passively achieved.

Martin and Sunley represent the relationship between Marshall's external economies as follows.

Figure 2.1 Marshall's Triad of External Economies of Industrial Localisation

(Based on Marshall, 1890, Book Four, Ch.X)



Source: (Martin & Sunley, 2001: 7).

2.4.1.1 Access to Specialised Employees

Marshall (1913) makes the obvious point that employers are more likely to establish themselves in a location where they are likely to find a good choice of workers with the special skills they require while workers naturally go to a place where they expect to find a good market for their skills. Sectoral and geographical concentrations of productive activities thus tend to create pools of specialized skills that benefit both workers and firms (Nadvi & Schmitz, 1994: 41). This lowers search and transaction costs for recruiting (Porter, 1998c: 216) and can also lower training costs if a large pool of labour with existing skills exists. Labour pooling can itself allow for a higher level of specialisation and consequently efficiency (Enright & Ffowcs-Williams, 2001: 9).

2.4.1.2 Access to Specialised Information

Extensive market, technical, and competitive information is built up within a cluster and the relationships and ties that are created within a cluster facilitate the flow of information (Porter, 1998a: 81). By permitting the rapid flow of technical information between producers and by enhancing the flow of information between marketers, producers, suppliers and other cluster participants, clustering facilitates the diffusion of technical expertise and ideas (Nadvi & Schmitz, 1994: 18). This process is widely referred to in the literature as knowledge spillover. Chakravorty, Koo and Lall (2003: 16) distinguish between technology spillovers and information spillovers. Technology spillovers are usually transferred through informal interaction while information spillovers tend to be the result of market agents. Chakravorty, Koo and Lall suggest that knowledge pooling within a cluster on buyer-supplier behaviour is likely to eliminate inefficient agents and therefore increase the efficiency of the buyer-supplier relationships within the cluster making the cluster more competitive.

Norman and Pepall (2002: 22) describe knowledge spillovers as product or productivity improvements that can easily be implemented by all firms in a cluster and therefore lead to an increase in the efficiency of the entire cluster. Brenner and Weigelt (2000: 7) quote empirical studies by Jaffe, Tratjenberg & Henderson (1992) and Audretsch (1998) to support their argument that not only do firms profit a lot from spillovers from other firms but that these spillovers are to some extent a localized phenomenon. Their own research confirmed this hypothesis concluding that the more spillovers occur the more economic activity will concentrate. This finding is supported by Norman and Pepall (2002: 1) who argue that when firms are concentrated in one area, spillover channels are more readily accessible. In addition, Beaudry and Breschi (2000: 2), drawing on the work of Kline and Rosenburg (1986) and Dosi (1988), suggest that because firm innovations seldom occur in isolation but are supported by external sources of knowledge, firms located close to such sources will enjoy relative advantages over distant firms and should, therefore, tend to be more innovative.

2.4.1.3 Access to Specialised Inputs

Clustering of firms give rise to specialized suppliers of inputs and raw materials. The concentration of producer firms with similar needs attracts suppliers of raw materials,

components, machinery, spare parts etc. required by the producers (Nadvi & Schmitz, 1994: 13-14). In addition, clustering can offer benefits in obtaining inputs sourced from a distance because suppliers will price more aggressively and firms can use more efficient means of delivery (Porter, 1998c: 215). In addition, the close proximity between firms may facilitate the establishment of just-in-time supply mechanisms (SBP, 1999: 9) or at least improve the efficiency of the supply chain. Clustering may also make the purchase of expensive or socialised equipment viable. An individual firm might not be able to make full time use of such equipment but a subsidiary firm, specializing in one small part of the production process and performing this task on behalf of the cluster might be able to achieve sufficient volumes to make the acquisition of this equipment profitable while an individual firm could not (Marshall, 1913: 153; Weber, 1929: 128). A related agglomeration benefit is identified by Sengenberger (1993: 317), who states that clustering can reduce vulnerability to bottlenecks and shortages because, for example, if one supplier fails, for whatever reason, to deliver a part or component in time, other suppliers are available to step in and deliver the required item.

2.4.1.4 Access to Institutions and Public Goods

A firm can derive many benefits from public goods such as government investment in infrastructure, educational facilities such as universities, research institutions etc. Clustering promotes the development of a specialized infrastructure and knowledge base within a geographical area. Furthermore, public goods at cluster locations often result from private investment in training programmes, infrastructure, research etc. by members of the cluster, often collectively, who recognize the potential for collective benefits (Porter, 1998a: 83).

2.4.1.5 Access to Finance

The proximity of firms within a cluster also allows local financial institutions to develop an understanding of the cluster's business that assists in customer monitoring (Porter, 1998c: 219). In turn, existing firms and new start-ups should have an easier time finding finance because local investors, lenders and financial institutions will have a better understanding of the risks and opportunities to which these businesses are responding (Hill & Brennan, 2000: 67). This point is borne out by research conducted by Quince and Whittaker (2002: 18) on

small high-tech firms in the United Kingdom which suggested that firms operating within clusters enjoyed greater access to venture capital.

2.4.1.6 Market Access

In addition to Marshall's three sources of external economies, McCormick (1998: 11) adds a further, and what she describes as the most basic, agglomeration economy - market access. The grouping of producers in close geographic proximity facilitates the meeting of buyers and sellers and thus improves access to the overall market for a firm's products or services (McCormick,1998: 11). The presence in a location of multiple sources for a product or service can make the location attractive to buyers by reducing perceived buying risk (Porter, 1998c: 218) and because it reduces the customer's cost of reaching and searching the market (Pedersen, 1997: 21). This phenomenon, for example, is typified within the local footwear industry by the concentration of shoe manufacturers in the Failsworth Rd area which attracts large numbers of buyers to these firms because of their close proximity to each other.

In general, producers need information about consumer preferences in terms of products and the specific demands of market channels in order to know what product characteristics are required and then they need information about the types, availability and quality of production techniques, equipment, components and business services to allow them to determine the optimal way of achieving the desired product characteristics. The spatial concentration of market participants will reduce the costs of producers acquiring this necessary information (Visser, 1997: 68).

2.4.1.7 Transaction Costs

Localisation can reduce the costs of transactions, including the costs of negotiating and monitoring contracts, if information is transmitted through personal contact and if communication costs increase with distance or if the quality of communication deteriorates. Some localized industries develop standardized contracts and transaction mechanisms or even a common language that reduce the cost of negotiation (Enright & Ffowcs-Williams, 2001: 9). Collective action can lead to further reduction in transaction costs which can provide firms, both collectively and individually, with a competitive advantage (SBP,1999: 9).

2.4.1.8 Better Measurement and Motivation

Clusters promote efficiency because they make it easier to measure and compare performances across firms. This ease of constant comparison promotes rivalry between firms within the cluster which drives firms to improve performance (Porter, 1998a: 83). In addition, managers are able to lower employee monitoring costs by comparing worker performance with others locally.

2.4.2 COLLABORATIVE BENEFITS

Schmitz contends that while local external economies are necessary for the development of a strong cluster they are not on their own sufficient and that for an industrial cluster to flourish what he terms 'conciously pursued joint action' must also be present. Based on Schmitz's work, McCormick (1998: 12) has identified four categories of joint action in clusters, based on two dimensions namely the number of cooperators and the direction of cooperation.

Table 2.6 Forms of Joint Action in Clusters

Dimension	**Bilateral**	**Multilateral**
Horizontal	Two cooperators at the same level in the production chain, e.g. sharing equipment.	More than two cooperators at the same level in the production chain, e.g. a sectoral association.
Vertical	Two cooperators at the different levels of the production chain, e.g. a producer and user improving components.	More than two cooperators at different levels of the production chain, e.g. an association or alliance composed of manufacturers and distributors of a product.

Source: (McCormick, 1998: 12).

Complementarities between the activities of cluster participants, for example in their marketing efforts or products offered, can greatly enhance a cluster's productivity. Co-location facilitates technological linkages and coordination, which can improve the overall quality and efficiency of a cluster's operations (Porter, 1998c: 217). For example, in tourism a visitor's overall holiday experience depends on a range of inputs such as the quality of

restaurants, accommodation, transport etc. Poor or good performance by one part of a cluster can greatly affect the success of the rest of the cluster. Clustering offers the potential for joint marketing and can also enhance the reputation of a particular location for certain goods or services increasing the demand for its products or allowing firms to differentiate their offerings because of the region's superior reputation. Close cooperation by cluster members can thus facilitate both marketing and exporting (Sengenberger, 1993: 3127).

Clustering also allows for complementarities through the better alignment of activities among cluster participants. Often a successful end product will depend on changes across various stages of the value chain. It is much easier to identify and coordinate the necessary changes within clusters than among dispersed participants (Porter, 1998c: 218). In fact Schmitz (2000: 324) goes so far as to propose that closer cooperation is essential for clusters wishing to respond successfully to major crises or opportunities.

Collective action can allow firms to take advantage of opportunities which they individually might not have the resources required to exploit (SBP,1999: 9). For example, horizontal collaboration between small enterprises can enable them to supply large orders that far exceed their individual capacity (Pedersen, 1997: 21) or can save overheads through the joint procurement and utilization of resources such as tools and machinery (Sengenberger, 1993: 316). Proponents of clustering as a means of economic development have highlighted this aspect of collective efficiency as being particularly important for small firms competing in a global economy because "a cluster allows each member to benefit *as if* it had greater scale or *as if* it had joined with others without sacrificing its flexibility" (Porter, 1998a: 81). It is argued that the co-location of firms that complement each other, compete against each other or share common resources leads to increasing returns to scale (Hill & Brennan, 2000: 67). Through achieving both economies of scale and economies of scope (van Dijk & Rabellotti, 1997: 4), cluster firms' individual unit costs are lowered as a result of these collective efficiency gains equal to those of larger firms (SBP, 1999: 10).

Furthermore, as Gordon and McCann (2000: 1) point out, while localized increasing returns to scale provide a rationale for clustering these factor rewards are only exhibited over a limited spatial distance. The reason for this is that the transaction costs of overcoming distance, such as communication and transportation costs, represent a finite spatial limit over

which these benefits can accrue. Continuing developments in the fields of both transportation and communication, however, are likely to see these limiting factors decreasing in significance over time allowing for industrial clusters to operate over increasing spatial areas. Indeed, a tendency for dispersal as an industry develops has already been noted by Dalum, Jorgensen, Moller & Valentin (in Clancy, O'Malley, O'Connell & van Egeraat, 2001: 10).

2.5 NEGATIVE EFFECTS OF CLUSTERS

While the bulk of the literature available on clustering is almost exclusively positive in its discussion of clustering, the concept is not without its limitations and drawbacks. Marshall himself was perfectly aware of potential disadvantages of clustering. Martin and Sunley, who are highly critical of clustering as a theoretical concept, argue that clusters have costs as well as benefits. Table 2.7 presents their comparison of the advantages and disadvantages of clustering.

Table 2.7 Cluster Costs and Benefits

Claimed Advantages	**Potential Disadvantages**
Higher growth	Labour cost inflation
Higher productivity	Inflation of land and housing costs
Increased productivity	Widening of income disparities
Increased competitiveness	Over-specialisation
Higher new firm formation	Institutional lock-in
High job growth	Foreign take-over

Source: (Martin & Sunley, 2001: 45).

Hoen (2001: 4) also lists some possible negative effects of clusters that have been mentioned by authors such as Porter (1998) or Schmutzler (1999). These negative effects are:

- negative externalities due to pollution or congestion;
- decreased competition due to the forming of cartels;
- increased prices for things such as housing, wages, or land rents; and,
- 'groupthink' which may lead to rigid ideas and a failure to adopt new technologies or ideas.

Porter (1998a: 85) suggests that clusters are at least as vulnerable to internal rigidities as to external threats. The potential exists for firms in a cluster to become too inward looking

which leads to collective inertia and resistance to innovation described as technological 'lock-in' (Beaudry & Breschi, 2000: 9). A stable cluster structure can tempt firms to work towards maintaining the status quo ahead of promoting competition. When the social fabric of a cluster begins to stifle continuing innovation and development the cluster can become a threat to its own existence. Pouder and St John (in Martin & Sunley, 2001: 28) have suggested that the competitive strategies of firms in clusters tend to converge and to be less competitive over time as they begin to define their field of competition as the cluster to which they belong rather than the wider external industry.

As a result of this restricted collective perspective, competitive 'blind spots' emerge which limit cluster firms' innovative potential, strategic positioning, and ability to anticipate and react to industry-wide shocks. Pouder and St John's hypothesis is that the very networks of interdependence, that in the early period of cluster formation and growth were a strength, actually become, over time, sources of inertia and inflexibility relative to firms outside the cluster. In fact, Amin and Condorcet (in Martin & Sunley, 2001: 44) suggest that a reliance on local face-to-face and tacit knowledge, precisely the attributes that many writers argue are key elements of a successful cluster, actually make local networks especially vulnerable to such 'lock-in'.

If a local economy develops a specialisation that relies on a cluster it exposes that economy to the risk of the cluster declining, as a result of either internal or external factors, with an associated economic decline for the citizens of that region (Martin & Sunley, 2001: 44). Marshall (1913: 154) describes this risk as follows, "a district which is dependent chiefly on one industry is liable to extreme depression, in case of a falling-off in the demand for its produce, or of a failure in the supply of the raw material which it uses." His solution is for districts to develop several distinct industries to lessen their exposure to a single industry if it should fail.

Martin & Sunley (2001: 45) raise a further risk related to clusters, namely localized inflation or what they describe as 'overheating'. They quote a DETR (2000) report on clusters which noted that the growth of industrial concentrations tightens the labour market, causes increased congestion and puts pressure on the housing supply, all of which increase the costs of doing business as part of the cluster. The DETR report suggests that these negative externalities

might destroy the very factors that lead to the development of the cluster in the first place and force firms with lower profit margins out of the area. Again, Marshall (1913: 153) was also aware of this problem, particularly if a localized industry's labour requirement was very specific. Hill and Brennan (2000: 67) agree that as more firms are attracted to a region due to the existence of agglomeration benefits, the price of indigenous factors of production, especially land and labour, will increase. The question, they say, is whether or not firms can increase their revenue through product and process innovations that more than offset the higher costs of land and labour.

2.6 CONCLUSION

This chapter has shown that while the concept of clustering is not without its limitations and potential problems it also offers substantial and widespread benefits. The work of researchers such as Schmitz, Nadvi, Sengenberger & Pyke and Rabellotti, to name but a few, together with the influential writing of Michael Porter, has succeeded in creating an awareness amongst policy-makers of the potential of clustering to promote a region's global competiveness (Isaksen, 1998: 15; Waits, 2000: 36). Of particular interest to theorists and practitioners interested in developing the competiveness of less developed nations is the fact that clustering is seen as a mechanism to allow small firms to achieve the necessary economies of scale and specialisation that will allow them to compete globally. As Van Dijk and Rabellotti (1997: 7) observe "...clusters and networks may bring about several collective effects that contribute to collective efficiency. The identification of these effects in emerging countries is an important requirement for understanding if, and how, it is possible to enhance collective efficiency with policy interventions."

For regions, sectors and policy-makers eager to increase their constituents' global competiveness, how successful clustering can be achieved is clearly an extremely important question. While it is valuable to understand the potential benefits of clustering the benefit is limited if one is not able to actively pursue these benefits. A number of authors have studied clusters, both successful as well as those less successful, in order to identify key characteristics and conditions for a cluster to develop. In the following chapter this literature will be reviewed in order to identify key policy considerations for cluster development.

3 CLUSTER DEVELOPMENT: STRATEGIES & EXPERIENCE

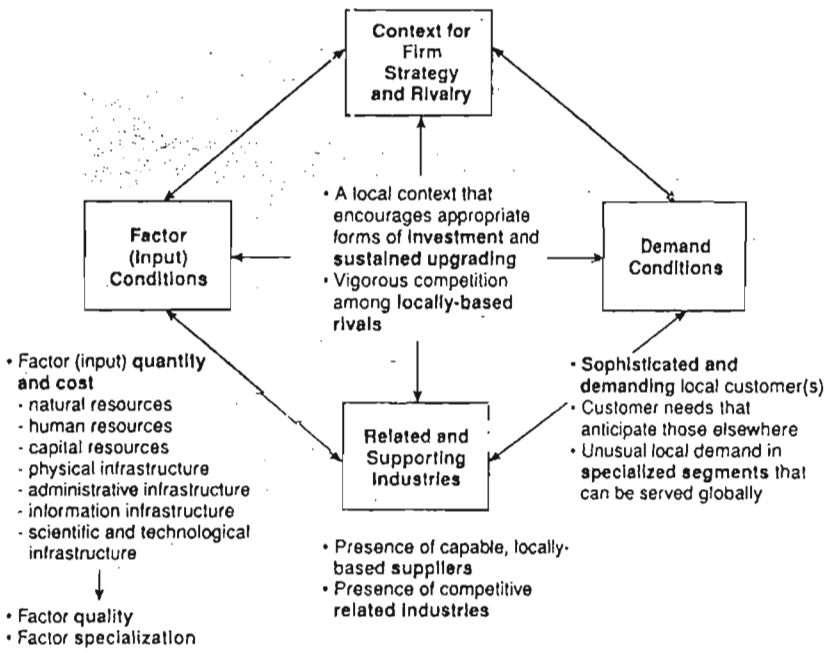
3.1 INTRODUCTION

Traditionally, in developing countries SMEs have been considered socially desirable as a strategy for job creation and better income distribution but questions have been posed of their economic viability. This is because small enterprises have shown little success in achieving international competiveness and their productive life is generally short. However, the evidence presented by several studies in developing countries suggests that the industrial district model may be a useful platform for efficient production and competitiveness (Pietrobelli & Barrera, 2002: 542). In addition, authors such as Rabellotti (1995) have proved that within industrial districts, SMEs can be profitable and contribute strongly to a country's industrial growth. As a result, many public sector initiatives globally, both in the developed and developing worlds, have supported the establishment and development of clusters (Enright & Ffowcs-Williams, 2001: 14; SBP, 1999: 13). While there might have been an increasing interest in cluster initiatives it does not mean that there is consensus regarding what form these initiatives should take, however. A growing body of theory on this issue has been established which will be discussed in this chapter, in particular the seminal work of Michael Porter will be used as a starting point for addressing how clusters can be developed.

3.2 PORTER'S MODEL

Arguably the most widely known and most frequently applied model of clustering and more particularly cluster development is Porter's famous 'diamond' model. This model is depicted below in figure 3.1. Since the publication of Porter's book, *The Competitive Advantage of Nations*, in 1990, the "industry-cluster" concept has gained widespread popularity and Porter's model has been adopted by many planning authorities in several countries around the world (Nation, 2002: 1). While the diamond concept has not been without some criticism (Clancy *et al*, 1999: 10-11; Martin & Sunley, 2001) it has been widely accepted and informs the work of most writers in this area. It is therefore appropriate to begin by providing an overview of Porter's basic model.

Figure 3.1 Sources of Locational Competitive Advantage



Source: (Porter, 1998c: 211).

In his book, The Competitive Advantage of Nations, Porter (1998b: 71) argues that a nation's success in a particular industry is determined by the interaction of four broad attributes or factors that shape the environment in which local firms compete. These four factors are:

1. *Factor conditions*. The nation's position in factors of production, such as skilled labour or infrastructure, required to compete in a given industry.
2. *Demand conditions*. The nature of home demand for the industry's product or service.
3. *Related and supporting industries*. The presence or absence in the nation of supplier industries and related industries that are internationally competitive.
4. *Firm strategy, structure, and rivalry*. The conditions in the nation governing how companies are created, organized, and managed, and the nature of domestic competition.

Furthermore, central to Porter's model is the understanding that the intensity of interaction within the 'competitive diamond' is enhanced if the firms in the cluster are also 'geographically localised' (Martin & Sunley, 2001: 7). As Clancy *et al* (1999: 10) explain, the operational concept in Porter's model is *clustering*, the particular process that leads to the development of clusters. Further, they observe that in the model the determinants operate as a system, each determinant affects the others. The important implication of this is that an

industry's competitive advantage is determined by how effectively the interaction works in a nation and this is why spatial proximity is significant because it facilitates the exchange and flow of information about needs, techniques, and technology. Porter's model can be used to identify a number of policy considerations for both the public and private sectors which will be used as a basis here for a discussion of issues involved in formulating cluster policy.

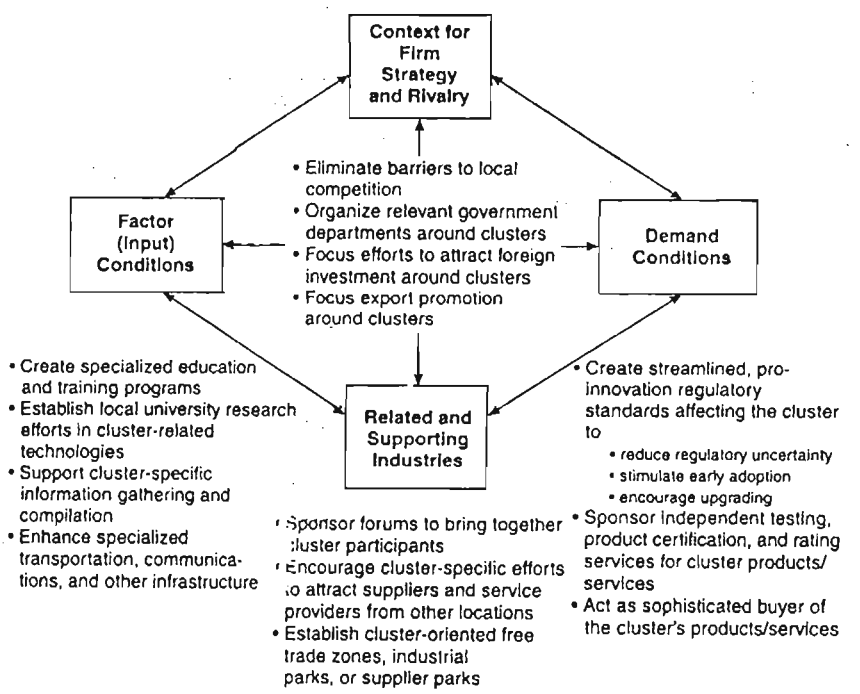
3.3 THE ROLEPLAYERS IN CLUSTER DEVELOPMENT

The literature on cluster development identifies three broad categories of roleplayers whose commitment and active involvement is required for the success of a cluster, namely government, the private sector and tertiary institutions.

3.3.1 GOVERNMENT

Figure 3.2 illustrates some specific government roles in cluster upgrading in the context of Porter's diamond model.

Figure 3.2 Government Influences on Cluster Upgrading



Source: (Porter, 1998c: 251).

It is clear that Porter envisages active government involvement throughout the diamond. Perhaps more significantly, the diagram illustrates Porter's belief that government has the capacity to affect the competiveness of an industry in many more ways than those typically considered such as providing infra-structure and that "... the cluster concept provides a way of organizing thinking about many policy areas that goes beyond the common needs of the entire economy" (Porter 1998c: 253). In addition, Bacheller (2000: 7), drawing on his experience with New York State's development agency, argues that working one-on-one with individual firms limits a development agency's reach while working with industry groupings or regional associations can greatly extend its programmes.

Porter (1998c: 245: 1998b: 212) emphasizes the importance of macro- and microeconomic policies as well as local policies in affecting rivalry. Albaladejo (2001: 3) states that there seems to be agreement that clusters benefit from a stable macroeconomic environment with tight inflation control, low budget deficits, reasonable interest rates and a competitive real exchange rate. Macroeconomic and political stability define the context for investment but equally important are microeconomic policies regarding issues such as the tax system, labour market policies, intellectual property rules and their enforcement etc.

Local policies, such as openness to trade and foreign investment, government ownership, licensing rules, and antitrust policy, to name but a few, are also an important determinant of the competitive environment which can either foster or hinder rivalry. Open markets are seen as necessary for clustering to produce the innovation and growth expected of them because they enhance competition with firms abroad (Hoen, 2001: 27) although Albaladejo (2001: 3) expresses an important caveat to the issues of trade liberalization. He states: "[a] conducive regulatory environment often requires a market-friendly trade regime, which reduces import controls and tariffs. The reduction in import restrictions, however, needs to be gradual so that companies have the time to adjust to the new challenges. In order to accelerate the adjustment process, governments need to reduce the transaction costs facing companies by simplifying the centralizing formal administrative procedures to register businesses ... and cutting red tape." As will be seen in chapter five, these comments are particularly relevant in the context of the South African footwear industry.

What is clear from the above discussion is that Porter's diamond model suggests that government has a key role to play in developing the appropriate set of conditions that will foster the growth and development of internationally competitive clusters of firms. Specifically, Porter (1998a: 89) argues that governments, at both national and local levels, have new roles to play in supporting productivity and competiveness. Firstly, he suggests that sound macroeconomic policy is necessary but not sufficient to achieve this end and that in the end it is the microeconomic foundations for competition that will ultimately determine a nation's productivity and competiveness. Secondly, he states that this new role for government is very different to the industrial policy practiced in the past. In industrial policy, governments target 'desirable' industries and intervene, by means of subsidies or restrictions on investment by foreign companies, for example, in order to benefit local companies. In contrast, Porter argues that the aim of cluster policy is to aid the development of *all* clusters.

Whilst it is obviously essential that a government follows sound macro and microeconomic policies to promote competiveness and economic development, this is not necessarily sufficient in itself; direct interventions may also be required (Albaladejo, 2001: 4). Porter (1998c: 248-250) argues that government also has a role to play at the cluster level. He states that intervention at a sectoral level doesn't work well because sectors are too broad to be competitively significant and that many sectoral distinctions no longer hold meaning. On the other hand, he states that setting policies to benefit individual firms distorts markets and uses government resources inefficiently while focusing at the industry level assumes that some industries are superior to others and risks distorting or limiting competition. In Porter's opinion, then, the appropriate level for government intervention is at the cluster level. "A cluster focus highlights the externalities, linkages, spillovers, and supporting institutions so important to competition. By grouping together firms, suppliers, related industries, service providers, and institutions, government initiatives and investments address problems common to many firms and industries without threatening competition" (Porter, 1998c: 250).

Government intervention in cluster development can be characterized as direct or indirect assistance. Direct interventions include measures such as providing financial assistance such as seed capital for an emerging cluster or actively identifying and driving cluster groups. Indirect interventions, on the other hand, tend to focus on stimulating demand by using public sector purchasing power to create demand for products or using incentive measures such as

industrial zones manufacturing for export and special tax holidays (SBP, 1999: 14). Experience shows that direct intervention has generally produced poor results and that *indirect* support is likely to be more successful (Hoen, 2001: 29; Nadvi & Schmitz, 1994: 38; Enright & Ffowcs-Williams, 2001: 4). It is for this reason that Kashyap (in Nadvi & Schmitz, 1994: 38) argues that a strategy of being a 'facilitator from a distance' may prove more successful than direct interventionist approaches.

The SBP (1999: 17) states that international best practice recognizes a role for public sector policies and institutions but that this role is clearly limited to facilitating growth not driving it. Government policy should serve as a *stimulant* that leads to private sector action in expanding and strengthening the cluster. Nadvi (1999: 103) expresses it well when he states "[w]hile there are no blueprints, the evidence from a wide range of cases supports the view that public support works best when it is targeted and where ... it is done with a 'light touch'." The SBP suggests that in the case of South Africa the DTI approach failed partly because it tried to put public intervention at the forefront of the cluster process. After the failure of its initial cluster development efforts, the DTI has changed its emphasis to 'supply side' support measures to bolster the competiveness of South African manufacturing firms (Barnes & Morris, 2000: 8).

In order to have a significant impact, the role of government must be clearly defined and carried out consistently over an extended period of time - 10 years or more according to Porter (1998c: 241). "Equally important, local government must know its limits. It cannot directly change federal policy, intervene in business operations or predict world events" (Kotval and Mullin, 1998: 318). Enright & Ffowcs-Williams (2001: 4) argue the neo-classical position that public programmes should not go beyond the traditional scope of rectifying market failures and providing public goods. Specifically, they identify the under-provision of public goods (such as education, training, infrastructure and certain types of research); coordination failures and the supply of industrial real estate and certain technical and financial services as particularly important for clusters of SMEs (Enright & Ffowcs-Williams, 2001: 14-15). The notion of public goods is well established. Coordination failures occur when information is available and is understood but is not acted upon because the relevant roleplayers cannot organize themselves to act together. The private supply of industrial real estate, especially for

new businesses, is often a problem with private property developers averse to the risks associated with unknown business ventures.

Whilst acknowledging that national rather than regional dynamics determine the growth of an industry, the SBP (1999: 16) argue forcefully that any attempt to 'institutionally orchestrate' the members of an industry to adopt a particular mode of economic behaviour such as clustering is an impossible task. Instead they say that international experience shows that industry-type clusters operate within tight geographic boundaries and do not involve all the industry players at a national level. The SBP, therefore, argues that the appropriate focus for promoting clusters is at a regional level as opposed to national.

Enright and Ffowcs-Williams, (2001: 18) express a similar sentiment when they state that where possible cluster initiatives should be matched to the most suitable level of government which, ideally, would correspond to the geographic scope of the cluster. They also observe that the optimal level of government also depends on the existing capacities and governance structures in so far as the 'right' level of government should have authority or at least substantial influence over relevant programmes and expenditures. However they too agree that it is no accident that in many industrialized, and some developing nations, regional or local governments tend to take the lead in public-private cluster development partnerships. As Murray (1999: 274) observes, planners are best able to intervene in the local decision-making process when they have acquired the necessary knowledge to assist in the formulation of industrial development policies and strategies appropriate for a specific region. It is less likely that interventions emanating at national level will be based upon the necessary understanding of regional issues.

This suggests a more important and active role for regional and local governments in developing clusters; indeed, a growing belief in non-intervention in the economy by national government has already indirectly led to greater involvement at lower levels of government. The idea that local authorities and local economic institutions have an economic role independent of national government is fairly new (Sengenberger, 1993: 315) and makes a big difference. "Local government could depart from the traditional "top-down" bureaucratic approach of governance and assume a new role as broker, organizer and coordinator of local

strategic planning. It could also take on the task of local strategic planning" (Sengenberger, 1993: 321).

A provocative alternative opinion is expressed by Hoen (2001: 30) who argues that empirical studies do not find evidence to support the theoretical reasons given for government to adopt a cluster policy. He concludes that "[t]he best policy thus is no cluster policy. Instead the government should take care of a well-working system of universities and a high level of competition." While Hoen's position that government intervention cannot make a difference in cluster development might be a minority one, it is fair to say that government alone cannot be expected to create a successful cluster. As Kotval and Mullin (1998: 316), in their analysis of the granite industry in Vermont, concluded "... the role of government intervention is critical to producing Porter's Factor Conditions. Local government can indeed become more interventionist, but government intervention by itself is not enough."

A review of regional and local government initiatives by Nadvi & Schmitz (1994: 37) identified two positive conclusions:

1. while state intervention cannot create industrial districts, such assistance can be critical to enhance the competiveness of local industry; and,
2. public institutions or programmes for the support of industry are more relevant and sustainable when there is an active involvement in policy, financing and management functions by the parties intended to benefit from them.

Clearly there is a role for government to play but it must be complemented by the efforts of the constituent parties of a cluster.

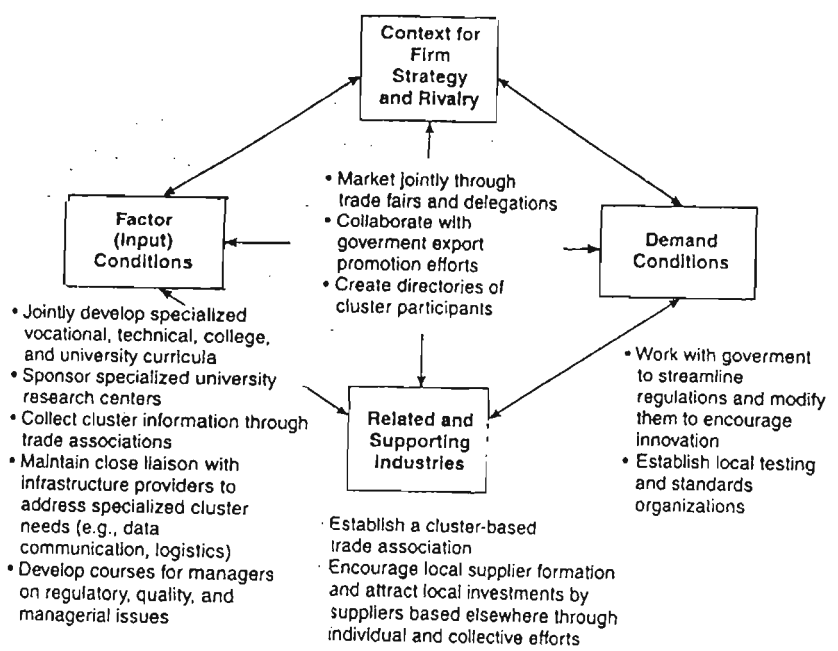
3.3.2 CORPORATES

The reality, acknowledged even by Porter (1998c: 241), is that most government attempts to create clusters fail. The reason for this is that it takes the active cooperation of a *number* of roleplayers to make a cluster succeed. As Sengenberger points out, the success of local development programmes requires interest groups willing and able to formulate and carry out the objectives as well as institutions capable of managing the local development process.

"Industrial associations and employers' organisations, trade unions, chambers of commerce, universities and other educational institutions, civil rights groups and environmental organisations could all take an active part in the analysis, consultation and action process. Together they could pinpoint strong and weak points in the local economic structure, identify needs, come forward with ideas for new products and market opportunities for the area and create a more conducive environment for innovation and enterprise" (Sengenberger, 1993: 321).

Porter (1998c: 257) states that private sector roles in cluster upgrading can be found in all parts of the diamond. Some of these roles are presented in figure 3.3 below. According to him, firms can improve factor conditions through, for example, improving the supply of trained staff, the quality and usefulness of university research activities or the creation of specialised physical infrastructure or knowledge. Firms also play a role in attracting suppliers, services and complementary-product producers to a cluster and in forming supplier businesses to fill gaps. In addition, he argues that the need for cluster participants to engage with government to address the constraints or weaknesses under its control cuts across all parts of the diamond.

Figure 3.3 Private Sector Influences on Cluster Upgrading



Source: (Porter, 1998c: 257).

Porter (1998c: 258) states that while individual firms can independently influence cluster development, because of the important externalities and public goods involved in clusters, informal networks, trade associations and other collective bodies become both necessary and appropriate. Further, he argues that while many associations restrict their activities to lobbying government, compiling statistics and hosting social functions there is a lot more that associations can do to enhance cluster competitiveness. "Industrial associations can be instrumental in either promoting industrial clusters or impeding their development. In order to promote clusters, associations need to lead their industries rather than follow them" (Kotval and Mullin,1998: 318).

It would be incorrect, and unproductive, to make the error of regarding the members of a cluster as passive recipients of government's intervention on their behalf. The truth is that where a cluster enjoys the necessary resources and levels of trust and networking they can make powerful interventions to promote their own welfare. For example, firms within a cluster can promote its growth by assisting new entrants as is the case in Italy where in many of the industrial districts it is common to have mutual credit guarantee schemes with the goal of facilitating the access of firms with viable projects to bank finance (Enright & Ffowcs-Williams, 2001: 15).

Waits (2000: 44), drawing on her experience of Arizona's cluster development policy, lists the following examples of collaborative cluster categories.

- *Co-inform.* Actions to identify cluster members promote a heightened awareness of the industry and improve communications between firms in the cluster. Cluster directories, newsletters, cluster research projects and electronic linking are all examples of key self-awareness within clusters and the willingness to communicate general information within the cluster.

- *Co-learn.* Cluster organisations can sponsor educational training programmes, seminars and conferences to promote learning within the cluster.

- *Co-market.* Clusters can engage in collective activities that promote the cluster's products or services abroad or domestically.

- *Co-purchase.* Firms within a cluster can undertake activities to strengthen buyer-supplier linkages within the cluster or can come together to jointly buy equipment that individual firms could not otherwise afford.

- *Co-produce.* Firms can form alliances to jointly manufacture a product or to conduct research and development together.

- *Co-build economic foundations.* Clusters can undertake collective activities to build stronger educational, financial and governmental institutions that enable them to be more competitive.

Waits (2000: 45) states that Arizona's experience indicates that if regional government creates the opportunity for firms to organize and participate in the process of identifying and solving common problems the firms will.

Another example of the capacity of clusters to address mutual problems without depending on outside intervention is the Sialkot Dry Port Trust in Pakistan. This was a private initiative by local producers in the Sialkot surgical instrument cluster to alleviate the costs and delays incurred in traveling to Lahore and Karachi to deal with customs formalities. A self-financing trust was set up to provide a range of services dealing with customs and duties formalities; cheaper warehousing facilities, more reliable haulage services etc. The success of this initiative in meeting a market demand and addressing market imperfections is shown by the fact that in 1993-1994 the Dry Port handled US$340 million worth of exports (Nadvi, 1998 in SBP, 1999: 36). Based upon his study of the Sialkot cluster Nadvi concluded that "... external economies, while necessary, are not sufficient to account for growth, and that *deliberate* joint action in strategic ties is required" (Nadvi, 1999: 101, italics added).

Cluster members can cooperate to promote technical ability and improved technology and equipment as demonstrated by the Peruvian capital goods promotion consortium (CBK) which, through technical collaboration, has facilitated a sustained process of innovation and

adaptation of machine tools used in a range of Peruvian small-scale industries (Nadvi & Schmitz, 1994: 18). Local business associations have been effective in forming collaborative alliances between members and directing locally based production, marketing and credit consortia. The most dynamic sectoral associations have formed 'real service' centers to provide critical information and technical support as well as a conduit for lobbying government (Nadvi & Schmitz, 1994: 43).

In the case of the Sinos Valley footwear cluster in Brazil, local trade associations have played a variety of roles in promoting the cluster's export success. In an example of horizontal cooperation, local producers formed an organisation (FENAC) geared to promoting the cluster's products through trade fairs and to the establishment of technical training institutions and technology centers for the shoe industry. FENAC's role is illustrated by the example of its joint effort with the local business association in which it brought foreign buyers to the Sinos Valley and took local manufacturers to fairs abroad (Nadvi & Schmitz, 1994: 27).

Note must be made of the contrary view taken by Hoen (2001: 32), who argues that empirical evidence shows that small firms do not cooperate much and that it is actually large firms who engage in collaborative efforts to develop incremental improvements to existing products and technologies. Based on his research amongst Dutch clusters, he concluded that public policy supporting cooperation does not lead to cluster growth but rather supports large firms and incremental innovations.

3.3.3 TERTIARY INSTITUTIONS

Hoen's (2001: 30) statement, mentioned earlier, that the most effective thing government can do to promote cluster development is to ensure the existence of effective universities highlights a key role player in successful clustering that has not yet been discussed, that of tertiary institutions. As Barnes and Morris (2000: 1) astutely observe, a reciprocal relationship exists between academic research and the fostering of clustering. Researchers provide valuable insights into the operations, strengths, weaknesses and potential of clusters. This information can prove crucial in creating the necessary awareness amongst firms of their cluster identity and can spur them on to pursue the potential benefits of clustering. Barnes

and Morris' experience with the KwaZulu-Natal Benchmarking Club is a fascinating case study of the role that researchers can play in fostering cluster development.

A region's economic development planners can facilitate this process by forging formal partnerships between private industry and the vocational and technical training schools within the region to promote networks that formally link a region's manufacturing clusters to relevant learning centers at local learning and research centers (Murray, 1999: 276). Arizona State's new comprehensive plan for workforce development is explicitly geared to the needs of its clusters. The plan provides for forecasting Arizona's clusters worker demand and then integrating cluster-identified occupational competencies into all the state's training programmes (Waits, 2000: 48).

Audretsch and Feldman (in Hoen, 2001: 29) state that "... policy-makers concerned with attracting and creating innovative firms would be wise to concentrate efforts at enhancing university research which clearly serves as an important input in the innovative activity of private firms." Hoen (2001: 31) proceeds to argue that research demonstrates that large firms tend to conduct R&D themselves whereas small firms are much more reliant on external knowledge sources and knowledge spillovers. Consequently funds for supporting R&D mainly influence large firms and produce slow incremental innovations. He thus concludes that a government supporting knowledge institutions is more likely to benefit small firms and to produce radically new innovations which are useful for a country wanting to become a leader in a specific field.

The onus is not only on government to foster the relationship between tertiary education institutions and industry but also on the firms themselves. As Kotval and Mullin (1998: 319) state "[i]ndustries need to establish better links with institutions of higher education". Firms can only benefit by improving their access to research, technical expertise, new technology and suitably qualified graduates.

3.4 THE IMPORTANCE OF TRUST

Special emphasis must be given to the matter of trust in developing a cluster. Many writers have emphasized the vital role of trust in the successful functioning of a cluster (van Dijk & Rabellotti, 1997: 3; McCormick, 1998: 11; Sengenberger, 1993: 317). As Schmitz (1995: 26) points out,

> "[an] industrial district is a system of production which consists of a multitude of formally independent actors with a high density of transactions amongst them. For these to function smoothly and result in cumulative (not merely one-off) gain, *trust and reciprocity are of great importance. They are also essential for collective action*" (italics added).

Many of the complementarities discussed in the previous chapter are only attainable through the active cooperation of firms. However, if firms have not engaged in such cooperative behaviour before there is a natural reticence to lending any form of assistance to a direct competitor. This reluctance is perfectly illustrated in the case of the KwaZulu-Natal benchmarking club where Barnes and Morris (2000: 11) found that whilst member firms were very happy to work with the service provider on a one-to-one basis "... certain firms were reticent to talk with one another, let alone collaborate in terms of the sharing of information." Whilst over time these barriers were broken down as participants became convinced of the benefits to them of the scheme the experience lead Barnes and Morris (2000: 11) to state that "[t]he issue of trust cannot therefore be underestimated in the context of the Club's activities." Successfully developing the necessary climate of trust is therefore essential for the successful establishment or development of a cluster. The question then is how this can be achieved.

Lorenzen (2002: 17) states that trust lowers coordination costs and contract costs facilitating trade within an environment of potential suppliers and customers and hence allowing for a mix of long-term and short-term and shifting economic network relations. Albaladejo (2001: 5) goes further and states that collective efficiency is unlikely to happen without trust and the presence of sanctions applied to offenders, and that research has shown the importance of these social rules in strengthening cooperation ties among firms. Van Dijk & Rabellotti (1997: 3) describe how industrial districts become 'moral communities' in which well-

established and accepted norms have been established through frequent, long-term interactions. In such a community information concerning non-compliance with these norms is rapidly disseminated and self-enforcement of the accepted code is practiced within the cluster. They themselves acknowledge that this may be the case in an established cluster but the question is how can it be created when this common culture does not exist? They respond that the answer is unclear but suggest that *partly* the answer is spatial proximity, which is an essential prerequisite for good information transmission and consequently trust.

Zucker (in McCormick, 1998: 11) distinguishes three bases for trust:

- *process-based*, where trust is tied to past or expected exchange;
- *characteristic-based*, where trust is tied to the personal characteristics of the other party; and,
- *institutionally-based*, where trust is tied to institutional certification or enforcement.

He further argues that the first two types need to be replaced by institutionally-based trust when societies become larger, more socially heterogeneous, and more geographically dispersed. Furthermore, much institutionally-based trust depends on the existence of a third party, prepared and able to enforce contracts and prevent opportunistic behaviour.

Tentatively then, the following statements concerning the establishment of trust can be made. Firstly, corporate commitment to clustering cannot be seen as a part of corporate social investment contribution; firms must be convinced that efficiency gains can be achieved for all parties if it is to succeed (SBP, 1999: 33). Enright and Ffowcs-Williams (2001: 25) stress this point by recommending the use of analysis to build urgency in the minds of participants. They argue that participants in cluster initiatives are unlikely to overcome their mistrust and suspicion without seeing some clear benefit from doing so and that often it is advisable to have a commissioned piece of analysis and research to present to participants. Further they suggest that educating key participants is often best achieved by experienced outside experts.

Secondly, some form of respected cluster organisation is probably required. As Enright and Ffowcs-Williams (2001: 26) comment, the benefits that can be derived through collaboration and partnership are unlikely to be sustained or built upon without an organisation that can institutionalise them. Furthermore, while Employers Associations, Chambers of Commerce,

Trade Associations and other soft networks need to be included they should not necessarily drive the process as they have their own constituencies to represent. Ideally the leadership should be in the hands of people that are respected by both the public and private sectors, are in a position to commit their own organisations to the initiative and who are personally committed to the collaborative process.

Enright and Ffowcs-Williams (2001: 30) also propose the benefit of employing an independent, salaried broker to facilitate the process. Again, the case of the KwaZulu-Natal benchmarking club demonstrates "...the importance of intermediary agents to develop intellectual capacity, *build relations of trust*, and even the provision of financial resources" (Barnes & Morris, 1999: 15, italics added). Legandijk and Charles (in Martin & Sunley, 2001: 38) also suggest that the use of brokers or other intermediaries generate a better coordination between both public and private agents and between different public measures. This then allows the impacts of different policy and regulatory measures upon particular clusters to be better monitored and managed.

Finally, as behavioural change can be slow Enright & Ffowcs-Williams (2001: 31) suggest that a minimum commitment of three to four years is required for a significant network programme. As expressed by the SBP (1999: 40) "... careful but extensive effort must be assigned to build the necessary trust, open communication channels and collaborative mindsets that are require for the cluster paradigm. This is not a simple task ... The difficulties in this process should not be underestimated. It may be a lengthy and an ongoing process that demands careful nurturing."

3.5 PRACTICAL POLICY RECOMMENDATIONS

Whilst Porter's model does provide a useful framework for conceptualizing the forces that affect the success or failure of a cluster, and while he does provide meaningful insights into what can be done to develop successful clusters, his analysis does suffer from being a little vague. A statement that government can promote clustering by "eliminating barriers to local competition" might be accurate but it is not particularly helpful because it does not indicate *how* this can be achieved. Fortunately a number of researchers and writers have addressed precisely this question. Almost certainly the most comprehensive and systematic treatment

of the subject is that presented by Enright and Ffowcs-Williams. Starting from the premise that government should limit itself to addressing market failures and providing public goods and that government should support existing and emerging clusters rather than trying to create them from scratch, they have formulated the following set of policy guidelines on clusters and networks.

Figure 3.4 Policy Guidelines on Clusters and Networks

Policy Towards Networks

- Implement broad campaigns to introduce the networking concept to businesses. It is important to create informed demand for network services, with networks preferably addressing precise market-driven objectives.
- A degree of financial support in feasibility work start-up activities and the costs of network brokerage is to be expected. However, funding should be modest and should be phased out as participants start to engage more formally and obtain benefits.
- Work with realistic time-frames: a commitment of 3-4 years is usually required for a significant business network programme.
- Ensure the presence of experienced network brokers. Establishing broker teams and facilitating exchanges among them can help maintain effectiveness and motivation.

Policy Towards Clusters

- Facilitate local partnerships involving private actors, NGOs and different levels and sectors of government so as to arrive at agreements on individual responsibilities (for example in co-locating complementary public investments with related concentrations of private investment).
- Let the private sector lead in cluster-development initiatives with the public sector playing a catalytic role.
- Where possible, match initiatives to the most suitable level of government. Ideally, this will correspond to the geographic scope of the cluster. The 'right" level of government should also have substantial influence over relevant programmes and expenditures.
- Some prioritisation among clusters is generally necessary due to limited resources (selection criteria might include the opportunity for the sponsor to add-value, the existence of organised nuclei of actors in the cluster). There may also be benefits to working with a portfolio of clusters.
- Initially adopt a low risk/early return focus. It is useful to generate small but evident gains through collaborative effort at the outset. As success develops, higher risk/longer term activities can be introduced.
- Target real market failures. The process of identifying and understanding how, for example, under-provision of public goods and co-ordination failure constrain a particular cluster can point toward fruitful areas of public-private or private- private cooperation.
- Seek to lock-in benefits of existing or embryonic clusters by:
- Facilitating access to accommodation for new and small firms (given the widely reported difficulties faced by small firms. and particularly start-ups. in gaining access to industrial real estate). This facilitation can take different forms but the public role should essentially seek to leverage and reduce risk for corporate property investments in industrial real estate.
- Promoting the establishment of suppliers associations and learning circles, and other forms of collaborative undertaking that are made possible by virtue of physical proximity among firms (such as mutual credit guarantee associations).
- Allowing specialisation and local adaptation in university-industry linkages including experimentation in incentive structures that can encourage local linkages to industry.
- Ensuring effective technical support and information services. Markets may under- supply some business services and certain types of information, especially to small firms. Policy should address market failures where these are significant and aim to induce private provision as early as possible.
- Ensuring access to specialised infrastructure communications and transport.

(cont. ....)

- Inward investment may help stimulate a cluster. If seeking to attract investments then:
- Have local, regional and national authorities disseminate information about the cluster -and the locational advantages it offers -throughout the business community of a region or country.
- Focus investment promotion efforts on linkages within a cluster considered weakest (such as gaps in the chain of local suppliers).
- Consider complementing the national collection and organisation of statistics by adopting a frame of reference that would illustrate the geographic concentration of related groups of firms. Data organised according to the Standard Industrial Classification (SIC) omits the extent of inter-linkages among firms in a given locality belonging to different branches of manufacturing (or services).
- Support initiatives at sub-national and international levels to promote co-operation between SMEs within trans-national innovative clusters.
- Evaluate the initiative throughout, not just at the end of the process. In this way, evaluation can help measure progress, identify midcourse corrections if necessary, and focus efforts on overcoming problems.
- Create a mechanism for terminating an initiative if it fails to produce results, as not all programmes can be successful.

A Policy Don't on Clusters

- Policy makers should generally refrain from seeking to build entirely new sector- specific clusters of firms. There should be an element of market-test before significant public resources are committed to a cluster. Adopting this practice may help avoid situations in which sub-national bodies compete in implementing identical cluster development strategies. Similarly, cluster initiatives should not be used to introduce distortionary industrial policy intended to target "national champions" "sunrise sectors", etc.

Source: (Enright & Ffowcs-Williams: 2001: 4-6).

Enright and Ffowcs-Williams build upon these general principles regarding policy and turn their focus to formulating guidelines for cluster development initiatives. They propose that the following steps be taken or be considered when formulating such an initiative (2001: 24-27).

Guidelines for Cluster Development Initiatives

- Establish a clear view of the goals of the initiative.
- Refrain from seeking to build entirely new sector-specific clusters of firms.
- Allow the private sector to lead in cluster-development initiatives, with the public sector playing a catalytic role.
- Government should commit to clustering, not to individual clusters.
- Sensible criteria should be employed for identifying and prioritizing clusters.
- Recognise that one size does not fit all; policies and programmes tailored to particular goals and types of clusters are more likely to be effective.
- Use analysis to build urgency in the minds of participants.
- Initially adopt a low risk/early return focus. Rather than expecting a fledgling initiative to successfully address the most complex issues that the cluster might face it is more productive to try and generate small, but clear gains through collaborative effort at the outset.
- Where possible, match initiatives to the most suitable level of government.

- Initiatives should facilitate the establishment of local partnerships involving private actors, NGOs and different levels and sectors of the public administration.
- Initiatives should target real market failures.
- An initiative is more likely to achieve sustainable benefits if it builds a *new*, independent cluster organisation.
- Focus on building the institutional and support systems for the cluster; this includes building capacity in industry associations, labour groups, financial institutions, research centers, universities and schools, technical extension services, and the relevant agencies and departments of government.
- Initiatives should facilitate specialisation among collaborating firms.
- Promote the establishment of suppliers' associations and learning circles, and other forms of collaborative undertaking that are made possible by virtue of physical proximity (such as mutual credit guarantee associations).
- Allow specialisation and local adaptation in university-industry linkages, including experimentation in incentive structures that can encourage local linkages to industry.
- Consider land-use planning in a way that will strengthen emerging clusters by facilitating access to accommodation for new and small firms.
- Consider complementing the national collection and organisation of statistics by adopting a frame of reference that would illustrate the geographic concentration of related groups of firms.
- Evaluate the initiative throughout, not just at the end of the process.
- Create a mechanism for terminating an initiative if it fails to produce results.

These recommendations can be complemented by Rosenfeld's (1997: 19), what he describes as 'unconventional', recommendations for public policy regarding clusters.

- Recruit companies that fill gaps in cluster development. The recruitment of firms and the public sector investments that accompany it must be carefully planned and managed with the objective of strengthening or diversifying a cluster. Companies that add value and/or fill gaps in the region's production system should be given priority.
- Empower and listen to cluster leaders. Only members of a cluster know their most urgent needs and only the members of a cluster can make it function as a system. Regions that let firms take charge of a cluster tend to have the greatest success.

- Develop and organise supply chain associations. By doing so regions can improve the quality of linkages between suppliers and customers and among suppliers.
- Support employee/entrepreneurs. The rate of new business formation is an extremely important measure of a cluster's vitality. These new businesses emanate from three sources: imitators, complementary products or services and diversification based on existing skills and technologies. New business within a cluster can be effectively stimulated through business education, incubators and venture capital that systematically target workers and opportunities within the cluster (Rosenfeld, 1997: 19).
- Improve the technical support services through investment in specialised education and training; technical assistance hubs and research and development (what Nadvi & Schmitz describe as 'real services'. It is worth commenting that, as indicated earlier, Nadvi & Schmitz (1994: 37) make the point that such measures are likely to be more relevant and sustainable when there is an active involvement in policy, financing and management functions by the intended recipients.

Finally, Enright & Ffowcs-Williams (2001: 28), based on their guidelines presented earlier, suggest that an idealized cluster process could be described as follows:

- *Determination* of the overall goals and the geographic scope of the policy initiative.
- *Initiation* of the cluster development process by leaders from the public and private sectors.
- *Identification* of clusters and location-specific attributes in the economy.
- *Prioritisation* of efforts by cluster, since resources are finite.
- *Elaboration* of the roles of the relevant public, private, and support entities with respect to the individual clusters.
- Obtaining *information* on the state of the clusters, their markets, technologies, competitors, linkages, and the local economy in terms of its capabilities and governances.
- *Education* of key groups and individuals on the needs of the clusters, the state of the clusters, the potential of the clusters, and the potential gains from interaction and coordination.
- *Establishment* of the appropriate cluster organisation to oversee the process.
- *Emergence* of leaders that drive the process forward.
- *Investment/co-investment* in public goods, such as infrastructure, training, and further research.
- *Co-ordination* of public and private activities to enhance competiveness.

- *Evaluation* of goals, roles of participants, initial progress, outputs, and outcomes.
- *Institutionalisation* of mechanisms that have proven successful.
- *Repetition* of process to achieve enhanced benefits, or *termination*.

In an interesting alternative approach, the SBP (1999: 39) propose a nine-step model for cluster development that excludes government involvement. Although they do acknowledge that 'appropriate public sector support' is important to successful clustering, their approach assumes the independent involvement of firms in the process. A summarized version of their nine-step process is as follows:

1. *Identify motivated participants*, the process should be driven by dedicated champions.
2. *Measuring existing linkages and relations.*
3. *Building collaborative mindsets*, a lengthy and ongoing process that requires a clear understanding of the need to balance enlightened self-interest with the interests of the cluster.
4. *Developing collective vision.*
5. *Commence clustering*, this involves two steps namely the commencement of tentative clustering and secondly the establishment of suitable organizational frameworks for the cluster to function.
6. *Building capacity through specialised support*, seeking to improve identified areas of weakness.
7. *Reinforcing cluster activity*, demonstrating results at this stage enhances the attractiveness of the cluster.
8. *Expanding cluster activity*, looking to extend outwards to firms associated with the cluster.
9. *Keeping the door of opportunity open*, firms need to openly share information and successes in order to identify new business opportunities for existing firms or start-ups.

Two comments are necessary in response to the SBP model. Firstly, they fail to provide enough detail in their approach, for example step five is simply 'commence clustering' without any indication of what that means or how it can be achieved. If clustering were that simple firms would all be doing it. Secondly, their model is based on a case study of a specific cluster, the Time Compression Technologies Centre (henceforth TCT), which is a grouping of firms offering a single source for rapid prototyping and product development for the broader manufacturing sector in South Africa (SBP, 1999: 43). The very nature of this

industry lends itself to innovation and cooperation and so the idea of a self-generated cluster development has a greater chance of success. While the TCT cluster might have achieved success without outside involvement this is unlikely to be the case for most industries, especially established industries with a history of competition and self-sufficiency.

3.6 APPROACHES TO LINKAGE DEVELOPMENT

As the definition of clustering formulated in chapter two captures, a cluster is fundamentally defined by the relationships that exist between cluster participants. Cluster evaluation and cluster development therefore is at heart concerned with the development of linkages between the elements comprising the cluster. With this in mind it is helpful to examine Enright & Ffowcs-Williams' (2001: 18) discussion of how cluster development can be approached. They identify three approaches to cluster development programmes:

- *Organic cluster strategies* seek to broaden and deepen a region's existing economic base by identifying regional clusters and then trying to promote their development by improving information flows, increasing the interaction between firms, removing infrastructure bottlenecks, developing human resources and fostering inter-firm collaboration.

- *Transplant cluster strategies* attempt to develop clusters by attracting outside companies and developing or attracting suppliers and related firms. A refinement of this approach is to foster linkages between foreign investors and local firms. This, for example is the approach that has been aggressively pursued by Scottish Enterprise, the U.K. government agency responsible for developing the Scottish economy (Lennox, 1999) and is recommended by Clancy *et al* (2001: 25) although they advise specifically selecting multi-national enterprises that will be most influential in stimulating the further development of related indigenous industries.

- *Hybrid strategies* occur when organic cluster development programmes actively recruit outside investment or when transplant strategies achieve sufficient success to create a critical mass of locally embedded firms and facilities that can engage in more organic programmes.

According to Enright and Ffowcs-Williams, each strategy has pluses and minuses. Organic strategies can foster unique advantages that are difficult to copy, but require the existence of a solid economic base to build upon which in many regions does not exist. Transplant strategies can produce rapid results but are restricted by the resources available for attracting firms; are subject to imitation and destructive competition and face the risk that poorly embedded facilities will close or relocate. Finally, hybrid strategies, while intrinsically attractive, can result in confusion and competition between policies aimed at local and foreign firms. They suggest that the optimal approach for a region will depend on the existing economic base and institutional capacity found in the region.

3.7 CONCLUSION

A number of writers have sought to temper the enthusiasm for clustering with a more realistic presentation of what it is practically capable of achieving. There is a general consensus that cluster development policies are unlikely to succeed in creating clusters from scratch; rather they should somehow attempt to build on the potential already present in a particular economy (Enright & Ffowcs-Williams, 2001: 4; Martin & Sunley, 2001: 37; Porter, 1998c: 241, 247).

Secondly, there is no generic cluster policy that guarantees success. Peneder (1997: para. 20) emphasizes that cluster policy does not offer a particular policy instrument but rather it offers a different perspective for policy-makers that will assist them to get their priorities right. The implication of his point is that the appropriate actions to develop a specific cluster will vary from case to case; there is no generic solution. As Enright & Ffowcs-Williams (2001: 3) point out, differences in the target industrial base, the level of government involved, the nature of public action, the cluster selection process and even the understanding of what a cluster is, all mean that while many cluster development programmes share distinct similarities a number of varied approaches to clustering are found. In fact Porter (1998a: 89) goes even further and argues that "[c]luster development initiatives should embrace the pursuit of competitive advantage and specialisation rather than simply imitate successful clusters in other locations. This requires building on local sources of uniqueness."

Porter also points out that cluster policies do not translate to a national "picking-the-winners strategy". Cluster analysis helps to define priorities in regional development programmes but this does not mean that public funding will flow to presumed 'winners'. Finally, he makes the very important point that cluster analysis does not lend itself to large-scale, politically marketable, government initiatives or the creation of new support schemes. Instead cluster development often requires a series of coordinated small schemes to correct barriers and distortions in the economic and political environment.

This chapter has reviewed the theory on cluster development. It is easy to see that while there is extensive theoretical material on the potential benefits of clustering, less has been written about how these potential benefits can be unlocked. The difficulty of successfully developing a cluster is that each situation is unique and so calls for an individual response. As the SBP (1999: 42) correctly comment "each cluster is different in character and style"; what works in one situation is not guaranteed to succeed in the rest. However, it is possible to identify key issues that need to be addressed if clustering is to be successful, not least of which are the questions of trust; relations with tertiary institutions; member involvement and conducive macro and microeconomic environments.

In addition, the experience of researchers and practitioners makes it possible to identify strategies and actions that have proved fruitful in previous clustering initiatives. This experience can thus provide guidelines and a resource for those engaged in cluster development. Finally, it is evident from this discussion that a cluster is defined by its linkages, and that at heart the success or failure of cluster development rests upon whether or not the linkages between cluster participants can be strengthened, enhanced and expanded. In order to assess the Pietermaritzburg footwear industry's status as a cluster, therefore, it is necessary to examining the existing pattern of linkages within the industry. The methodology that will be employed to do so will be described in detail in the following chapter.

4 RESEARCH METHODOLOGY

4.1 INTRODUCTION

A review of the literature regarding the definition of clusters quickly shows that there are a number of different approaches one can follow in analysing potential clusters, partly depending on the definition of clustering one adopts. Hill and Brennan (2000: 68) argue that cluster relationships can be built around buy-sell relationships, that is the forward and backward linkages between customers and suppliers. Porter (1998b: 79) states that a cluster can be defined by the linkages and complementarities existing across industries and institutions. Quince and Whittaker (2002: 18) also highlight the importance of understanding the exact nature of inter-organisational linkages within clusters if one is to understand the dynamics within a cluster.

4.2 APPROACH

A number of approaches to analysing linkages in clusters have been suggested in the literature and applied in practice. Hoen (1997: 3) identifies three distinct approaches namely the *monographic* method, the *input-output* method, and the *graph* method. According to Hoen the input-output method is the most quantitative method and also the most objective and straightforward approach that is easy to apply. Within this approach a number of techniques can be employed to perform the quantitative analysis including cluster analysis, discriminant analysis (Hill & Brennan, 2000) or matrix analysis (Brenner & Weigelt, 2000; Hoen, 1997) which all employ some form of quantitative analysis to measure the extent and strength of business linkages. Typically, however, these approaches require a great deal of data, including data which are not available at the local level.

An alternative qualitative approach, described by as the monographic approach, generally uses a cluster chart to identify clusters and relies on interviews, surveys, and case studies to construct a picture of a cluster (Hoen, 1997: 3). Austrian (2000: 97), for example, adopts this approach combining face-to-face and telephone interviews using a detailed interview protocol and the use of a cluster map to describe the relationship between the different components of a cluster. The lack of data available at the level of the Pietermaritzburg footwear industry

makes a quantitative analysis impractical and so this study has adopted the monographic method.

4.3 PROBLEM STATEMENT

As Leedy (1988: 5) has observed, research begins with a question. In the following chapter the problems confronting the footwear industry, both nationally and locally, will be described and it will be shown that almost every response to these problems has been based upon the premise that the Pietermaritzburg footwear industry can be viewed as a cluster. To date, however, no empirical research has been conducted to study the structure of the Pietermaritzburg footwear industry in order to determine whether or not this assumption is valid. The aim of this research is to provide a set of practical recommendations for industry participants desiring to promote clustering within the Pietermaritzburg footwear industry. This study is thus concerned with undertaking applied research which "...aims to contribute towards practical issues of problem solving, decision making, policy analysis and community development" (Durrheim, 1999: 41). The question that this research seeks to address, therefore, is to what extent the Pietermaritzburg footwear industry can be viewed as a cluster and if so what type of a cluster and what steps are required to develop it as a cluster?

The research problem for this study can thus be stated as follows:

The purpose of this study will be to analyse the Pietermaritzburg footwear industry, particularly the pattern of linkages evident within the industry, in order to determine to what extent the Pietermaritzburg footwear industry can be viewed as a cluster, and if so what type of a cluster, and the actions required to develop it as a cluster.

4.4 RESEARCH METHODOLOGY

4.4.1 DATA COLLECTION

The monographic approach is by definition both qualitative and descriptive in nature. Rather than seeking to identify a cluster by applying some quantitative model it seeks to describe a cluster. The data gathered is therefore exploratory in nature and is not intended to produce

statistically significant results. The objective of exploratory research is to explore a problem or situation to provide insights and understanding in order to establish priorities for further research (Malhotra, 1993: 93). Cooper and Schindler (2001: 140) identify four exploratory techniques:

- Secondary data analysis
- Experience surveys
- Focus groups
- Two-stage designs.

The use of focus groups was not considered appropriate for this study for two reasons. Firstly, because of the small population being dealt with and the fact that they are all involved in the same industry it would be inevitable that members of a focus group would know each other and focus groups would include competitors. It is, therefore, likely that participants' responses would be different within a focus group as they might want to impress their peers or keep information from competitors. Focus groups were also judged as impractical because they require a trained moderator and it would have been extremely difficult to coordinate the schedules of a number of busy managers.

The two-stage design considers the exploratory research as merely a separate first stage to assist in developing a research design (Cooper and Schindler, 2001: 146). In this case the express purpose of the research is to gain an understanding of the Pietermaritzburg footwear industry. While it is envisaged that this exploratory research will provide greater clarity regarding productive areas for further research it is beyond the scope of this study to design such research.

Consequently this study will employ a combination of secondary data analysis and experience surveys to explore the nature and structure of the Pietermaritzburg footwear industry.

4.4.2 SECONDARY DATA ANALYSIS

As Moore (2000: 131) has observed " No research project exists in isolation. Each piece of work relates in some way to the environment within which the research takes place, to the

theories and concepts that have been developed to explain the environmental conditions and to other research on the topic." Moore thus emphasises the importance of being fully aware of all the relevant literature on the subject. Leedy (1988: 67) identifies one of the functions of studying related literature as allowing one to see one's study in historical and associational perspective. As Wilkinson (2000: 25) observes, the value of any research will be enhanced if it has been informed by, and expands upon a rigorous and thorough attention to similar work undertaken in the past. In addition, he suggests that studying existing literature to see what it omits is as important as studying what it contains (Wilkinson, 2000: 27).

In order to achieve these objectives an extensive search was conducted for literature pertaining to the Pietermaritzburg footwear industry. The search facilities of the University of Natal were employed to identify and locate dissertations, research articles and statistics relevant to the Pietermaritzburg footwear industry. In addition the internet was used to obtain statistics and articles pertaining to the topic. Publications of the South African Footwear and Leather Industry Association and the Department of Trade and Industry were consulted as well as Statistics SA for the latest census data. Copies of research conducted on behalf of the Pietermaritzburg Municipality were also obtained.

In line with Leedy's goal of providing an historical and associational perspective, the material was examined in order to establish an understanding of the South African footwear industry as a whole in order to be able to place the Pietermaritzburg footwear industry in its proper historic and economic context. A top-down approach was followed in which the literature was examined to identify trends and developments in the footwear industry nationally and globally. Having established a national and global perspective of the footwear industry in general the footwear industry in Kwa-Zulu Natal was examined before finally focussing specifically on the Pietermaritzburg footwear industry. The available data was reviewed in order to describe the current status and scope of the footwear industry in Pietermaritzburg together with trends in its development.

Having provided a context for the study, the existing research and literature connected with the Pietermaritzburg footwear industry was studied.

4.4.3 EXPERIENCE SURVEYS

As the purpose of exploratory research is to create a greater understanding of a problem or situation, while published data may be a valuable resource it is seldom sufficient by itself and should preferably be combined with information from persons experienced in the area of study (Cooper & Schindler, 2001: 141). As a result, in order to more fully understand the Pietermaritzburg footwear industry a series of interviews were conducted with various stakeholders in the industry.

4.4.3.1 The Population

The population for this study was stakeholders in the Pietermaritzburg footwear industry, particularly footwear manufacturers and suppliers. The fact that many small footwear manufacturers are not registered with the City Council or the Bargaining Council made it impossible to identify every possible member of the target population group but it was possible to identify a large proportion of the relatively small population group. As a result it was not considered necessary or desirable to select a portion of the population as a sample; instead the study attempted to achieve maximum representivity by attempting to include as many members of the total population group as possible.

4.4.3.2 The Sampling Technique

Respondents were identified by a two-step process. In the first step, a list of footwear firms was compiled from the Pietermaritzburg Brabys directory. Interviews were conducted with the managers of each of the firms identified in this manner. Starting with this original set of subjects a snowball technique was used with interviewees being asked to identify other manufacturers or suppliers in the industry. The snowball technique is used when it is difficult to find appropriate research subjects and respondents are in the best position to identify other suitable respondents (Page & Meyer, 2000: 100). In this manner the representivity of the sample was increased as it included firms that were not registered with the bargaining council. The use of this technique also increased the focus on linkages as firms were asked to identify those firms that they interact with.

4.4.3.3 The Sample

Depth interviews produce data that is relatively unstructured and is time-consuming to analyse. This, combined with the fact that it is not intended to collect data that is statistically representative, means that depth interview samples are normally quite small, 20 to 30 interviews being normal (Moore, 2000: 122). A total of thirty-three individuals, in both Pietermaritzburg and Durban, were interviewed in total to explore the structure of business linkages within the footwear industry in Pietermaritzburg. Eighteen of the persons interviewed were manufacturers, five were specialists in doing lacing or closing work for manufacturers, seven were suppliers of components and raw materials and three interviews were conducted with representatives of the Bargaining Council, the South African Clothing and Textile Worker's Union and the KZN Regional Economic Forum respectively.

The firms interviewed employ some 6 000 workers in total, of which about 5 400 are employed directly in the manufacture of footwear. The seventeen manufacturing firms examined produce approximately 50 000 pairs of shoes per day. About 2 500 of the manufacturing workers mentioned above, producing some 30 000 pairs of shoes per day, are located in Lesotho while the rest are all located in KwaZulu-Natal, predominately in the Pietermaritzburg area. The manufacturers employed were all either the owners or the managing directors of footwear firms. The list of individuals interviewed is presented in Appendix B.

4.4.3.4 The Survey Instrument

As indicated earlier, the purpose of exploratory research is to gain insight and understanding into a situation, in this case the structure and nature of relationships within the Pietermaritzburg footwear industry. Interviews are appropriate when:

- In-depth information is required.
- The subject matter is potentially sensitive.
- The issues under examination would benefit from development or clarification (Wilkinson, 2000: 47).

As the nature of the research required an in-depth understanding of the way footwear manufacturers operate and why, information that manufacturers might consider confidential, an interview approach was adopted.

The study was aimed as much at understanding *why* certain patterns of linkages were adopted as merely identifying the linkages themselves. For this reason it was decided that a non-scheduled structured was appropriate for this study. A non-scheduled structured interview is structured in the sense that a list of issues which have to be investigated is made prior to the interview which will contain some precise questions but is unscheduled in that the interviewer is free to formulate other questions as judged appropriate and the respondent is free to respond widely on the issues raised (Bless & Higson-Smith, 1995: 107). The non-scheduled structured interview has four characteristics:

1. It takes place with respondents known to have been involved in a particular experience.
2. It refers to situations that have been analysed prior to the interview.
3. It proceeds on the basis of an interview guide specifying topics related to the research hypotheses.
4. It is focused on the subjective experiences regarding the situations under study (Nachmias & Nachmias, 1981: 189).

As Bless and Higson-Smith (1995: 107) observe the non-scheduled approach is very useful in exploratory research where the research questions cannot be narrowly defined and is an excellent technique when no comparison is sought between the responses of different respondents. Moore (2000: 122) points out that such 'depth' interviews can be used to build up an understanding of why things happen in the way they do but because the interviews explore issues in greater depth one must be more selective in the issues covered concentrating on only the most important. These issues are reflected in a topic guide.

The non-scheduled structured interview format adopted for this study is presented in Appendix C. Structured questions were asked of the manufacturers interviewed concerning employment, production, and the use of outsourcing for the closing and lacing functions. Respondents were further asked to comment generally on issues such as the structure of their business, their use of outsourcing, their relationships with suppliers and customers and the state of the footwear industry. Detailed notes were taken at each interview which form the basis of the analysis presented in chapter six.

4.4.3.5 Method Of Analysis

The responses from the interviews were analysed using a case study approach. A case-study is an in-depth investigation based on a small number of cases involving people, organisations, or situations (Malhotra, 1993: 59). By placing greater emphasis on a full contextual analysis of fewer conditions and their interrelations the case study approach provides valuable insight for problem solving, evaluation and strategy (Cooper & Schindler, 2001: 138). As Malhotra (1993: 59) observes a case study approach can help clarify the nature of the problem, identify relevant variables, and show relationships between variables, precisely the objectives of this study. The interview responses were thus compiled in a descriptive analysis of the degree of cooperation and pattern of linkages observed in the Pietermaritzburg footwear industry.

4.5 LIMITATIONS OF THE RESEARCH

An important limitation of this study is the fact that the use of qualitative data makes it difficult to accept or reject a research hypothesis (Cooper & Schindler, 2001: 138). Malhotra (1993: 59) states that the results of case studies should always be considered suggestive rather than conclusive and that interpretations are judgemental and can be subject to error. While this study's descriptive approach provides an important starting point in terms of identifying and describing the Pietermaritzburg footwear cluster, its qualitative approach does constitute a limitation.

A further limitation of this study is that it was exclusively focused on the Pietermaritzburg area. In reality the Pietermaritzburg footwear industry does not operate in isolation but indeed is intimately connected to the larger Kwa-Zulu Natal footwear cluster. Many of the suppliers and agents which service the Pietermaritzburg footwear cluster are based in Pinetown and Durban and also supply the large number of footwear manufacturers in these areas. It is therefore unrealistic and artificial to place a geographic boundary that excludes these important relationships. The fact that this study has focused only on firms within Pietermaritzburg means that potentially some important linkages and sources of synergy may have been missed. It is also not possible to extrapolate the results of this study to footwear industries in other areas.

5 THE PIETERMARITZBURG FOOTWEAR INDUSTRY: DECLINE & RESPONSES

5.1 INTRODUCTION

In order to fully understand the nature of the Pietermaritzburg footwear industry, and particularly why the concept of clustering potentially has such great significance for it, it is necessary to first place the industry in its historic and macroeconomic context. This chapter thus firstly sets out to briefly review the South African industry's historic development and its place within the global footwear market. Having done so, the Pietermaritzburg industry's situation is then described within the national and international contexts. Finally, the response of the industry to the challenges facing it are described with specific emphasis on the role of clustering in these initiatives.

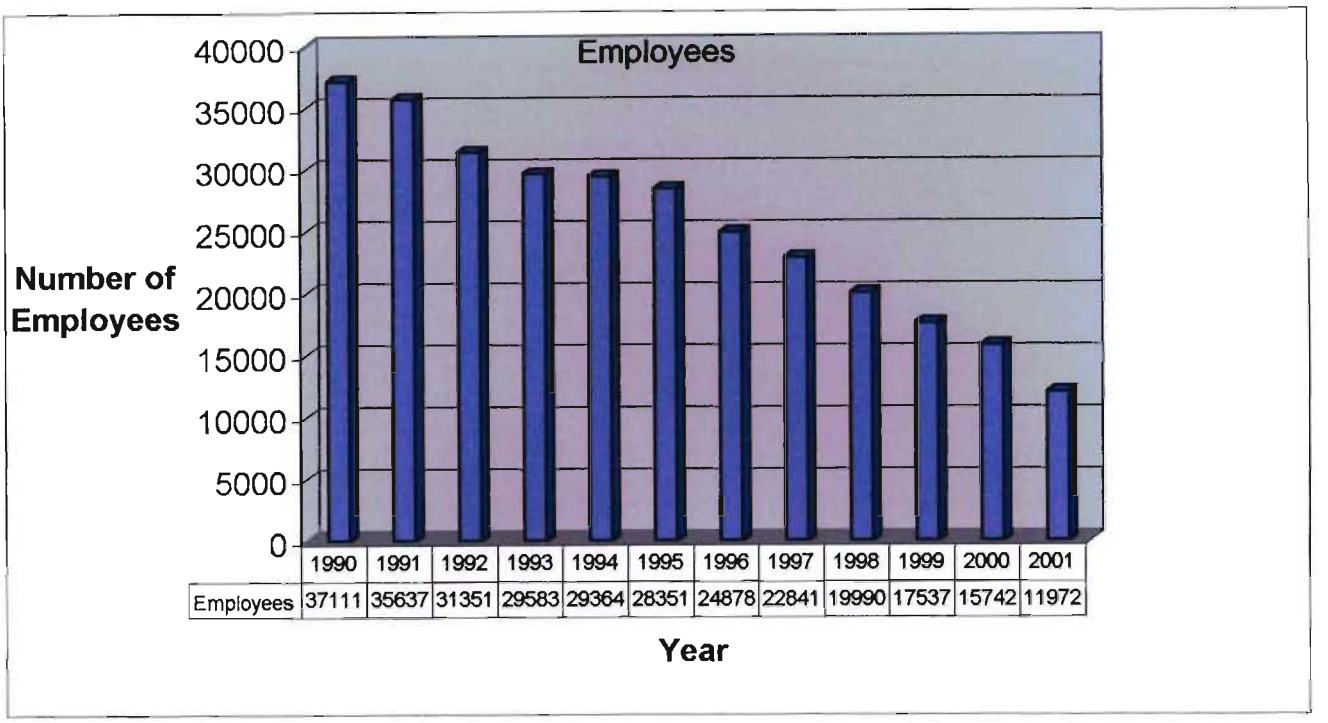
5.2 THE NATIONAL AND REGIONAL CONTEXT

The South African footwear industry has been in decline since the late seventies and in particular it has experienced a dramatic slump in the last ten to fifteen years. This decline is clearly evident if one examines data for the industry in terms of both employment and production. As will be discussed, this decline can be attribute to a combination of factors but was precipitated by South Africa's reintegration from political isolation into the global economy. The footwear industry, which previously had enjoyed high levels of protection, found itself poorly positioned to compete with more efficient and cost effective international producers. As the following sections will describe, the last ten years have been a period of major readjustment for the local industry as it seeks to come to terms with this new operating environment.

5.2.1 NATIONAL EMPLOYMENT AND PRODUCTION LEVELS

Perhaps the most striking, and economically most significant, evidence of the difficulties experienced by the footwear industry is in employment levels. Figure 5.1, overpage, clearly shows a marked decline in employment over the last decade.

Figure 5.1 No. of Employees Employed in the South African Footwear Industry, 1990-2000

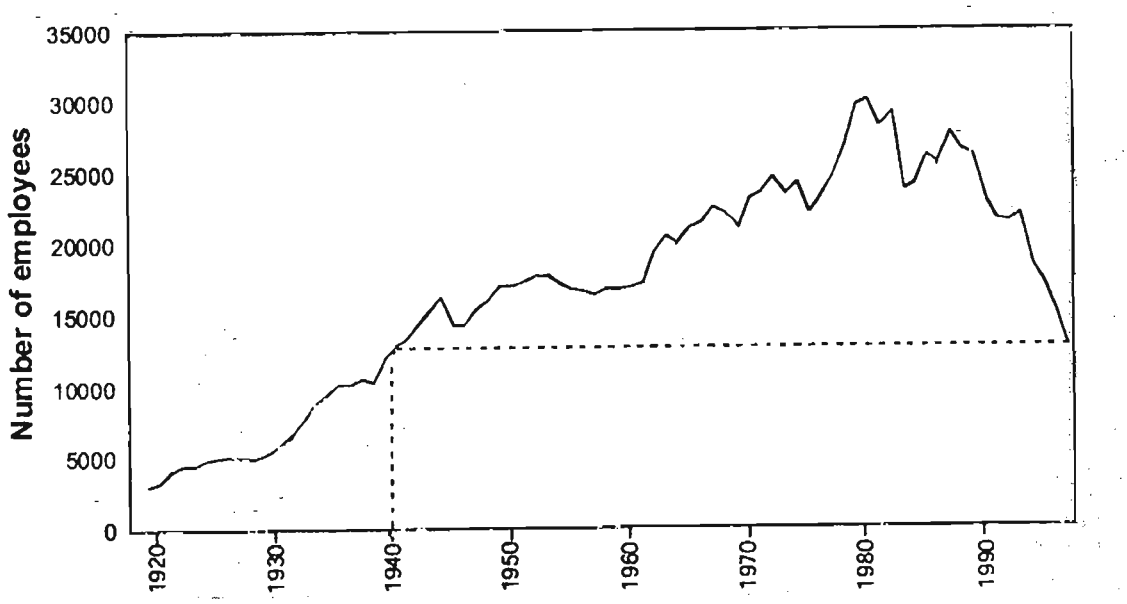


Source: (Harrison, Futter & Meth, 1997: 26; Ballard, 2001: 1).

As Ballard (2001: 4) points out, this graph does not represent the true picture of employment in the footwear industry in South Africa because it is based on data that omits the growing informal footwear sector. While the decline in employment within the local footwear industry may thus not be quite as dire as reflected above, it would be unrealistic to assume that the job losses in the formal sector have resulted in a corresponding increase in the informal sector. Furthermore, wages in the informal sector are significantly lower than in the formal and so a shift from formal to informal labour represents a negative shift in the earnings of footwear employees. Finally, even if some of these job losses have been offset by increased employment in the informal sector, the trend indicates a fundamental change in the fortunes of the footwear industry in South Africa.

Perhaps a more revealing representation of the state of the footwear industry is contained in figure 5.2 which is based on historical records kept by the South African Footwear & Leather Industry Association (henceforth SAFLIA) since its inception. The graph shows that employment in the footwear sector peaked in 1982, the height of Apartheid era protection, but has since has fallen back to levels of employment prevailing in the 1940's.

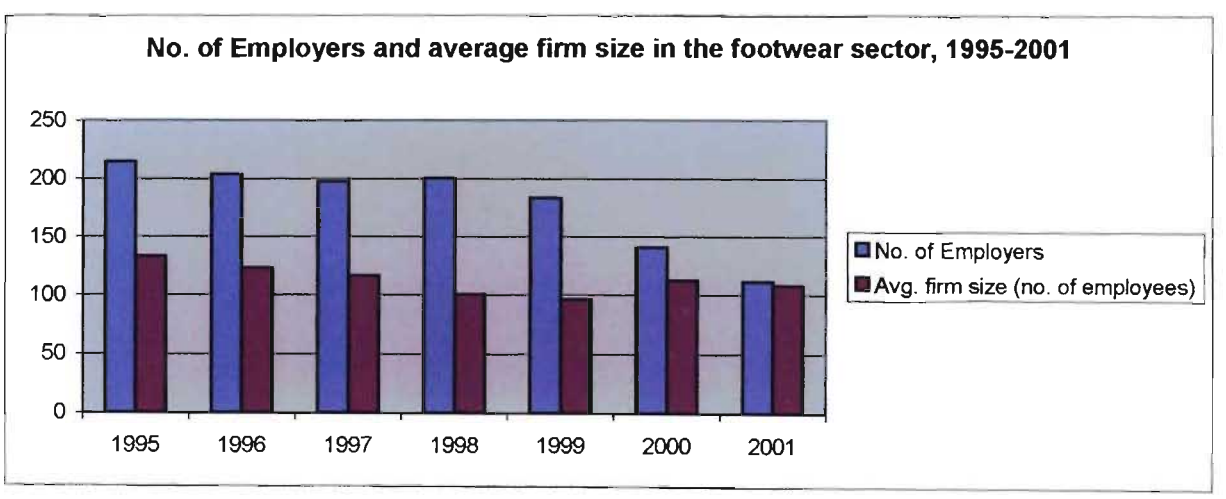
Figure 5.2 No. of Employees from 1918 - 1999



Source: (Ballard, 2001: 43).

The extent of this negative trend is further highlighted in Figure 5.3 which shows that the number of employers has decreased significantly. The difficult operating conditions in the 1990's is clearly demonstrated by the number of firms that have been forced to close their doors. The fact that the average number of employees per firm has remained relatively stable over the same time shows that as firms have gone out of business their employees have not been able to find alternative employment in the footwear industry.

Figure 5.3 No. of Employers and Average Firm Size in the Footwear Sector, 1995-2001

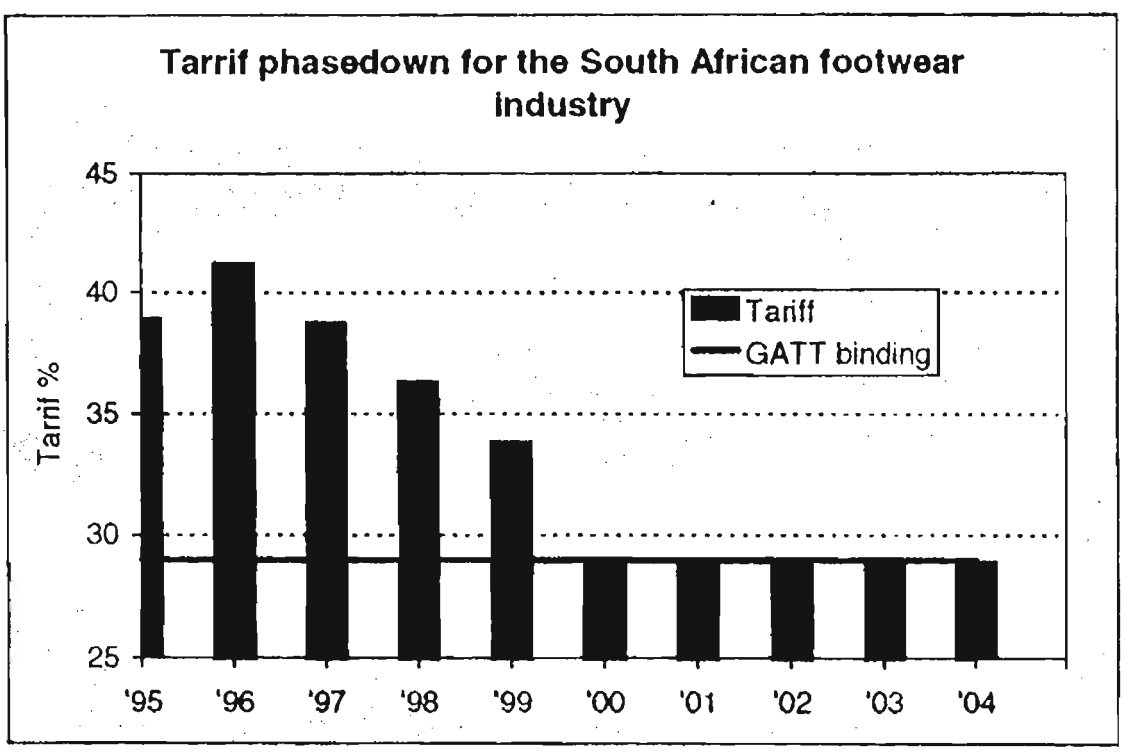


Source: (Ballard, 2001: 42).

5.2.2 IMPORTS AND EXPORTS

While it is always dangerous to make an overly simplistic analysis of developments, in the case of the South African footwear industry there appears to be general consensus that the immediate cause of this decline is directly attributable to the industry's inability to compete with a flood of imports from low cost producers based in the Far East, particularly China, exacerbated by the government's relaxation of tariff protection for the local footwear industry in line with its commitment to GATT (Barrett, 1995: 167; Harrison, Futter & Meth, 1997: 26, 30; IDC, 1997: 2; Malla, 1999: 42-43). Figure 5.4 shows the marked decrease in tariffs for the South African footwear industry, as a result of South Africa's signing of GATT, from their peak in 1996.

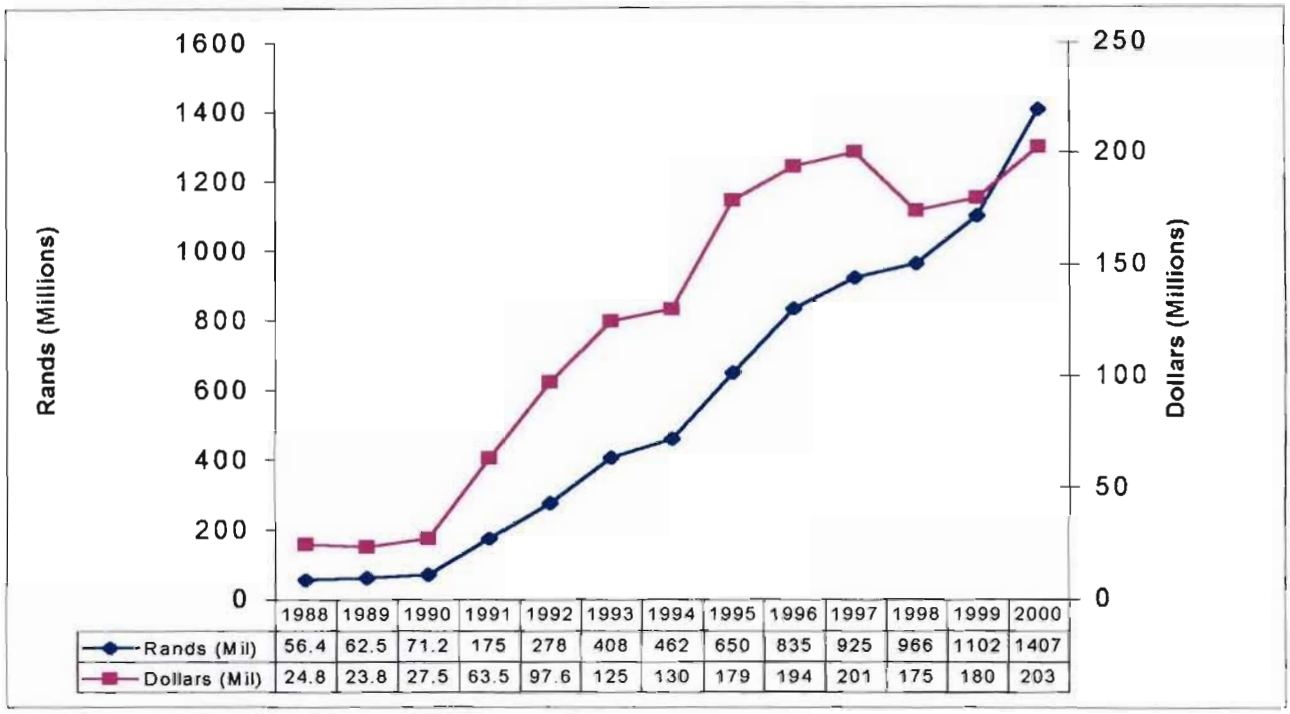
Figure 5.4 Tariff Phasedown For The South African Footwear Industry



Source: (IDCa, 1997: 8).

The impact of the reduction in tariff protection is evidenced by data on imports presented in figure 5.5 overpage.

Figure 5.5 Imports of Items Listed Under Chapter 64: Footwear



	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Rands (Mil)	56.4	62.5	71.2	175	278	408	462	650	835	925	966	1102	1407
Dollars (Mil)	24.8	23.8	27.5	63.5	97.6	125	130	179	194	201	175	180	203

Source: (http://www.tips.org.za/tradedata/TradeMain.htm).

It is clear from the above graph that between 1990 and 1996 imports increased dramatically indicating that tariffs are not the only issue affecting the South African footwear industry. Table 5.1, below, presents a detailed picture of what was happening in the shoe industry during this time.

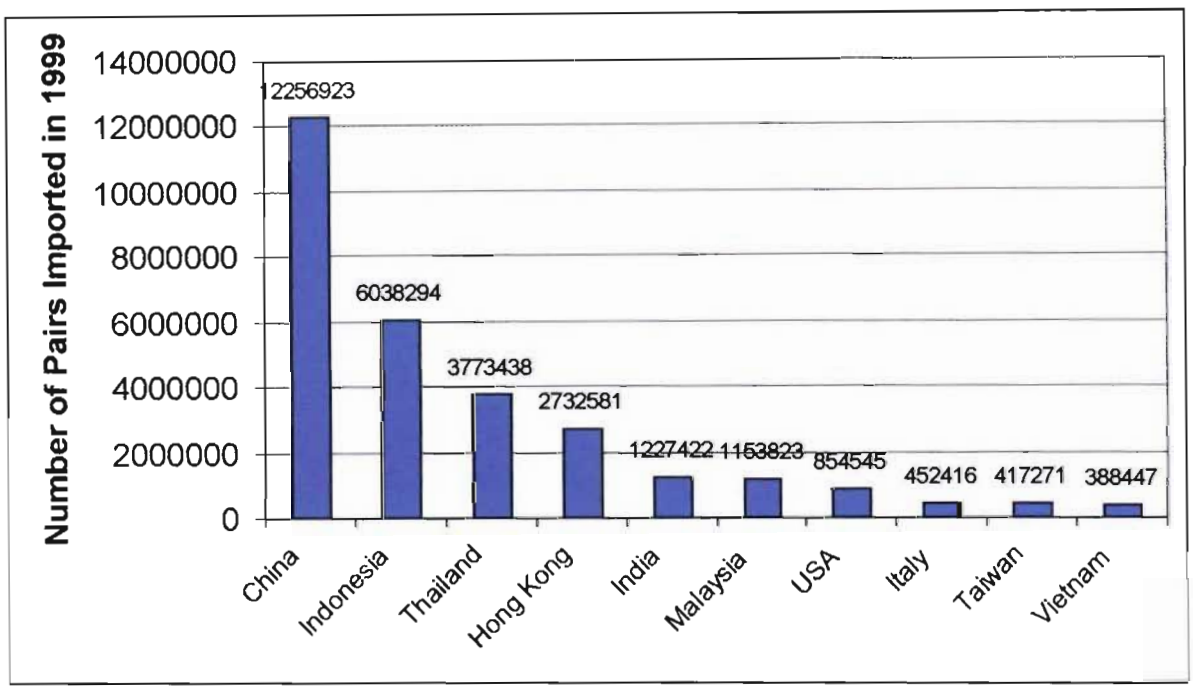
Table 5.1 Trends in the South African Footwear Industry 1990 - 1995

	1990	1991	1992	1993	1994	1995
Employment	37 111	35 637	31 351	29 583	29 364	28 333
Local Production (mill)	81.7	72.6	63.5	65.8	63.5	58.3
Imports	12.3	17	18.2	33	35.9	63.4
Imports (China)	6.2	9.1	10.5	21.9	22.8	52.1
Imports %	13.1	19	22.3	33.4	36.1	52
Local Production %	86.9	81	77.7	66.6	63.9	48

Source: (Harrison *et al,* 1996: 26).

In the five years between 1990 and 1995 imports increased by 515% with the lion's share coming from the People's Republic of China whose exports to South Africa over the same period grew by 840%. Figure 5.6 graphically shows the dominant position China holds as the major country exporting shoes to South Africa and how shoe exports to South Africa are dominated by Far Eastern countries. In the face of this onslaught from these low cost producers in the Far East local manufacturers were increasingly squeezed out of the domestic market with market share declining from 86.9% in 1990 to only 48% in 1995.

Figure 5.6 Top Ten Countries Exporting Shoes to South Africa (1999)

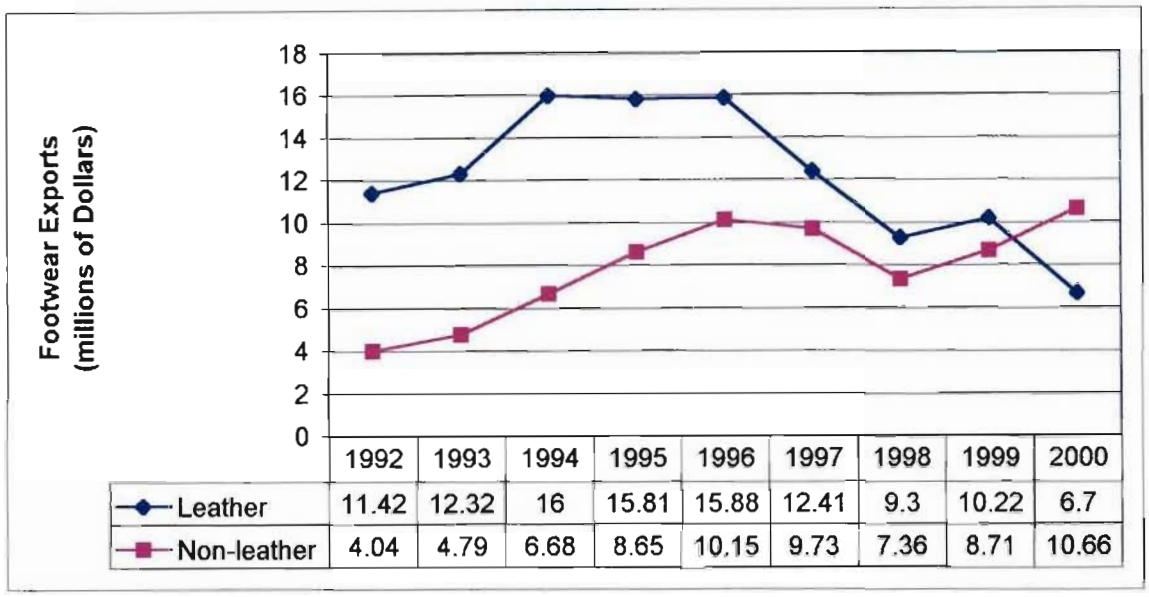


Source: (Ballard, 2001: 45).

This situation is further exacerbated by the fact that in addition to the rising level of imported footwear, the South African footwear industry has also had to contend with a surge of illegal imports. These shoes are smuggled into the country, largely from the Far East, in order to avoid paying duties, which makes them even cheaper in comparison to locally produced shoes. It is estimated that some 40 million pairs of shoes from China and Taiwan enter South Africa illegally every year (Malla, 1999: 70). Local producers were not able to replace these lost local sales through exports as is evidenced by figure 5.7 which shows how South African footwear exports have remained relatively constant. The downward trend in the export of

leather footwear, which is what the Pietermaritzburg industry specialises in, is all the more striking when one considers the major devaluation of the Rand over this time period.

Figure 5.7 Dollar Value of Footwear Exports



	1992	1993	1994	1995	1996	1997	1998	1999	2000
Leather	11.42	12.32	16	15.81	15.88	12.41	9.3	10.22	6.7
Non-leather	4.04	4.79	6.68	8.65	10.15	9.73	7.36	8.71	10.66

Source: (Ballard, 2001: 68).

As a result of declining sales, therefore, South African footwear manufacturers were either forced out of business, had to reduce their operations resulting in staff layoffs, or relocated operations to neighbouring countries in search of lower labour costs. The result is that employment in the footwear industry over this five year period fell by 23.65%; in other words within five years one in four workers in the footwear industry lost their jobs. Over the eleven years from 1990 to 2001 this percentage rises to a staggering 67.74%; two out of every three jobs in the formal sector were lost. These developments merely mirrored a trend that had already played itself out around the globe as footwear production shifted from the West to new, low cost producers in the Far East.

5.2.3 GLOBAL TRENDS

As has been discussed, the decline in the footwear industry can be closely associated with the increase of imports, in particular from the People's Republic of China. This trend closely mirrors a global shift in production, as reported by the United Nations' International Labour

Organisation (ILO, 1992; ILO 2002), from first world nations to third world countries such as Taiwan, Korea and China. Since the mid 1960s global footwear production has progressively shifted to countries offering the benefits of low labour costs. This emphasis on reducing labour costs has had a devastating effect on the shoe industries in Europe and North America. For example, employment in the shoe industry in the United States fell from 233 000 to 72 000 between 1968 and 1990.

Up until the late 1980s the major beneficiaries of this shift in production were Taiwan and South Korea. Between 1980 and 1986 Taiwan increased production from 431 million pairs of shoes to over 900 million pairs while South Korea's production increased from 300 million pairs to over 500 million. This increase in production is in stark contrast to production in the United States which over the same period fell from 476 million pairs to around 300 million pairs. The late 1980s through the 1990s saw a second major shift in production from Taiwan and South Korea, which in the Asian context are two relatively high wage countries, to low wage countries such as Indonesia, Thailand, Vietnam and in particular the People's Republic of China.

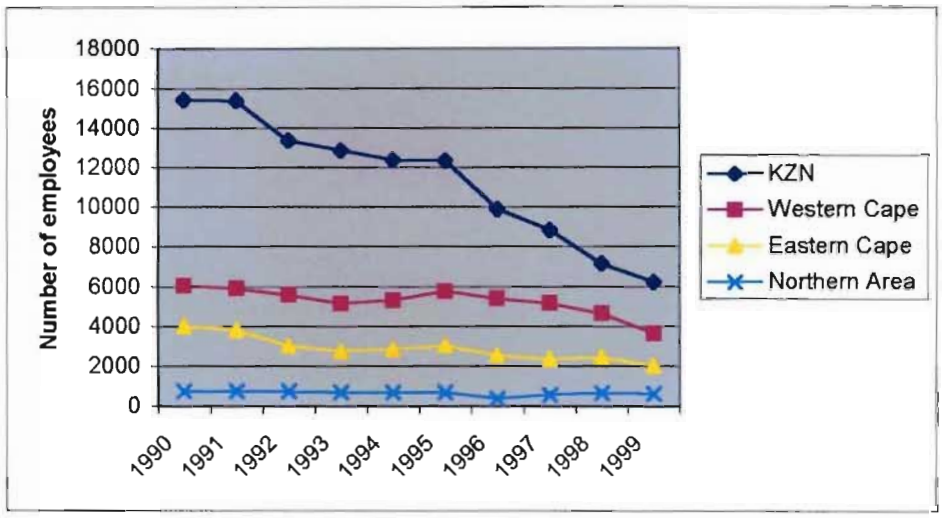
5.2.4 THE KWA-ZULU NATAL REGION

Whilst the footwear industry's contribution to the national economy may be modest, it is a sector of considerable importance to specific local communities. The reason for this is that the footwear industry tends to be mainly clustered in a few regions. The 1991 manufacturing census showed that the 264 footwear factories in operation at that time were located in a few areas: Durban 57, Pinetown 37, Pietermaritzburg 37, Cape Peninsula 37, Port Elizabeth 15, Johannesburg 6, Bloemfontein 6, Botshabelo 6, Qwa Qwa 6, and Ladysmith 5. In terms of total manufacturing employment within these localities, footwear made the greatest contribution to the economies of Pietermaritzburg (21%), Bloemfontein (11,3%), Durban/Pinetown (6,4%), Ladysmith/Estcourt (5,9%), Port Elizabeth/Uitenhague (4,3%) and Cape Peninsula (3,2%) (Harrison *et al*, 1996: 14).

This concentration of footwear manufacturers in a few localities means that the effects of the decline of the industry has not been even. The fact that Kwa-Zulu Natal has the largest

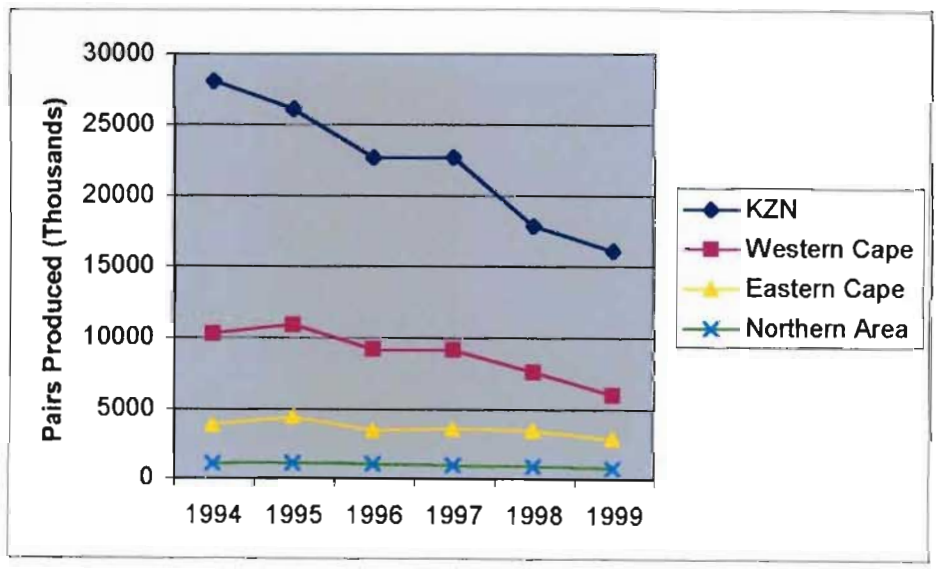
concentration of footwear firms has also resulted in it bearing the brunt of both the job losses as evidenced by figure 5.8, and declining production shown in figure 5.9.

Figure 5.8 Changing Employment per Region Over Time



Source: (Ballard, 2001: 68).

Figure 5.9 Changing Production per Region Over Time



Source: (Ballard, 2001: 68).

It has already been noted that of all the areas with a concentration of footwear manufacturers, the Pietermaritzburg economy is most reliant on this sector. It is therefore to be expected that the marked decline in production and employment in the footwear industry in Kwa-Zulu Natal would have had a particularly severe impact upon the Pietermaritzburg footwear industry.

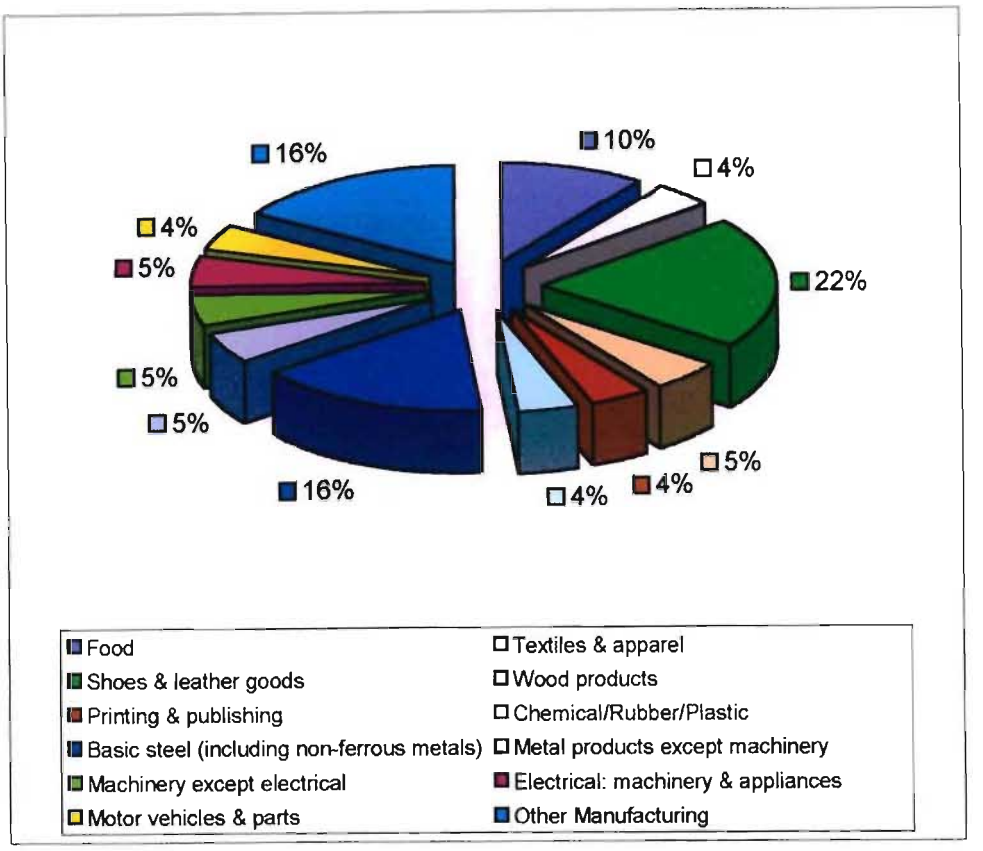
5.3 THE DECLINE OF THE PIETERMARITZBURG FOOTWEAR INDUSTRY

The previous section highlighted the concentration, 60-70% (Harrison *et* al, 1996: 16; KwaZulu-Natal Regional Economic Forum, 1997: 7), of the footwear industry in Kwa-Zulu Natal. This factor has made the region especially sensitive to fluctuations in the fortunes of the industry. While the majority of footwear firms in KwaZulu-Natal are located in the Durban Pinetown region, historically Pietermaritzburg has dominated the region in terms of value of production (Harrison *et al*, 1996: 15). This can be attributed to the Pietermaritzburg industry's focus on leather footwear, particularly men's, at the upper end of the market.

The negative trend in production and employment in the South African footwear industry has been particularly marked in the Pietermaritzburg area. The 1988 Census identified 32 shoe manufacturers employing 7 700 workers and in 1991 Oldham and Hickson (1992) counted 37 manufacturers employing 5 800 people. In 1996, Harrison, Futter and Meth identified only 26 footwear producers employing approximately 4 800 workers while the 1996 official census reports 30 firms employing 4 747 (Statistics South Africa, 2001: 50). A survey conducted in 1998 found only 22 firms operating in Pietermaritzburg, employing 3 200 workers (Strydom, 1998). While it is not possible to read too much into these figures because of differences in how the figures were compiled (for example whether only legally registered firms were counted or whether unregistered firms were counted and in defining firms as being part of the footwear industry or not) it is possible to identify a clear and dramatic decline in the Pietermaritzburg footwear industry.

The difficulties experienced by the footwear industry are of particular importance in the case of the Pietermaritzburg industry because of the significant role it plays in the city's economy. It used to be the single largest employer in Pietermaritzburg accounting for some 25% of the formally employed (KwaZulu-Natal Regional Economic Forum, 1997: 5) and contributing 21% to the local economy (Harrison *et al*, 1996: 14). The footwear industry's important place in terms of employment in the city is clearly demonstrated in figure 5.10 overpage. In terms of the national economy the decline of the local footwear industry might be relatively insignificant but it has major implications for the greater Pietermaritzburg area.

Figure 5.10 Percentage of Employment in Pietermaritzburg 1998, per Industry



Source: (IDC in Stilwell, 2001: 54).

5.4 PRIVATE AND PUBLIC RESPONSES

The significance of the footwear industry to Pietermaritzburg's economy means that finding solutions to the industry's problems is of particular importance for this area. A number of noteworthy initiatives have been undertaken.

5.4.1 THE SOUTH AFRICAN FOOTWEAR CLUSTER STUDY

In response to the crisis in the footwear industry the IDC conducted an in-depth analysis of the industry entitled the South African Footwear Cluster Study. The study examined the state of the footwear industry in South Africa as well as international examples of success and failure in order to identify a path for the local industry towards global competiveness and success.

It showed the domestic market to be concentrated in the lower to mid price point category for men's footwear and in the lower price point category for ladies' footwear. In addition, they found that the South African retail market is less quality conscious and more price sensitive than countries like Europe and the USA which obviously makes the local industry more vulnerable to lower cost imports (IDCa, 1997: 59).

The Footwear Cluster Study concluded that South Africa is a medium-cost footwear producer and that this segment should be the target of its efforts. The implication of this approach, however, would be the loss of at least 60-70% of the domestic market to imports. Obviously, if the local industry was not to shrink accordingly these imports would have to be replaced by exports and the study argued that South Africa was best placed to compete in the medium and higher-priced market segments of the men's leather footwear market (IDCa, 1997: 62). The upshot of the Cluster Study was thus to identify a vision for the South African footwear industry to become a 'world-class' producer of leather footwear for the mid- to upper- price point category, achieving approximately a 1% share of world exports by 2005 (IDCa, 1997: 63). Table 5.2 sets out a series of targets for the industry to achieve in pursuit of this vision.

Table 5.2 South African Footwear Industry 1996 Scenario and Target for 2005 (millions of pairs)

	1996	2005	Growth p.a.
Total Consumption	100	120	2%
Leather Consumption	*35*	*50*	*4%*
Total Production	48	120	11%
Leather Consumption	*25*	*100*	*17%*
Total Exports	3	70	42%
Leather Exports	*1*	*60*	*58%*
Total Imports	55	70	3%
Leather Imports	*11*	*10*	*-1%*

Source: (IDCa, 1997: 63).

Achieving these goals would, according to the study, lead to an industry that by 2005 would:

- have an annual output of approximately US$ 1.3 billion;
- provide export revenue of US$ 0.7 billion;
- directly employ some 125 000 people, resulting in about 100 000 direct and indirect employment opportunities by 2005; and,
- provide indirect employment for about 25 000 people in supporting industries such as farming; the tanning industry; the chemical, component and machinery industry; and, the general goods industry (IDCa, 1997: 64).

It is important to note that, as the name of the study indicates, the Cluster Study was based upon the premise of "... a collective effort from all key stakeholders" (IDCa, 1997: 61). However, as observed by Malla (1999: 73; 76) the vision of the Cluster Study was received by the industry with scepticism and resistance. Clearly, while the Study was modelled on successful footwear clusters in countries such as Brazil and Italy, no such footwear cluster (at least at a national level) exists in South Africa and the necessary commitment to work together to achieve such targets was simply not in existence. In addition, while the Study articulated this extremely ambitious goal it failed to provide a detailed plan for how this target should be reached. It is therefore not surprising that the Footwear Cluster Study failed to produce any meaningful change in the industry and that no concerted effort has been made to reach any of its targets.

5.4.2 PIETERMARITZBURG SPATIAL DEVELOPMENT INITIATIVE

Drawing upon the South African Footwear Cluster Study, the IDC prepared an industrial appraisal of the footwear industry in Pietermaritzburg as part of the Pietermaritzburg Spatial Development Initiative. Drawing upon the vision and strategy formulated in the Cluster Study it was suggested that, assuming that the Pietermaritzburg footwear cluster could increase its share of South African footwear production from 12% to 20%, the successful implementation of the national footwear strategy could result in a footwear industry in Pietermaritzburg that by 2005 would:

- employ 17 000 people;
- achieve total production of almost R1 200 million (in constant 1997 Rands); and,
- earn foreign exchange of about R650 million (in constant 1997 Rands) (IDCb, 1997: 32).

What is particularly interesting about this report is its discussion of required key success factors identified through international comparisons of successful footwear producing countries. Of the seven key success factors listed three are of particular relevance for this study namely: "...

- Strong spatial clusters – Successful countries often have strong spatial clusters, centering on a town or village; sometimes these clusters focus on particular market segments. Within this cluster there are many specialist firms and skills feeding the cluster.
- Strong local institutions – Local clusters are invariably supported by strong local institutions providing, finance, technical, testing and export support to the domestic industry.
- Labour flexibility and sub-contracting – There is often a plethora of small firms which undertake sun-contracting work of a portion of the production process." (IDCb, 1997: 33).

5.4.3 THE NEDLAC WORKPLACE CHALLENGE

The Workplace Challenge is an initiative of the Trade and Industry Chamber of NEDLAC, funded by the DTI, that was established in 1996 to assist South African firms in meeting the challenges presented by South Africa's re-entry into the global market (KwaZulu-Natal Regional Economic Forum, 1997). More specifically, the Workplace Challenge aims to achieve this by encouraging the social partners in NEDLAC, i.e. government, labour and business, to cooperate and work together in order to improve the performance of local companies (Perlman, 1997 in Malla, 1999: 77).

The Pietermaritzburg-Msunduzi Footwear and Leather Workplace Challenge Project was launched in November 1997 after it was agreed by all stakeholders that action was required to ensure the survival and growth of the leather and footwear industry in the Pietermaritzburg-Msunduzi area. The project identified the following key objectives:

- Stakeholder commitment to growth through competiveness and partnerships. The Project must increase stakeholders' understanding of raising plant level competiveness but must *simultaneously aim to highlight the value of business-labour and pipeline partnerships in raising firm and sector level competiveness* (italics added).
- Improve the capabilities to design and engineer footwear.

- Improve commitment to "Quick response" production.
- Focus on product ranges.
- Increase resource utilisation.
- Develop human resources.
- Improve work organisation.
- Develop trade union capacity to deal with restructuring (KwaZulu-Natal Regional Economic Forum, 1997: 9).

Two aspects of this process that were highlighted were the need to foster a local 'sectoral vision' and to develop pipeline linkages. The project would, amongst other things, explore the possibilities for attaining "economies of scale" arising from closer strategic cooperation between manufacturers and support informal and formal networking of all footwear manufacturers, and especially small manufacturers who would benefit from closer cooperation in relating to suppliers.

While the Workplace Challenge is still operating, it has, unfortunately, not been able to achieve the goals and visions identified (Malla, 1999: 79). Malla attributes this largely to the fact that the supply side orientation of the projects conducted as part of the Workplace Challenge were seen by manufacturers as of secondary importance compared to their primary concerns which relate to collective bargaining issues. She also identifies a general reluctance on the part of manufacturers to commit themselves to the process and undertake new ways of doing things.

5.4.4 THE SONGOLOLO PROJECT

In 2000 the Pietermaritzburg-Msunduzi City Council commissioned a feasibility study for the SMME shoe manufacturing sector in Pietermaritzburg. This study was specifically concerned with the possibility of establishing a 'Footwear Park' in the city and is explicitly focused on the benefits of clustering for SMME manufacturers. The consultants that prepared the report concluded that such a footwear park would assist small entrepreneurs in establishing shoe manufacturing firms. Specifically they identified the following factors as supporting the construction of a cluster factory arrangement for shoe manufacturing SMMEs in Pietermaritzburg.

- Proximity of the cluster to an existing under-served market.
- Frequent new product design.
- Further lowering of barriers to entry.
- Vertical integration.
- Enhanced flexibility (Andile, Jordan & Assoc, 2000: 8).

While the establishment of a dedicated footwear industrial park would probably be of benefit to those manufacturers involved, it must be noted that this project would target SMMEs and that its impact on the overall output of the Pietermaritzburg footwear industry would probably be quite small.

5.5 CLUSTERING AS A SOLUTION

As can be seen from the previous section, all of the initiatives described above contain a common element, namely collaborative action of some sort. While the Footwear Cluster Study did not describe clustering *per se*, it did emphasize the need for cooperation if the vision was to be achieved. In addition, the name of the study indicated that it was predicated on the notion that the South African footwear industry was already an operating cluster. Similarly, in analyzing the Pietermaritzburg footwear industry the IDC referred to it as a cluster and emphasized the key requirements of spatial clusters; support institutions and sub-contracting for the success of the industry. The Workplace Challenge is also, amongst other things, explicitly aimed at promoting a sectoral vision and better pipeline linkages within the Pietermaritzburg footwear industry, partly through inter-firm networking. These ingredients are all based on the premise that the Pietermaritzburg footwear industry is a cluster and that by developing the cluster its international competiveness can be improved.

The government, through the DTI, has explicitly adopted clustering as a model for developing South Africa's industry (Sunday Times Business Times, 1997). "The Cluster process is an integral component of our industrial strategy. .... It is my view that drawing stakeholders into a process of collectively defining a vision and strategy for their cluster is absolutely essential to identifying the role of various actors, including government, in addressing the challenge of industrial transformation" - Rob Davies, Chairperson: Parliamentary Committee on Trade & Industry (The South African Cluster Programme, 1997).

Elements of the DTI's approach to cluster initiatives are presented in Appendix D. It is clear that this approach is explicitly based on Porter's diamond model and that at the time of writing the DTI saw the government as having an important role to play in identifying clusters and providing the impetus structure for the development of cluster initiatives. As the SBP (1999: 14) has commented, the DTI has attempted to drive the clustering process from the front by pushing for the establishment of industry-wide cluster groups. The DTI have also tended to favour very broad definitions of 'macro' level clusters which has tended to make their cluster initiatives impractical and unsuccessful (SBP, 1999: 18). The lack of success of the DTI's cluster initiatives has caused the department to modify its approach somewhat, shifting its emphasis towards sectoral and spatial development initiatives but clustering is still an important part of its approach and one that it sees as particularly important for the footwear industry (DTI, 2000: 68; DTI 2001: 16).

The Songololo Project is an extremely important initiative because it represents the first concrete effort to actively promote clustering within the city's footwear industry. While the small scale of the project means that it is not going to solve the industry's problems it does show that policy-makers within the city have accepted the concept of clustering as an appropriate response for the industry and are prepared to invest land and money in attempting to make it work.

A number of researchers who have studied the Pietermaritzburg footwear industry have also presented clustering as the solution to the industry's woes. Barrett (1995: 150; 162) observed an increased use of sub-contracting within the footwear industry in Natal and, while pointing out the danger of manufacturers using sub-contracting as an alternative to investing in technology or design capabilities, acknowledged the potential cost savings to be gained from this trend.

Harrison *et al,* in their excellent examination of the footwear industry in Pietermaritzburg conducted on behalf of the Pietermaritzburg-Msunduzi transitional local council, include in their recommendations that "... the industry take maximum advantage of the benefits of clustering and work towards developing a vibrant 'industrial district'" (1996: 66). They expand upon this point to recommend:

- setting up a local association of footwear manufacturers;
- establishing positive, mutually supportive relationships between large and small footwear manufacturers and further developing sub-contracting relationships;
- strengthening relationships throughout the production and distribution chain; and,
- collaborating in various joint ventures, such as the purchasing of leather, training programmes, marketing etc.

They also recommend that a Local Service Centre be set up for the footwear sector as a joint venture between the industry, the local business associations and the local authority and that clear lines of communication and support linkages be established between the local industry and the Pietermaritzburg-Msunduzi transitional local council.

Malla (1999: 80) actively applied the industrial district model to the Pietermaritzburg footwear industry in an attempt to find solutions for the industry's problems. While expressing concern that by itself it would not be sufficient to save the industry, she concluded that "... it is imperative that footwear manufacturers in Pietermaritzburg realize the importance as well as the benefits to be reaped in forming linkages and networks, as a response to the challenges facing this sector" (Malla, 1999: 91).

Finally, Stilwell (2001: 74) has argued that a footwear cluster is a possible solution to the local industry's problems. Like Malla, he examined the cases of successful footwear clusters globally and drew the conclusion that if these industries have been able to succeed internationally then clustering must offer a solution for the local footwear industry. Stilwell argues that the approach has been effective elsewhere, that the local footwear industry is spatially concentrated and that it already possesses the necessary infrastructure in terms of skilled and unskilled labour; access to transport routes and close proximity to production inputs. As a result he concludes that "[w]ith all these factors in mind it seems likely that the Pietermaritzburg-Msunduzi footwear industry will be able to replicate the success of the other footwear producing nations" (Stilwell 2001: 82).

5.6 CONCLUSION

In this chapter the historical and economic context of the Pietermaritzburg footwear industry has been described in order to show the challenges facing it. In addition, the responses of industry role-players to these challenges have been described. The discussion of the industry, both at national and local level, clearly shows that it is facing overwhelming challenges and that if current trends continue the industry will effectively cease to exist. An examination of the initiatives that have been undertaken in response to these challenges and of the recommendations of researchers highlights two common assumptions; namely that a) the Pietermaritzburg footwear industry can be described as a cluster, and b) clustering provides, at least partly, a solution to the local industry's problems. While at face value these assumptions may appear reasonable they have never been critically evaluated but rather have been taken as a given. The assumption that the Pietermaritzburg footwear industry is a cluster is based on the relatively high concentration of footwear firms in the city. The discussion in chapter two, however, clearly demonstrates, firstly, that more than simple geographic concentration is required for a cluster to exist and secondly, that clusters can take many different forms and exhibit different characteristics. No formal research has been done to examine to what extent the Pietermaritzburg footwear industry actually conforms to the theoretical characteristics of a cluster.

In addition, in chapter three it was clearly expressed that when formulating a cluster policy one cannot adopt a one size fits all approach. Each cluster is unique and requires specific policy interventions that are appropriate for its individual requirements. The fact that a critical evaluation of the Pietermaritzburg footwear industry, to determine to what extent it can be classified as a cluster and if so what sort of a cluster it is, has never been conducted means that policy-makers are working on the basis of assumption rather than fact. As a result it is highly unlikely that a coherent, relevant and ultimately successful cluster policy will be developed for the Pietermaritzburg footwear industry. In an effort to address this problem, the Pietermaritzburg footwear industry will be examined in chapter six with reference to cluster theory and on the basis of this analysis appropriate policy issues will be discussed.

6 PIETERMARITZBURG FOOTWEAR INDUSTRY: STRUCTURAL ANALYSIS

6.1 INTRODUCTION

The point has already been made in chapter two that the geographic concentration of a number of similar firms is not in itself sufficient to qualify as a cluster. A second dimension is also required, namely inter-firm collaboration and specialisation. Harrison *et al* (1996: 22) commented that the geographical concentration of footwear firms in areas such as Pietermaritzburg favours the development of 'cooperative competition' as in the cases of Italy and Brazil. Ismail (1993: 61), however, had observed that while the footwear industry is highly geographically concentrated there was surprisingly little cooperation between firms. He suggested that this was partly because the firms were fiercely competing in a contracting market and consequently they were attempting to obtain a share of every part of the domestic market and that if firms were producing for separate market niches there would be less rivalry. This analysis is suggestive because it indicates that the local footwear industry, while geographically concentrated, does not necessarily exhibit the degree of specialisation and collaboration typically associated with a cluster.

As has been indicated in chapter four, a number of sources, including the DTI, have argued that the answer to the problems facing the footwear industry in South Africa lie in the concept of clustering. This conclusion is largely based on the fact that footwear clusters in Brazil, Mexico and especially Italy, have achieved notable successes in competing internationally with Far Eastern manufacturers (Isaksen, 1998: 15). In 1997 the DTI initiated a programme entitled 'Workplace Challenge' to encourage and develop linkages within what was described as the Pietermaritzburg footwear "cluster". However, as was seen in chapter two, the term cluster is often used loosely without a clear definition of what is meant by it. The assumption has been made that because there are a significant number of footwear related firms within the Pietermaritzburg area they must constitute a cluster but this conclusion has not been examined in any systematic way.

Two pertinent issues can thus be identified. Firstly that a high concentration of footwear related firms exist in the Pietermaritzburg area and secondly that clusters of footwear manufacturers in other countries have managed to achieve international success by exploiting

the potential benefits created by such geographical concentration. These facts pose a number of important questions; namely to what extent can the Pietermaritzburg footwear industry be described as a cluster and if so what is the extent and nature of such clustering, and what is the potential for the footwear industry in Pietermaritzburg to develop as a cluster and what steps would be needed to facilitate this development? These issues will be discussed in detail in this chapter.

6.2 LINKAGES

The first step in answering this question is to examine the assumption that the Pietermaritzburg footwear industry represents a cluster. As noted in chapter four, cluster relationships are built around buy-sell relationships, that is the forward and backward linkages between customers and suppliers (Hill and Brennan, 2000: 68; Porter (1998b: 79). It is thus possible to examine whether or not the Pietermaritzburg footwear industry can be classified as a cluster by observing the pattern of linkages within the industry. In addition, Quince and Whittaker (2002: 18) also highlight the importance of understanding the exact nature of inter-organisational linkages within clusters if one is to understand the dynamics within a cluster.

A study of the footwear industry in Pietermaritzburg reveals a wide diversity of linkage activities taking place. These activities range from the most basic forms of co-operation and outsourcing to fully integrated production processes. Some of these patterns of linkages are well established in the industry, having been employed for many years, but recently manufacturers, as a response to their changing environment, have begun to employ new forms of linkages in an effort to improve productivity and reduce costs. To simplify the discussion linkages will be classified as either horizontal or vertical in nature. Horizontal linkages involve the relationships between firms performing part of the production process whilst vertical linkages describe the relationships between footwear manufacturers and the suppliers of their raw materials and the purchasers of their finished product.

6.2.1 HORIZONTAL LINKAGES

The traditional model of shoe manufacture is for the complete production process to be performed in a single process under one roof. Whilst this conventional model of shoe manufacture allows for control of the production process, economic and structural factors have contributed to a number of manufacturers employing a variety of horizontal linkages with external parties performing some part of the production process for them.

- Lacing

It is standing operating practice in the industry to have the hand-lacing of shoes completed outside of the factory. This is an extremely labour intensive activity which can be performed almost anywhere by relatively un-skilled individuals. Rather than employ full-time employees to complete this task, with the associated increase in overheads, manufacturers have the lacing done on a 'casual', piece rate basis. All the manufacturers interviewed have their lacing done in one of the following two ways.

a) Manufacturers employ the services of an agent or contractor to handle the lacing for them. The contractor collects the day's work from the factory and then distributes the work amongst a number of lacers who work from home or at a central location provided by the contractor. The bulk of the lacing work on shoes produced in Pietermaritzburg is handled in this manner.
b) Manufacturers employ individual lacers who report to the factory each day to return completed work and collect new work for the next day. Less common, this approach is used by smaller manufacturers producing smaller quantities of shoes.

- Closing of Uppers

The 'closing' of uppers involves the machine stitching of the leather prior to it being attached to the sole. Depending on the type of shoe being produced, the amount of work involved in closing can vary considerably. Regardless of the complexity of the individual shoe, however, closing is probably the most difficult and time consuming element of the production process requiring the greatest skill levels from the workers. A wide variety of practices are employed

by local manufacturers with regard to the closing of uppers, ranging from doing it completely in-house to not doing it at all. This diversity of approaches makes the closing process particularly interesting in terms of business linkages.

a) The most widespread practice is for manufacturers to perform the closing function themselves. Closing and finishing are a core part of the process of making a shoe and the quality of the finished product is largely determined by the quality of the closing. As a result, many shoe manufacturers like to have control of the closing process to be able to personally monitor quality and have direct control of production. Security is an additional reason for manufacturers to perform the closing function themselves. The possibility of competitors copying one's designs is a major concern to producers and so they prefer to keep production in-house, to limit the chance of competitors gaining access to their shoes.

All of the manufacturers interviewed do at least some of their own closing and eight of the seventeen manufacturers do all their closing themselves, unless exceptional circumstance dictate otherwise.

b) Although these manufacturers prefer to carry out the production process themselves, situations frequently arise where their production capabilities are not sufficient. Situations arise where a manufacturer cannot meet the demand for his shoes if a particularly large order has been placed, a rush order is required, or less frequently in the event of a machine break down. When producers find themselves unable to meet a temporarily large demand for their shoes it is common practice for them to employ a specialist CMT (cut-make-trim) operator or even another manufacturer, with excess production capacity, to handle the overflow closing work.

c) Five of the seventeen manufacturers interviewed, employ CMT operators on a regular basis as an integral part of their production process. As opposed to the scenario described above, where the CMT operator is only used to meet short-term production needs, here the CMT operator is used continuously to produce a regular number of pairs of shoes per day instead of the manufacturer producing them himself. The total number of shoes

produced in this way is two to three thousand pairs per day out of a total combined output for the five producers of approximately 45 000 pairs per day.

This figure, however, is misleading if taken at face value as one of these companies, producing 30 000 shoes per day, is the largest manufacturer interviewed and almost all of its production actually takes place in Lesotho. If one considers only shoes produced completely in Pietermaritzburg then out of a combined output of between 12 000 and 13 000 pairs per day, approximately 1 500 pairs are produced using CMT operators.

The advantage of this process to the manufacturer is that it allows him to limit the size of his work force. Secondly, because the CMT operator is specialising in closing, as opposed to managing the entire production process, he is able to keep a closer eye on the quality of production. Thirdly, the manufacturer is able to pay the CMT operator per shoe, thereby fixing his per unit cost. Consequently the manufacturer does not have to concern himself with worker productivity, as it is the CMT operator's problem if his machine operators are under performing. Finally, the manufacturer's overheads are decreased as he can use smaller premises and has to own and maintain less machinery. Some of these manufacturers will regularly employ CMT operators for their more complicated shoes as the CMT operators' workers tend to be more skilled due to their greater specialisation.

d) Certain manufacturers have extended the use of CMT operators to establish independent, small operators to do closing work for them. One of the manufacturers interviewed, producing 1 100 pairs of shoes per day, utilises two CMT operators to do the closing work on at least 450 pairs per day. These operators, normally past or present employees of the manufacturer, acquire their own machinery and employ their own workers to carry out closing work. The manufacturer then provides them with regular work, usually on a daily basis. Typically these operators, although independent in that they own the equipment, work exclusively for one manufacturer. The same benefits exist for the manufacturer as those described above, but in addition, because of the special relationship which exists between them and the operator, they effectively have full control of the operator's production and because the operator works only for them they feel that their designs are more secure.

e) A further refinement of this idea is the idea of a 'cottage industry' approach. This technique is being successfully employed by one producer in Pietermaritzburg who has a number of ex-employees who do closing work for him. This manufacturer produces between 1 500 to 2 000 pairs per day and almost every shoe goes out to these 'contractors' for some work. The difference between this approach and the previous one is that the company provides the 'contractors' with the machinery necessary to do the closing work for them. The machinery remains the property of the footwear producer who also services and repairs the equipment. The company does very little closing work itself but instead makes daily deliveries to its 'contractors' who complete the bulk of the closing for the company.

f) A more extreme policy is not to be involved in closing at all but simply to buy completed uppers from overseas, particularly from Indian producers. Currently this option is only being investigated by a few local manufacturers Two of the manufacturers interviewed, producing about 1 200 pairs per day between them, indicated that this was an option they were exploring. If the local costs of production were to increase or the Rand was to strengthen making imports less expensive this would become an increasingly attractive, cost-effective alternative.

   By importing completed uppers, local manufacturers could slash their workforce and potentially produce completed shoes at a lower price. The logical follow on, then, would be to import completed shoes and eliminate local production. As the differentials between production costs in South Africa and the Far East increase this will become a more common occurrence. Already a major manufacturer in the Western Cape has stopped producing shoes itself and now only imports shoes and at least one producer in Pietermaritzburg indicated that this was an alternative which he was keeping in mind.

In summary, of the firms interviewed producing 50 000 pairs of shoes per day, practically all of the lacing is out-sourced, whilst approximately 10% of the closing work is out-sourced. However, when the two firms interviewed which produce the majority of their shoes in Lesotho are excluded from the analysis, the percentage of closing work out-sourced rises to almost 23% of total production.

6.2.2 BACKWARD LINKAGES

Footwear manufacturer's relationships with their suppliers can be discussed within three broad categories, namely leather, components and in-soles.

a) Leather

Leather is obviously an extremely important input for the footwear industry in Pietermaritzburg, with its emphasis on medium to high quality leather shoes. Ironically, the majority of the leather used in footwear production is imported, predominately from India. Whilst the manufacturers are generally happy with their overseas suppliers, there are some difficulties. The most obvious problem is the larger lead-time required when importing as the leather is shipped into this country. Manufacturers have to generally allow six to eight weeks for Indian leather to arrive.

A further problem with importing leather is that if there is a problem with the quality of the shipment, it is extremely difficult to rectify it quickly. In addition, the Indian suppliers insist on substantial letters of credit from purchasers which many smaller manufacturers have difficulty obtaining. This problem is mitigated by leather agents who bring the leather into the country and then sell it to local manufacturers. One leather agent actually holds leather in stock in its warehouse for smaller producers who can then draw on the agents' stocks as and when they require the leather. The agent purchases the leather based on the anticipated needs of the manufacturers but manufacturers need only pay for the leather when they take delivery of it. A similar arrangement exists with regards to the supply of innersole boards which shall be discussed later.

While the supply of leather to the industry seems to be satisfactory, it is apparent that the relationship between manufacturers and local leather suppliers is open to improvement. Currently a local monopoly exists in South Africa, with the few major tanneries all being owned by the same company. Given the depreciation of the Rand, local leather production is geared to foreign buyers, making South African hides prohibitively expensive for local footwear producers. The best hides produced locally are also sold at a premium to the motor industry to be used in upholstery work on luxury cars. As a result, there is a shortage of good quality local hides available for the footwear industry. This situation is exacerbated by the fact that none of the local tanneries are located in KwaZulu-Natal.

b) Components

The term components is used to describe a wide range of soles, heels and trim which are mostly made from a PVC compound. The local footwear industry purchases most of its soles from a number of component producers located in Pietermaritzburg and Durban, although soles are also imported from overseas. Generally, shoe manufacturers are quite happy with the relationship which exists between themselves and their component suppliers. Due to the close proximity of the component manufacturers to the footwear manufacturers, delivery times are good and suppliers are able to be flexible in meeting manufacturers' needs for special deliveries.

One producer, who produces between 1 500 to 2 000 pairs of shoes per day has, however, decided to invest in his own injection moulding equipment which allows him to make his own bottoms, heels and soles. The motivation for this approach is that it eliminates the component supplier's profit margin, thereby reducing costs, and it allows the shoe manufacturer to produce the exact quantities as and when they are required thereby eliminating lead times. However, very few manufacturers are producing sufficient volumes to make this a viable option.

Although not strictly components, moulds and knives are an important input to the production process which are provided by component suppliers. PVC soles and heels are produced by means of injection moulding. The soles of shoes include substantial design elements and are an important factor in determining the success or failure of a particular shoe. The process of laying down

moulds is an extremely expensive process, however, costing in the region of R60 000 per set of moulds. A manufacturer has to be extremely confident in a particular style of sole to invest this sort of money in his own moulds. Consequently, many small manufacturers rely heavily on their component suppliers to produce 'open' moulds which allow them to buy soles without having to invest large sums of money in their own moulds.

The steel knives used to cut the leather and in-soles are a crucial element in the production of shoes, and these knives have to be precisely manufactured to meet design specifications. There are a number of firms which produce knives for the footwear industry and there is a great deal of competition between knife manufacturers. One specialist knife manufacturer in Pietermaritzburg does a large amount of business with one large footwear manufacturer. As part of this close relationship the knife manufacturer, who uses a computer programme to do his costings, has made his costing programme available to the footwear producer who has it installed on one of his own computers. This allows the footwear manufacturer to factor in the knife costing directly into his design process, thereby allowing him to make better production decisions.

c) In-soles

In-soles are cut locally from pre-formed boards imported from countries such as Belgium and Germany. Traditionally in-soles were always produced in-house by manufacturers as part of their standard production process. This practice has, however, gradually fallen away with the great majority of in-soles being prepared by specialist suppliers. Some of this work is done by component companies, who also supply footwear manufacturers with soles and knives, but a lot of it is done by a company specialising purely in the cutting of in-soles. Approximately 50 percent of the in-soles used in Pietermaritzburg are supplied by a single, specialist producer of in-soles.

Local manufacturers have followed this route because it is more cost effective. By specialising in only in-soles the supplier is able to pay closer attention to costs with the result that better quality in-soles can be produced at the same or even lower cost. In addition the supplier, because he is doing work for a number of different factories, is able to enjoy economies of scale which individual manufacturers could not achieve; for example, certain equipment used in the

production process has an optimal production run of at least 1 000 shoes. Finally, by outsourcing this work the shoe manufacturer does not have to invest in the associated machinery and labour and factory floor space.

The supply of in-soles exhibits some of the closest cooperative behaviour to be found in the footwear industry. While most manufacturers place bulk orders with a roughly two week lead-time, some factories, which have special requirements for items such as welted in-soles, have closely incorporated the supplier into their production process. These manufacturers send the supplier actual work tickets on a daily basis with delivery taking place within four to five days.

The boards used in the cutting process are imported into South Africa by an agent. Orders are placed with this agent six months at a time but the manufacturers do not have to take the whole order at one time. Rather, the agent imports the boards as and when necessary and holds them in storage in his warehouse in Durban. Manufacturers then simply draw on these supplies as and when their production process requires them.

It can thus be seen that the Pietermaritzburg footwear industry is connected to an effective system of suppliers with all the required inputs relatively easily available. The local industry benefits from the presence of local manufacturers of knives and in-soles and the close proximity in Durban and Pinetown of component suppliers. With one exception the manufacturers in Pietermaritzburg make extensive use of these suppliers. Backward linkages are further facilitated by the presence of agents, particularly for leather, the one input not readily available locally.

6.2.3 FORWARD LINKAGES

The shoe manufacturers interviewed generally indicated that they enjoyed good relationships with their customers, namely the wholesalers and retail chains who purchase the bulk of shoes produced, although certain problem areas were identified. Particularly, manufacturers producing for the large retail chains such as Edgars and Truworths experienced some difficulties. It was felt that a lack of communication led to undesirable situations where retailers made unrealistic demands on the producers in terms of price or delivery times. A few of the larger manufacturers,

however, are closely connected to their buyers by means of a computer interface which allows them to monitor the retailer's sales of different styles and sizes of shoes and to prepare their production accordingly. The objective of this closer collaboration is to allow manufacturers to move towards replenishment production rather than retailers placing large, infrequent orders, which often lead to wastages when less shoes are sold than anticipated.

Smaller manufacturers interviewed, expressed general satisfaction with their relationships with the wholesalers and retailers who buy from them, many of whom they have been dealing with for many years. In a couple of cases an exceptional form of business linkage was observed between manufacturers and these buyers. In particular one small manufacturer, who produces for a large wholesaler, has established a closely integrated relationship with its client in that the wholesaler pays the factory's lease, purchases the necessary raw materials, knives, lasts etc. and provides some of the necessary machinery. Operating solely as a production facility allows the factory to make shoes at an extremely competitive price because it has minimal overheads.

To conclude then, the Pietermaritzburg footwear industry is well connected to a retailers and wholesalers, either directly or through agents. In some instances manufacturers and their major customers have developed extremely close relations with a high degree of integration between them. While some difficulties were identified, manufacturers indicated general satisfaction with their relationships with wholesalers and retailers.

6.2.4 DIFFICULTIES OF INCREASED LINKAGE ACTIVITY

While the interviews with manufacturers and suppliers revealed a relatively well developed set of forward and backward linkages, horizontal linkages between footwear manufacturers were found to be less well developed. Arising out of the interviews with manufacturers the following issues were identified as hindering the development of increased linkage activity within the Pietermaritzburg footwear industry.

The footwear industry in South Africa is extremely competitive. When a manufacturer finds a style or design which proves popular in the marketplace, he will sell a lot of shoes and make a lot

of money. However, competitors are very quick to copy successful designs. As a result of this practice of copying, manufacturers guard their designs extremely jealously. This concern regarding the security of one's designs creates an environment of distrust which seriously hampers the development of successful linkages.

Lack of trust presents obstacles on two levels. Firstly, there is the obvious issue of security. By outsourcing part of their production, manufacturers fear that they would be making themselves vulnerable as their contractor may also be doing work for a competitor. Whilst competitors can always copy design concepts or new styles from shoes purchased in the marketplace the competitor's late entry into the market will place him at a disadvantage, as the original producer would have already secured orders with the major buyers. This advantage is largely negated, however, if competitors can gain early access to new designs. Manufacturers fear that by sending their shoes to a third party, competitors might, either deliberately or inadvertently, be given access to the company's shoes or designs allowing the competitor to copy the manufacturer's styles. As a result, manufacturers prefer to produce their shoes themselves in order to protect their designs. A number of the CMT operators and lacing agents indicated that manufacturers gave them work on the strict understanding that they would not work for any competing manufacturer.

Secondly, this lack of trust can prove a substantial obstacle to CMT operators in that they rely on manufacturers for work and unless a strong relationship has been developed where the CMT operator knows that he can rely on the shoe manufacturer for work, the life of a CMT operator becomes extremely difficult never knowing where the work will come from. Many of the shoe manufacturers interviewed indicated that they would not consider doing CMT work as it is too uncertain if one is only being used by producers to handle their overflow production. In the cases of successful CMT operators it was noticeable that they had all established a special relationship with at least one manufacturer who provided them with a steady supply of work.

A number of manufacturers interviewed indicated that they had considered using some form of CMT work in their production process but had given up on the idea in the face of opposition from the trade unions. Outsourcing and payment by piece rates are unpopular with the unions as they

are seen as ploys by employers to reduce their work force, which is not good for union membership, and to pay employees less. If the industry is to continue moving to more extensive linkage activity then employers and union representatives need to resolve these differences of opinion which are restricting the industry's ability to respond to the challenges facing it.

The pattern of linkages within the Pietermaritzburg footwear industry has been described in detail. Based upon this information it is now possible to analyse this information in order to firstly assess the extent to which the industry can be described as a cluster in terms of the theoretical models presented in chapter two. Secondly, having discussed to what extent the Pietermaritzburg footwear industry can be described as a cluster, it is possible to identify ways in which clustering within the Pietermaritzburg footwear industry can be supported and developed.

6.3 THE PIETERMARITZBURG FOOTWEAR INDUSTRY AS A CLUSTER

As described in section 2.2.1 four criteria can be identified for the existence of a cluster, namely:

- geographic concentration;
- active channels for business transactions;
- that the geographic proximity of firms and their specialisation and/or cooperation is capable of generating significant synergies for the firms involved; and
- that the firms collectively share common opportunities and threats (Rosenfeld, 1997: 3, 9).

Having described the patterns of linkages evident in the Pietermaritzburg footwear industry it is now possible to use these four criteria to evaluate the industry's status as a cluster.

6.3.1 GEOGRAPHIC CONCENTRATION

If spatial proximity were the sole determining factor there would be little question that the Pietermaritzburg footwear industry qualifies as a cluster. Even with a number of factory closures, if one considers the latest census figures the Pietermaritzburg industry represents a major concentration of footwear firms, roughly thirteen percent of South Africa's footwear industry, employing almost 28% of the industry's total workforce (Statistics South Africa, 2001: 17, 50).

In addition, within Pietermaritzburg the industry exhibits a high degree of concentration with the bulk of the firms being located in two separate areas on the eastern side of the city in the Willowton/Woodlands and the Failsworth Rd complexes with the rest being scattered across the city. The ten firms located in the Willowton/Woodlands industrial area tend to be the medium-sized manufacturers and includes Richleigh shoes, which is one of the largest employers. The Failsworth Rd complex is a fascinating combination of manufacturers, component producers and formal and informal traders grouped around a single road. The thirteen manufacturers in this area are predominantly smaller firms with the exception of the larger Corrida Shoes. Thus, one can conclude that if geographic proximity is the first condition for the existence of a cluster then the Pietermaritzburg footwear industry meets this requirement.

6.3.2 ACTIVE BUSINESS CHANNELS

Harrison *et al* (1996: 43) concluded that to a certain extent the geographic concentration observed above does facilitate inter-firm networking and that the majority of manufacturers considered it as being important to their operations. The nature of this cooperation, however, is extremely limited, for example firms might be willing to share transportation costs when bringing up a load of raw materials from Durban or will help out a manufacturer who has run short of a necessary material. As Rosenfeld (1997: 9) argues, "... 'active channels' are as important as 'concentration', and without active channels even a critical mass of related firms is not a local production or social system and therefore does not operate as a cluster." By 'active channels', Rosenfeld means avenues or links for business transactions, dialogue, and communications. The description in section 5.3.1 clearly shows the existence of a number of such channels. The real question, however, is how well developed these linkages are.

6.3.2.1 Horizontal Linkages

An examination of horizontal linkages, i.e. between different footwear manufacturers, shows some interaction but of an extremely limited nature. There is a relatively highly developed system of linkages around the lacing function with all manufacturers having this function outsourced. While a few manufacturers employ individual lacers to complete this task for them the majority make use of the services of agents or contractors who collect the work requiring lacing and distribute it to lacers employed by them.

A degree of interaction is also evident with regards to CMT operators. The existence of specialist CMT operators is an important indication of a degree of specialisation within the industry. In addition, the practice of manufacturers using other manufacturers to handle their overflow when they receive orders in excess of their production capacity or to avoid bottlenecks if they have equipment failure is also an important source of improved efficiency. However, the proportion of the industry's production handled by specialist CMT operators is small, approximately 12%. In addition, many of the CMT operators employed by manufacturers are ex-employees who work

exclusively for that manufacturer leading one to conclude that they do not represent real specialisation as in the typical industrial district model.

6.3.2.2 Backward Linkages

An examination of the backward linkages in the Pietermaritzburg footwear industry shows a well-developed set of business channels. A number of component suppliers are located in close proximity to the local industry and this results not only in shorter lead times and more reliable delivery but also allows for better communication between manufacturers and their suppliers. This is particularly evident in the case of components which require both a large capital investment by manufacturers on knives and moulds and careful design. Getting the design right for the knives and moulds is vital for the overall success of a shoe and the proximity of these specialist component suppliers allows manufacturers direct input and oversight of the process. The concentration of footwear manufacturers also makes it viable for component suppliers to produce 'open' moulds. These are produced at the component supplier's expense but because they are not the property of a single manufacturer it means that they can be sold to a number of firms. Many small manufacturers cannot afford to purchase their own moulds and are heavily reliant on these open moulds. Whilst extremely uncommon, at times one or two smaller manufacturers may combine to pay for the cost of a mould if they believe strongly enough that it will be successful.

The production of in-soles is an excellent example of the specialisation, and accompanying benefits, that can be achieved in a cluster. By specializing in this one aspect of shoe manufacture the local supplier is able to achieve significant economies of scale and to maintain better control over quality. The larger volumes he producers also makes it viable for him to invest in specialised machinery which requires larger production runs to be cost effective. Further, being based close to the manufacturers allows for greater integration of the activities of the in-sole supplier with the operations of its clients resulting in reduced lead times. Finally, one sees that the concentrated demand for in-soles in the region has created scope for the existence of a specialist agent who imports the pre-formed boards used in the production of in-soles from Germany and Belgium. The existence of the agent allows for bulk orders to be placed and means

that manufacturers of in-soles need only purchase the quantities they require for their immediate needs.

Compared to the other backward linkages, the supply of leather is an area of surprising weakness. With the motor industry consuming the bulk of South Africa's hides the closure of Sutherlands tannery meant that there was no longer a local supply of leather for the Pietermaritzburg footwear industry. As a result local manufacturers have had to source their hides from overseas, particularly Brazil and India, two of the local industry's international competitors. Hides are shipped to South Africa by boat and local manufacturers encounter problems with long lead-times, unreliable delivery dates and quality control. Nevertheless, as with the in-soles, the concentration of manufacturers requiring leather has created the opportunity for leather agents who bring the leather into the country and then sell it to manufacturers. While leather agents may relieve some of the problems of lead-times, quality and delays it does mean that agents cannot match their purchases directly to the needs of manufacturers which leads to inefficiencies and wastage in purchasing leather which in turn increase costs.

6.3.2.3 Forward Linkages

While problems were identified in the relationships between manufacturers and some of the large retail chains, on the whole the linkages between manufacturers and customers seem well developed. At the extreme the largest manufacturers are electronically connected to their largest customers in order to allow them to monitor their customer's stock levels and schedule their production accordingly. While smaller manufacturers do not enjoy such a close connection to the major retail chains they are serviced by wholesalers and retailers who have close connections with the local industry. The largest wholesaler in Pietermaritzburg is Jumbo Footwear which distributes locally manufactured footwear throughout the country. A number of the small manufacturers also have special clients around the country who they supply directly. The existence of factory shops, although highly controversial, also provides many of the small manufacturers, particularly in the Failsworth Rd complex, direct access to the Pietermaritzburg market.

6.3.2.4 Supporting Institutions

As Rosenfeld's definition indicates, the concept of active channels extends beyond only business transactions to include channels for dialogue and communication. No formal body or institution exists within the Pietermaritzburg footwear industry to provide its stakeholders with a forum to discuss matters of communal importance. Formal consultation between employers and trade unions occurs at a national level under the auspices of the National Bargaining Council of the Leather Industry of South Africa. Employers are represented at this forum by the South African Footwear and Leather Industries Association (henceforth SAFLIA) which has replaced the Footwear Manufacturers Federation of South Africa (henceforth FMFSA) as the representative body of footwear manufacturers in South Africa. The National Bargaining Council of the Leather Industry of South Africa has jurisdiction over the whole country to determine wage rates, working conditions etc. for the entire footwear industry. Discussions at this level tend to be around labour issues; the Bargaining Council does not appear to offer the appropriate forum for promoting collaboration and a joint response to industry matters.

Apart from representing manufacturers at the Bargaining Council the association also gathers data on the industry and lobbies government on behalf of the industry. SAFLIA is headquartered in Port Elizabeth. This makes the association fairly remote from events in Pietermaritzburg. In addition, small manufacturers in Pietermaritzburg have expressed the sentiment that SAFLIA is dominated by the large firms and that insufficient notice is taken of the interests of small manufacturers. There has been talk of the small manufacturers forming their own association in order to gain separate representation at the Bargaining Council. This initiative would appear to be motivated more by the desire to have a say in determining wages and regulations for the industry and does not really seem to represent a move to greater communication or cooperation.

For a number of years the Leather Industry Research Institute (henceforth LIRI), based in Grahamstown, provided the industry with training and research facilities. LIRI closed down in 1992 although the International School of Tanning Technologies does still provide training for the industry. The closure of LIRI has deprived the industry of a dedicated research and learning facility but even when it was still operating its location, as with SAFLIA, severely limited its

usefulness for the Pietermaritzburg footwear industry. Local manufacturers did not have easy access to LIRI's facilities which made it extremely difficult for meaningful interaction and development to occur. Its closure has meant that local manufacturers are now deprived of even this limited institutional support.

It is evident that the Pietermaritzburg footwear industry does not enjoy extensive institutional support. Initiatives such as the Workplace Challenge have shown that willingness exists for local stakeholders, including local and regional government, to collaborate in addressing the industry's problems. These initiatives have, however, had limited success and generally little discussion occurs at the level of the Pietermaritzburg industry. SAFLIA tends to represent manufacturer's interests at national level and many of the local manufacturers are not members of SAFLIA. The only technical and training resource available to the industry has closed down and even when it was operating its location meant that it had little relevance to most local firms.

An assessment of the Pietermaritzburg footwear industry in terms of active business channels reveals extensive and effective backward and forward linkages in operation. In addition, while limited, a significant amount of horizontal linkage activity is also evident. This relatively strong linkage activity, however, is off-set by the absence or ineffectiveness of supporting institutions. Active business channels are therefore evident, but only in certain areas of the industry and only to a limited extent.

6.3.3 SYNERGIES

The third criteria for a cluster is that the geographic concentration and business channels generate synergies for the firms concerned. This is a particularly relevant issue for the Pietermaritzburg footwear industry because the practise of turning parts of factories into separate companies which then have work out-sourced to them by the manufacturer is the subject of much criticism.

> "This scheme is seen as nothing more than a sham to escape the authority of the bargaining councils but it does highlight the plight of manufacturers in South Africa operating in labour intensive sectors under conditions of over regulation" (Linde, 1999 in Ballard, 2001: 47).

Any linkage activity which manufacturers are engaged in must be producing economic benefits to make it worth their while. The question is to what extent these economic benefits are a result of greater efficiency and to what extent they arise as manufacturers use linkages as a means to avoid regulations such as prescribed minimum wage rates and taxes.

- Improved Efficiency

The manufacture of shoes is an extremely labour intensive process. Employers indicate that constant supervision of the manufacturing process is required if quality and production levels are to be maintained. By specialising in one specific component of this process, for example closing, managers are able to exercise greater control over costs. In addition, with specialisation, businesses (both workers and managers) are able to develop special skills and competencies. Certain types of shoes require more complex work and manufacturers will often use specialist firms to do this work for them as their employees have superior skill levels.

Although, as indicated above, the shoe manufacturing process is labour intensive this is not because no scope exists for technological enhancement. A number of machines are available, which offer alternatives to labour based production techniques or which could improve the productivity of workers. For example a computerised clicking machine, used to cut the leather, is available which could do the work of a number of workers in a fraction of the time. The cost of such equipment, however, is prohibitive, approximately one million Rand. As a result this is an option available to only the largest manufacturers. Linkage activity, however, provides scope for such advancements, as it may be practical for a single operator, specialising in clicking, to service a large number of different manufacturers. If the clicking work for a number of factories was performed by a single operator the purchase of such machinery could be viable and economies of scale could be achieved benefiting a number of producers.

Such benefits are already to be found in the production of in-soles and closing. As described earlier, a specialist supplier of in-soles is able to achieve efficiencies because he is using more effective machinery requiring larger run sizes. Similarly, one specialist CMT operator, based in Pinetown who focuses on closing work, attributes his success to investment in technologically

advanced sewing machines which make his workers more productive and allows them to perform more difficult tasks.

Out-sourcing also provides substantial savings to manufacturers in terms of reduced overheads. If the work were done in-house it would require increased investment in equipment, with its associated expenses in terms of maintenance and downtime, factory space and labour costs. The question of labour is particularly relevant to the local footwear industry as it contributes between 15 to 20 percent of the cost of producing a shoe. All footwear manufacturers are bound by the terms of the Bargaining Council agreement which lays down minimum rates of pay for different categories of workers together with other levies and contributions per employee. A major complaint of manufacturers is that the rigid pay structure does not encourage greater productivity from workers, as they will receive the same remuneration regardless of their output. In addition, absenteeism is cited as a major problem experienced by employers. By out-sourcing work, manufacturers are effectively relieving themselves of these issues as they pay the supplier per unit. Effectively then, outsourcing allows manufacturers to fix their production costs leaving problems of work stoppages through equipment failure, absenteeism, or inventory shortages to the supplier.

Further reductions in overheads occur because a substantial proportion of the outsourcing is carried out by operators working from home. By utilising these operators footwear manufacturers can achieve real savings in their production costs. If the work were carried out in-house the producer would require larger premises to house the necessary machinery. The use of home based operators allows producers to utilise their existing factory space more efficiently and also produces savings in terms of rates and taxes.

- Avoidance of Regulations

A second potential driving force behind the move to greater linkage activities is the desire or ability of manufacturers to escape certain regulations through outsourcing. A commonly quoted benefit of outsourcing work, as opposed to doing it oneself, is that by outsourcing manufacturers do not have to employ the necessary workers, with all the related Bargaining Council restrictions which govern the employment contract. Many of the small suppliers doing lacing and closing work for the shoe companies are not registered with the Bargaining Council which means that

they do not have to pay Council wages or other levies such as the contribution to the Council's Technology Fund. By structuring their production in this manner then, manufacturers are effectively able to reduce their labour costs.

It is also alleged that many of the small closing and lacing operators do not pay taxes. In addition there is a savings in terms of rates and utilities as most of these small operators work from home. It is suggestive that one producer who makes extensive use of the 'cottage industry' for his closing work indicated that if Bargaining Council regulations were relaxed he would probably prefer to have the work done in the factory as it would allow him greater control of his production process. The question thus remains as to what extent manufacturers are making use of business linkages because they represent cost savings through more efficient production or because they represent cost savings through avoidance of wage and tax regulations.

One way to answer this question is to examine how many CMT operators and lacing agents are registered with the Bargaining Council. Currently all lacing operators are exempt from Bargaining Council regulations. CMT operators are, however, governed by the Bargaining Council and have to pay prescribed wages. Of the four CMT operators interviewed three are registered with the Bargaining Council and pay the regulated wages. This would suggest fairly strongly that avoidance is not the only factor supporting the use of outsourcing. If there is scope for CMT operators, paying prescribed wages, to operate successfully then they must be producing real efficiencies. Many of the smaller operators doing closing work from home are, however, not registered with the Bargaining Council and are paying lower wages than those laid down by the Council. It is probably true to say then that both elements, improved efficiency and avoidance of regulations, are present and are driving the move towards linkage activities.

It is also important to note that avoidance of regulations and improved efficiency are not necessarily mutually exclusive. Where the rules governing production lead to inefficiencies then avoiding these regulations could result in greater efficiency. A major complaint of footwear manufacturers is that because wage levels are fixed at a set weekly rate, there is little or no incentive for workers to increase their output. The use of outsourcing, in order to avoid these fixed weekly rates, can be viewed as an attempt to achieve greater efficiency as it effectively results in

workers being paid on a piece rate system which rewards them for increased production. Such a practice does not necessarily mean that workers will receive lower wages (in fact there is evidence to show that workers can actually increase their take home pay) but means that workers have a financial incentive to work faster with fewer mistakes and so their productivity is increased.

To summarise then, it would appear that while the avoidance of restrictive regulations may explain some of the outsourcing that occurs the savings in overheads, the development of specific skills and the ability to manage quality together with what is effectively a piece rate pay system do combine to achieve real efficiencies. However, the fact that most out-sourcing is restricted to 'captive' firms who work exclusively for the manufacturer indicates that the benefits achieved are limited and exclude the true synergies that could be attained by large operations specialising in CMT work, able to invest in expensive equipment and enjoying economies of scale.

Synergies can be identified in the pool of specialised labour that exists in Pietermaritzburg as well as the specialised suppliers, wholesalers and agents who service the local industry. In addition, many of the smaller manufacturers benefit from being able to combine their orders for raw materials to gain bulk discounts and share transportation costs. The fact that firms can use other manufacturers to handle overflow orders or if they experience technical difficulties is a further benefit flowing out of their proximity to each other. Evidence of these agglomeration benefits is revealed by the study conducted by Harrison *et al* (1996: 41-43). They found that 35% of the footwear manufacturers interviewed indicated that the greatest benefits of locating in Pietermaritzburg were the availability of skilled labour and the advantages offered by the concentration of footwear manufacturers in the city.

Table 6.1 Advantages of Locating in Pietermaritzburg

Advantages	Frequency of Response
Availability of skilled labour	14
Proximity to other footwear firms	14
Proximity to suppliers	9
None	2
Cheaper rentals	1

Source: (Harrison *et al*, 1996: 41).

Probing further, Harrison *et al* enquired as to the existence of a footwear cluster in Pietermaritzburg and the benefits that the cluster produced. Thirteen of their respondents indicated that there were benefits to be derived from the concentration of footwear firms in Pietermaritzburg with the bulk, 33%, identifying the availability of skilled labour and 26,6% the proximity of suppliers. Other benefits included the opportunity for networking, the advantages of spin-off business and the provision of facilities specifically for the sector.

Table 6.2 Advantages of Locating in the Pietermaritzburg Footwear Cluster

Advantages	Frequency of Response
Availability of skilled labour	5
Proximity to suppliers	4
Networking	3
Spin-offs	2
Facilitates delivery	1

Source: (Harrison *et al*, 1996: 43).

The geographic proximity of footwear firms in Pietermaritzburg clearly does generate synergies but it is equally clear that the degree of specialisation and collaboration evident in the Pietermaritzburg footwear industry is extremely restricted and that the industry is not nearly extracting the full range of synergistic benefits expected in a typical industrial district model.

6.3.4 COLLECTIVE ACTION

The final criteria for evaluating a cluster is that the firms collectively share common opportunities and threats. As described in chapter five, the Pietermaritzburg footwear industry is faced with a massive communal threat in the form of cheap imports pushing it out of the local market. Further, the possibility of targeting the mid to upper segment of the market, especially for men's footwear, with the aim of capturing a portion of the world market has been identified by the South African Footwear Cluster Study as a common opportunity for the Pietermaritzburg footwear industry. Some efforts have been made to formulate a joint response to the threats

facing the local industry, specifically the Workplace Challenge and the Pietermaritzburg Spatial Development Initiative. A telling fact, however, is that both these initiatives were initiated at a national level and were driven by parties external to the Pietermaritzburg footwear industry. Nevertheless, these initiatives, particularly the Workplace Challenge, were significant because they did promote a joint response to the crisis. The Workplace Challenge involved the support and active involvement of the DTI, regional government, the Pietermaritzburg Municipality, manufacturers and both major trade unions representing footwear workers.

Even prior to the launch of the Workplace Challenge these parties had recognized the need for collective action and in October 1997 had signed a 'Local Footwear And Leather Industry Accord' (a copy of this accord can be found in Appendix E). Amongst other things, the accord agreed upon the appointment of a Local Footwear And Leather Steering Committee to develop a clear strategy and agreed programme of action for restructuring the industry in Pietermaritzburg. To date, however, little concrete action has emerged from this group. Malla's (1999: 50) research found that 60% of the manufacturers felt that the Cluster Study and the Workplace Challenge had consisted of too much discussion and too little implementation and that as a result manufacturers showed little interest in the proposed projects.

Part of the problem that exists is that there is a marked division between the large firms, dominated by the Conshu group and the small manufacturers. Many of the smaller manufacturers are not members of the Footwear Manufacturers Association which represents manufacturers at the Bargaining Council and was the manufacturer signatory to the Accord. Consequently there is no unified approach from the manufacturers which makes it extremely difficult to achieve a successful industry response to its environment. This division within the industry is highlighted by Malla's (1999: 53) findings that the Cluster Study is not widely accepted by manufacturers in the Pietermaritzburg footwear industry because independent manufacturers were not consulted and that they considered the Study's recommendations as unrealistic. Malla (1999: 61) eventually concludes that the stakeholders in the industry are very divided and that individuals have adopted a survival attitude of looking out for their own best interest which makes the possibility of successfully restructuring the industry extremely unlikely.

While there has been some effort to undertake collective action in response to the decline in the industry, the Pietermaritzburg footwear industry has typically displayed a fragmented and individualistic response to its environment.

6.3.5 ASSESSMENT

- Geographic Proximity

The above discussion reveals the following. The Pietermaritzburg footwear industry does exhibit a high degree of spatial concentration. Not only is there a significant concentration of footwear related businesses in Pietermaritzburg but the footwear manufacturers in Pietermaritzburg are also situated in close proximity to one another. The Pietermaritzburg footwear industry clearly meets the first criteria.

- Active Channels

With the exception of leather, the industry's backward linkages are well developed with a number of specialist suppliers and agents of components and raw materials based in Pietermaritzburg or nearby areas. Similarly the industry also has strong forward linkages with both wholesalers and retailers closely linked with firms based in Pietermaritzburg. Wholesalers such as Jumbo Footwear play an important role in marketing and distributing firms' production while many of the larger firms have well-established links with major retail chains.

- Synergies

While some of the outsourcing that occurs may be challenged as being more to do with avoiding labour regulations than true specialisation, a certain degree of specialisation is evident and it is possible to demonstrate the existence of real synergies arising from the industry's geographic concentration. It can therefore be concluded that the Pietermaritzburg footwear industry displays active business channels and specialisation that do produce synergies although these benefits may be less extensive than is potentially possible.

- Collective Action

In terms of collective action the local industry's response to the severe challenges facing it has tended to be indivualistic. Some tentative attempts have been made to establish a more concerted response although these efforts have proved largely ineffective and were mostly initiated or promoted by outside parties. The industry associations tend to operate at a national level and no forum exists to bring local industry stakeholders together to discuss challenges and opportunities facing the industry and to formulate a collective response to them. In addition the local industry has very little access to any sort of institutional support to assist it in its planning.

- Summary

In terms of the four criteria listed then, it is clear that the Pietermaritzburg footwear industry meets at least the first two criteria, namely geographic concentration and the existence of active channels for business transactions. Furthermore, while there might be room for improvement and expansion, within the Pietermaritzburg footwear industry there is clear evidence that the firms' geographic proximity, and to a lesser extent degree of specialisation, generates synergies for the firms involved. With regards to the final criteria, communication channels within the industry appear extremely poorly developed and while some steps have been taken to try and formulate a collective response to the industry's problems their failure to produce meaningful development has merely served to highlight how fragmented and individualistic has been the response of firms within the industry.

In examining whether or not the Pietermaritzburg footwear industry can truly be described as a cluster one must recognise that one is really dealing with a question of degree. As shown in chapter two there are many types of clusters that can be identified with different types often being distinguished by the level of clustering that they exhibit. The Pietermaritzburg footwear industry exhibits a majority of the elements required for a cluster but at least one important element, collective action, is missing. Nevertheless, the Pietermaritzburg footwear industry would appear to show sufficient conformity to the requirements to warrant its description as a cluster. However, the question remains as to what type or level of clustering is exhibited by the Pietermaritzburg footwear industry.

The first response that can be given is that the Pietermaritzburg footwear industry is clearly an example of a micro cluster as defined by Hoen (2000: 1). Hoen's classification examines two dimensions of a cluster namely innovative efforts and production linkages. Production linkages describe suppliers and buyers in a value-added or production chain of firms. As already described the Pietermaritzburg footwear industry comprises a full range of backward and forward linkages. Hoen's second dimension, however, innovative efforts describes the diffusion of technologies and knowledge between firms, research institutions etc. While informal networking amongst manufacturers may exist, the analysis of the Pietermaritzburg footwear industry did indicate a fairly low degree of interaction, cooperation and knowledge transfer, particularly with supporting institutions. This again raises a question of the Pietermaritzburg footwear industry's development as a cluster.

If one were to apply the SBP typology one would have to conclude that within the Pietermaritzburg footwear industry there is relatively little specialisation within the manufacturing process itself but there is a fairly high degree of specialisation along the supply chain with independent firms operating at the levels of supplying raw materials, components, manufacturing, and selling to the consumer. An horizontal cluster, on the other hand, is based on sharing common resources and similar production processes, which describes the situation in the Pietermaritzburg footwear industry.

One might thus be inclined to classify the local footwear industry as a mixed cluster, which is a composite of both the vertical and horizontal clusters. The SBP (1999: 22), however, state that such a cluster tends to emerge when well-established clusters extend outwards from the original cluster group into the local business and industrial sectors but the lack of formal cooperation makes it extremely difficult to describe the Pietermaritzburg footwear industry as a well-established cluster and there is very little evidence of other business in Pietermaritzburg being drawn into closer ties with the footwear industry. Indeed, the description of 'less formal linkages between firms', which seems to perfectly describe the Pietermaritzburg footwear industry, would indicate that the SBP classification of an emerging cluster would be most appropriate in spite of the fact that the Pietermaritzburg footwear industry has been operating for such a long period of time.

In terms of Mytelka and Farinelli's typology, the Pietermaritzburg footwear cluster is an obvious example of a 'spontaneous cluster' which has evolved without active government intervention. It is also clear from even a cursory examination of Mytelka and Farinelli's (2000: 12) description of spontaneous clusters presented in table 2.4 that the Pietermaritzburg footwear cluster closely conforms to their 'informal cluster' classification. The Pietermaritzburg footwear cluster is comprised predominantly of small firms, exhibits little trust or innovation, generally employs relatively low technology and skills, does have some linkages although they are not extensive and there is little cooperation and high competition between firms with little product change and very low exports evident.

Finally then, one must turn to Enright's typology. The Pietermaritzburg footwear industry demonstrates an extremely limited self-awareness as a cluster and is clearly not achieving the full potential synergistic benefits possible. At the same time, while some inputs, such as the involvement of tertiary institutions for example, are missing the Pietermaritzburg footwear industry would appear to be more than what Enright terms a potential or 'wannabe' cluster. Many of the requirements of a successful cluster are in place and synergies do exist. At the same time it is evident that the Pietermaritzburg footwear industry falls far short of the success achieved by footwear clusters in Brazil, Italy and Mexico. Clearly there are potential synergies that for a variety of reasons are not being realized. *It would arguably thus be fairest to describe the Pietermaritzburg footwear industry as a latent or 'underachieving' cluster, one in which opportunities exist but are unexploited.*

The final question then, is what actions can be taken to develop the Pietermaritzburg footwear industry as a cluster for if clustering is to be part of the solution to the local industry's woes the industry must evolve from its current position as an underachieving cluster to that of a mature, working cluster.

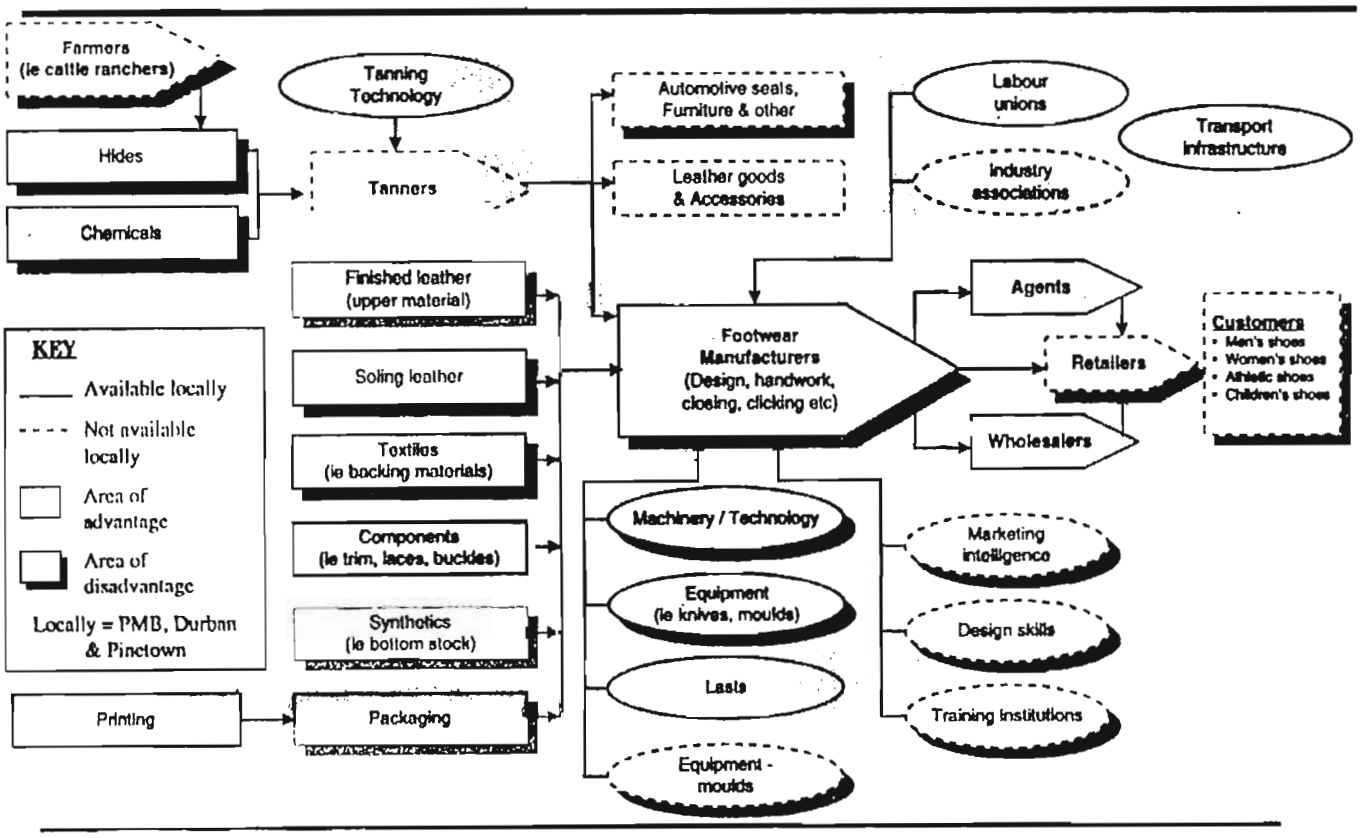
7 CONCLUSION AND RECOMMENDATIONS

Having established that there is justification for describing the Pietermaritzburg footwear industry as a cluster, but one that is not fully developed, it is relevant to discuss ways in which the Pietermaritzburg footwear cluster can be developed and strengthened. In order to facilitate this discussion it is important to begin with a cluster map. Cluster maps, pioneered by Porter, provide a graphic way of describing the different components of a cluster and how they relate to each other, that is, it describes the cluster's structure. However, as Austrian (2000: 101) also points out, once a cluster map is accepted it also shapes the way in which the cluster is perceived by people inside and outside the cluster. Figure 7.1, overpage, is a cluster map of the Pietermaritzburg footwear cluster prepared as part of the Pietermaritzburg Spatial Development Initiative. This cluster map goes beyond a typical cluster map by also providing an assessment of the strengths and weaknesses of the local footwear cluster.

7.1 GAPS IN THE PIPELINE

The first step in developing the Pietermaritzburg footwear cluster is addressing gaps in the industry pipeline. Even a cursory examination of figure 7.1 reveals that a number of key elements are not available to the local cluster. As Rosenfeld (1997: 19) argues, a cluster can be developed by recruiting firms that fill these gaps. If necessary, local and regional government would have to commit to providing the infrastructure and support required to attract those businesses that would add value to the cluster and/or fill these gaps in the cluster's production system. In addition, Schmitz (2000: 332) makes the point that increases in vertical cooperation are much more important in responding to major new challenges than in horizontal cooperation because the demands of global competition can only be met if the whole supply chain responds.

Figure 7.1 Assessment of the Pietermaritzburg Footwear Cluster Map



Source: (IDCb, 1997: 36).

7.1.1 LEATHER

Potentially, a major factor hampering the competiveness of the local industry is the fact that the leather has to be imported from overseas. The supply of good quality, locally produced hides would not only reduce the input costs of locally produced shoes but would also allow local firms to control the quality of the leather used, a vital issue if the vision of gaining a share of the international market for mid to upper range men's shoes is to be attained. Jackson-Moss (1999: 14), however, indicates that there is in fact excess capacity in the tanning industry supplying shoe upper leather. This is partly because of reduced demand as a result of the decline in the South African footwear industry and partly because local footwear manufacturers are making extensive use of imported leather which Jackson-Moss (1999: 7) found to be 7% - 35% cheaper than locally produced leather.

Jackson-Moss notes that there are a number of factors supporting the establishment of a major tannery in Pietermaritzburg including the proximity of the necessary chemical supply houses, the availability of suitable land and of course the concentration of footwear manufacturers in the area. However, he concludes that as long as manufacturers can purchase imported leather cheaper than it can be produced locally the establishment of another large tannery cannot be justified unless the local footwear industry experiences major growth, particularly in exports of high quality leather shoes. He also points out that while there might not currently be sufficient demand for a major new tannery, the development of high quality shoes for the export market might warrant the establishment of one or more small niche tanneries in the city (Jackson-Moss, 1999: 18).

While Jackson-Moss (1999: 20) does not believe current market conditions justify the investment in a new tannery he does make the very significant observation that currently the relationship between tanners and footwear manufacturers is poor. He goes on to suggest that if this relationship could be improved it would open opportunities to cooperate, possibly even to the extent of undertaking a joint partnership in a tannery with some guarantees given on utilization rates, quality of leather required etc. Problems with the quality of hides available for the tanning industry are well documented (Ismail, 1993: 40; Ballard, 2001: 12). Damage from thorns and tics together with poor flaying techniques at many abattoirs reduces the quantity of good quality hides produced in South Africa. Greater awareness and coordination throughout the leather value chain would make a big difference and should be treated as a matter of urgency by SAFLIA, the DTI and the Department of Agriculture.

7.1.2 LEATHER GOODS

With the Pietermaritzburg footwear industry making such extensive use of leather the absence of producers of general leather goods and accessories such as coats, handbags etc. is surprising. If the absence of a local tannery were addressed the ready source of locally produced leather would make Pietermaritzburg an even better location for the production of leather goods. Even so, the footwear and leather goods industries can provide each other with natural synergies.

Pietermaritzburg already possesses leather agents that provide a supply of high quality leather and a pool of labour skilled in working with leather. The industries also share similar target markets and synergies could be achieved in marketing and distribution.

The evolution of the old South African Footwear Association into SAFLIA indicates an awareness at national level of the sense in combining the interests and activities of footwear and leather goods manufacturers. The Pietermaritzburg footwear cluster should be working to achieve a national brand as the superior source of leather footwear but even greater benefits can be achieved by making Pietermaritzburg the premier source of leather goods. Footwear in the city can only benefit from such an association. The local footwear cluster could look at ways that it could collaborate with leather goods manufacturers in order to unlock synergies. As there are currently no major producers of leather goods it might be necessary for the Msunduzi Council to actively seek to recruit leather goods producers to Pietermaritzburg. Austrian's caution that the drawing of cluster maps can cause boundaries to be created in people's minds must be borne in mind. Instead of thinking in terms of a footwear cluster it might be productive to consider the notion of a leather-working cluster which could include a range of firms working with leather, such as Allison's Saddlery for example. It is difficult to imagine such an enlarged cluster succeeding, however, if a local supply of hides is not reestablished but the concept shows what can happen when the cluster concept gains momentum.

7.1.3 INDUSTRY ASSOCIATION

The lack of a local industry association is a massive obstacle to the development of the Pietermaritzburg footwear cluster and should be addressed as a matter of urgency. Harrison, in Kotval & Mullin (1998: 311), states that agglomerations of small and medium-sized alone will not create significant success. There is a need for bigger firms to help upgrade the technical capabilities of their smaller suppliers. Bagella & Pietrobelli (1997: 201) also emphasize the role of leader firms in internationalizing an industrial district. Malla (1999: 83), however, found that while most small and medium sized footwear enterprises in Pietermaritzburg were in favour of forming cooperative networks such as those in Italy and Mexico the larger manufacturers were

resistant or reluctant to do so. Clearly, if the Pietermaritzburg footwear industry is to succeed as a cluster the large firms are going to have to be convinced of the benefits to them of doing so.

It is here that government, both local and regional, can play an important role as a facilitator. Local and regional government needs to expend time and money on research, creating forums and appointing facilitators with the aim of persuading local firms of the tangible benefits that can be achieved through cooperation. Further, as Waits (2000: 45) demonstrated, if regional government creates opportunities for firms to organise and participate in solving common problems they will. By actively encouraging greater involvement of footwear firms in formulating strategy and policy the regional government could assist in the development of a more involved, communal response from the local footwear industry.

At the same time, Kotval and Mullin's (1998: 318) point that "...associations need to lead their industries rather than follow them" is important. If local manufacturers do not accept the cluster concept and get involved in a local industry association, or do so without real commitment to working together, there is no chance of the Pietermaritzburg footwear cluster succeeding.

7.1.4 DESIGN

If the South African footwear industry is to compete in international markets design becomes a key issue. Currently the ability to design and engineer footwear within local footwear companies is lacking (KwaZulu-Natal Regional Economic Forum, 1997: 3). Local firms tend to rely on copying successful designs from overseas. This might work in the South African market where the fashion season lags Europe by six months but is not a viable strategy for firms wishing to compete in the international market. If the concept of Pietermaritzburg becoming an export-orientated cluster is to succeed the cluster's ability to design shoes must be developed.

A number of steps can be taken to achieve this goal. Firstly local firms would have to change their orientation from replication to innovation. Firms would have to invest resources in their design capacity. This is one area where the cluster concept can promote real synergies because instead of each firm hiring their own designers a specialist design house could be established that

all firms in the cluster could make use of. For this to succeed though, manufacturers would have to make a fundamental change in their mindset from competing against each other for the shrinking South African market to sharing the common goal of targeting international markets.

In order to develop the industry's design capabilities it would also be necessary to involve tertiary institutions such as local technikons, or even the University of Natal, in order to make it possible for people to study shoe design. If these tertiary institutions were providing skilled footwear designers the industry would be provided with the capacity it lacks to design innovative new footwear. As the South African Footwear Cluster Study (IDCa, 1997: 62) argued, the success of any export initiative will, at least in part, depend on developing uniquely South African type footwear such as leather 'veldskoens" (vellies). Groundcover Shoes, based in Howick, is an example of a footwear manufacturer who has been able to achieve success by targeting a niche market and producing a unique style of shoe (Cutter, 1998: 80). The ability to design and produce an uniquely South African shoe would be a vital part of any branding campaign.

7.1.5 MARKETING

- Marketing Intelligence

The IDC (IDCb, 1997: 37) noted that sources of marketing intelligence are lacking in the Pietermaritzburg region with the industry association, SAFLIA, located in a different region and with the most important retailers and customers, both domestically and internationally, not located within the Pietermaritzburg region. As a result local manufacturers do not have easy access to current market data which makes it harder for them to efficiently plan production and design. A local cluster organisation could serve as a means of gathering and disseminating data on levels of orders, number of shoes produced locally, types of shoes produced etc. This sort of information could prove extremely valuable to manufacturers in their planning. Manufacturers, both large and small, have also indicated that the large retailers tend to play manufacturers off against each other, encouraging manufacturers to undercut rival's prices. Improved communication within the cluster would allow manufacturers to interact with retailers from a position of increased awareness of market conditions.

- Branding

The IDC also commented that general marketing skills are lacking within the local industry. This fact is acknowledged by the local industry itself which in a response to the KZN Regional Economic Forum Local Footwear and Leather Industry Accord stated that "marketing and branding ... is an area that has been poorly handled by the industry in general. Concentration has been mainly on the price and product components of the marketing mix with few strong brands that can withstand international competition" (Anonymous, 1997: 6). As the IDC (IDCb, 1997: 66) correctly points out the vision of the South African footwear industry succeeding as an exporter of men's footwear requires the development of strong South African brands that can compete internationally. The IDC suggests that the responsibility for this lies with the footwear association but as the local industry has observed, even if they possessed the marketing skills it would require an excessively expensive advertising campaign to successfully establish a new brand on international markets and that without government support the industry could not afford such an expense (Anonymous, 1997: 14).

- University Input

Apart from the challenge of creating an internationally recognized brand there are measures that can be taken to address marketing weaknesses in the local market. An aspect of clustering theory that is constantly stressed is the importance of supporting institutions, particularly universities. The School of Business on the Pietermaritzburg campus of the University of Natal has a particularly strong marketing department. This is a valuable local resource that the Pietermaritzburg footwear cluster has not utilized. Together a marketing strategy could be developed for the entire cluster. Small manufacturers who lack the skills and resources to do their own marketing could benefit from trading under a common brand name. In addition the School of Business could be approached to develop short courses aimed specifically at the footwear industry covering topics such as marketing.

- Marketing Alliances

SMMEs face a major problem marketing to bigger clients. Alliances between SMMEs and larger manufacturers have already formed in some instances in which the large firm undertakes the marketing for the SMME (Anonymous, 1997: 13) and such initiatives need to be encouraged.

7.1.6 RETAILERS

While there are wholesalers based in Pietermaritzburg retailers are not directly represented and only the largest manufacturers have regular direct contact with the major retailers. While the relationship between manufacturers and retailers is generally good the level of communication and collaboration could be greatly improved. Manufacturers indicated that they felt that retailers made unrealistic demands in terms of price or delivery time, retailers on the other hand express concerns about quality and reliable delivery (IDCa, 1997: 35).

Improved communication between manufacturers and retailers would go a long way to addressing some of these problems, in addition greater collaboration in terms of design could ensure that local manufacturers are producing shoes that meet the retailers' requirements. It is important that the retailers be recognized as an integral part of the footwear cluster. There is now a retail forum that can and should be constructively engaged (IDCa, 1997: 35). Instead of viewing retailers as outsiders or even as the enemy, the local industry must address them as allies and should encourage their active involvement in the local cluster. An important part of this process would be recognizing the needs of independent retailers as well as the larger retailers.

7.1.7 RESEARCH

Ismail (1993: 3) commented that the footwear sector is a relatively neglected sector in South Africa stimulating little research and study. While the situation might have changed somewhat since then with a number of studies being conducted it is still true that relatively little research is conducted in this industry. Perhaps more importantly, much of the research that has been done is not easily accessible to industry role-players. A research unit or institute dedicated to the

footwear industry would prove an invaluable repository of this knowledge especially for policy-makers and researchers. The existence of such an entity would also prove valuable in maintaining up to date data on developments in the industry and would be able to undertake systematic ongoing research as opposed to the discontinuous and uncoordinated research conducted by independent researchers, students and consultants.

The demise of LIRI is a negative development for the footwear industry in general. However, LIRI's location in Grahamstown meant that its benefit to local manufacturers was very limited. The existence of a *local* research institute that was directly and continuously involved with the industry would allow researchers to focus their efforts on those issues most pertinent and important to the industry. The University of Natal is well placed to provide such a service due to its close proximity to the largest concentration of footwear manufacturers in the country and the fact that it already has a number of staff members who have studied aspects of the footwear industry. Of course funding for such an institute would be a major issue and would probably require a joint effort from the public and private sector together with the University of Natal.

7.1.8 TRAINING

A number of sources have indicated that one of the factors harming the local industry is a lack of technical and managerial skills (Barrett, 1995: 63; Harrison *et al,* 1996: 18; IDCa, 1997: 56; Malla, 1999: 54-55). The lack of a regional training facility is a major element missing (Barrett, 1995: 172) but in addition, Malla (1999: 55) found a reluctance on the part of manufacturers to train citing lack of funding and the fear of poaching. If the Pietermaritzburg footwear cluster is to remain competitive in the global economy it clearly has to upgrade its skills. Firms need to be encouraged to invest in the future by training both employees and managers.

The School of Business on the Pietermaritzburg campus of the University of Natal has a range of programmes offered in the evenings ranging from a degree in Business Administration to an MBA. Apart from these existing programmes, the footwear cluster could collaborate with the School of Business to formulate courses designed specifically to provide management training to the industry. Similarly a number technical colleges and the Pietermaritzburg campus of the

Durban Institute of Technology are available and could be used to provide skills training for the industry. The establishment of a footwear SETA would provide a mechanism for subsidizing training within the industry. As clearly demonstrated in chapter two, tertiary institutions are typically seen as a vital component of clusters. Pietermaritzburg is blessed with a range of such institutions but this resource is currently being overlooked. The Pietermaritzburg footwear cluster should actively seek to involve institutions such as the University, Technikon and training colleges in the training of the cluster.

7.2 OTHER FACTORS

7.2.1 TRUST

The importance of trust in the development of a successful cluster was highlighted in section 3.5.4. Unfortunately, the Pietermaritzburg footwear industry is characterised by extremely high levels of distrust. In a declining industry manufacturers are paranoid about affording a competitor the slightest advantage as a competitor's success might mean one's own demise. Manufacturers are secretive and not willing to share information and ideas, often even refusing to allow other manufacturers into their factory (Harrison *et al*, 1996: 43). Many of the smaller manufacturers do not want to divulge any information concerning their operations, as they are wary that this would be used against them by the Bargaining Council. The highly regulated nature of the industry means that many small manufacturers choose to work outside the boundaries of the formal industry.

This desire for secrecy and lack of trust is obviously a major impediment to any form of collaboration. As demonstrated by the case of the KwaZulu-Natal benchmarking club, these barriers of distrust can be broken down but only over a period of time. Furthermore it is extremely unlikely that this will occur without the active intervention of an outside facilitator actively working to bring cluster participants together and convincing them of the benefits of collaborating on certain projects. Enright & Ffowcs-Williams (2001: 25) made the point that the role of such a facilitator is more likely to succeed if a commissioned piece of analysis and research is available to present to participants that clearly demonstrate the efficiencies that can be

achieved through some form of collaboration. They also stress the importance of a dedicated cluster organisation, led by respected cluster participants, to institutionalise the potential benefits of clustering.

Clearly, in the case of the Pietermaritzburg footwear cluster all of these ingredients are lacking. Much research in the area assumes the benefits of clustering but no formal study has yet been conducted to quantify these potential benefits. The commissioning of such research would be a major step forward. The funding for such a piece of work could be sourced from government or an international aid agency such as USAID but the proposal would have to be formulated by somebody. This reinforces the urgent need, as has already been discussed, for the establishment of a cluster organisation within the Pietermaritzburg footwear cluster. If industry participants are not able or willing to take the initiative in this regard then the local government in the form of the Msunduzi Council may be the appropriate party to take responsibility for undertaking this task.

This process could be facilitated by the Msunduzi Council or the regional government providing funds for the appointment of an experienced outside expert to act as a broker between parties and to educate them concerning the benefits of clustering. The literature on clustering indicates that this process cannot be seen as a short-term intervention, three to four years is suggested as the minimum period required to achieve meaningful success in developing a functioning cluster network. It is also recommended that the process begins by undertaking smaller projects at the beginning in order to demonstrate that benefits can be achieved. Having shown that firms can benefit from the process it then becomes easier to gain their cooperation as demonstrated by the success of the KwaZulu-Natal benchmarking club in the motor vehicle industry in Durban.

7.2.2 INTERNATIONALISATION

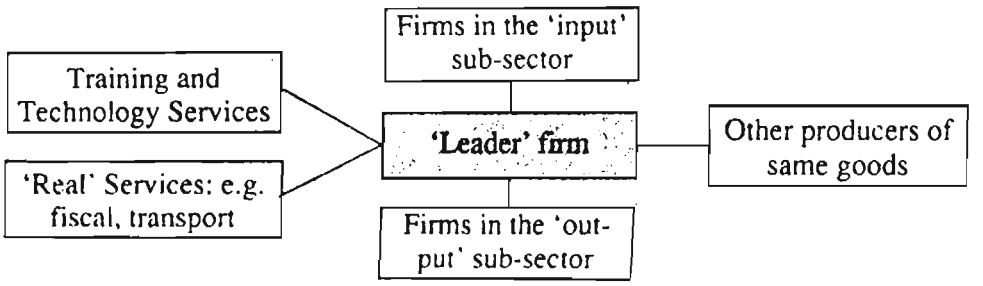
It has been correctly pointed out that the South African market is no longer sufficient to sustain a large footwear industry and that the only solution to the industry's decline is to gain a share of the world market, one percent has been suggested as a target by the Footwear Cluster Study (IDCa, 1997: 63). Albaladejo (2001: 5) reinforces the importance of this approach by stating that clusters that are well connected to distant markets are more likely to experience evolutionary

growth while clusters limited to domestic markets, especially in developing countries, are likely to experience what he terms 'immiserising growth with price being the basis for competiveness. He argues that because domestic markets tend to be less demanding there is no incentive to upgrade and firms fail to invest in the labour force and keep wages low and that ultimately such firms fail. This trend of cost minimization, lack of training, competition on the basis of price exactly describes the South African footwear industry (Malla, 1999).

While exports might be the obvious solution to the industry's woes it does not automatically follow that the industry has the capacity to realize this solution. Logic suggests that those firms with the ability to export would already be doing so and the fact that so few firms in the footwear industry currently export their production (Ballard, 2001: 48) suggests that this is because they are not able to do so. Clearly then, if the South African footwear industry is to succeed as an exporter, changes have to be made. The export success of footwear clusters in countries such as Mexico and Brazil demonstrate that clustering can prove an important part of developing these new capabilities. Many of the changes that need to be made are beyond the resources of all but the largest South African manufacturers and consequently it becomes imperative that the drive to increase exports be conducted as a cluster.

As Bagella and Pietrobelli (1997: 199) correctly point out a distinction must be made between 'internationalising' individual firms or an entire cluster. Practical issues would suggest that it is impractical for all firms in the Pietermaritzburg cluster to attempt to penetrate international markets. Public policy would also tend to dictate that government should attempt to intervene in a manner that benefits as many parties as possible, not just a few of the biggest manufacturers. Bagella and Pietrobelli (1997: 200), however, suggest a model for internationalization in which a leader firm, which already has experience of exporting, is identified to drive collaboration with other firms in the cluster to compete internationally. This relationship is depicted in figure 7.2. Under such an approach the footwear firms in the Pietermaritzburg cluster would come together and share in the production of a shoe for export sold through one of the larger firms.

Figure 7.2 Internationalisation Of The Cluster Via A Leader Firm



Source: (Bagella and Pietrobelli, 1997: 201).

An alternative approach would be for the Pietermaritzburg footwear cluster to establish a cluster association or even a separate company owned by the manufacturers in the cluster for the express purpose of exporting. This joint body would become a vehicle for marketing specific products, manufactured by the cluster firms, overseas. As described earlier, the Sinos Valley footwear cluster in Brazil established a special organisation (FENAC) to promote the cluster's products (Nadvi & Schmitz, 1994: 27). FENAC actively marketed the cluster's footwear overseas through trade fairs and advertising, by bringing foreign buyers to the Sinos Valley and through establishing technology and training facilities for the industry. By undertaking this task collectively the Sinos Valley footwear cluster was able to achieve economies and increase the reach and effectiveness of its marketing efforts. The spatial concentration of the cluster has attracted the attention of export agents all over the world (Pietrobelli & Barrera, 2002: 544) but the cluster has also actively worked to establish and develop relationships with these export agents.

Gereffi (1999 in Schmitz, 2000: 333) makes the vital point that the success of exporting clusters, especially in developing countries, would not be possible without their integration into global buyer-driven chains. If, instead of local firms competing individually for the attention of these global buyers, firms were to compete on a collective basis they would be able to offer greater volumes and at lower costs because of the economies of scale that can be achieved producing as a cluster.

If the Pietermaritzburg footwear cluster is to seriously pursue the export market it is important that it organises itself and begins to actively pursue the services of international export agents as

well as combining its resources to develop designs that are internationally competitive and to market South African and more specifically, Pietermaritzburg produced shoes. This would require a fundamental change in mindset, as manufacturers would have to shift from thinking in terms of their own brand to working on developing a cluster brand. It is also unlikely that a single producer in Pietermaritzburg can independently produce sufficient quantities to make it a significant player on the world market; international buyers, wanting to purchase in bulk might, therefore, tend to overlook local producers. A joint marketing effort would, however, require a reorganization of the local industry to allow for greater collaboration.

7.2.3 SPECIALISATION

The previous section argued that it made sense for the Pietermaritzburg footwear cluster to pursue internationalization through collaboration and joint marketing. At least part of this logic is based on the premise that in so doing the cluster would be able to compete for larger orders and enjoy economies of scale by producing in larger quantities. This argument, which is fundamental to clustering theory, is largely based on the assumption that within the cluster there are many firms specialising at different stages of the production chain and competing amongst themselves for business within the cluster.

Developing the cluster to the stage where a number of independent firms can each produce part of a large order is crucial if the cluster is to succeed as an exporter. Firms that are currently designing, producing and marketing their own shoes would be able to specialise in production, ideally even on one part of the production process. Specialist design firms, closers, finishers, distributors, marketers could all develop. It is this specialisation that provides the synergy within a cluster which allows a number of small firms acting collectively to compete in the global market. For example, in the highly successful case of the Sino Valley footwear cluster in Brazil, which in 1990 exported 65 percent of its production, 73 percent of the firms surveyed in a study by Sabadini concentrated on only one phase of the production process (Albaladejo, 2001: 8).

The assessment of the Pietermaritzburg footwear cluster revealed an extremely limited degree of specialisation. Currently, most manufacturers perform most stages of the production process

internally. Manufacturers cite issues around quality control and security of designs as major reasons why more work is not outsourced. These factors need to be addressed if greater specialisation is to develop within the cluster.

Training for small manufacturers could improve their technical ability and also their awareness of the importance of quality. The establishment of an industry association could help develop a stronger group culture that might create better social restrictions on the practice of stealing designs. The government could possibly seek to find ways of providing better protection to manufacturers regarding designs. Government could also provide financial incentives to promote outsourcing in the form of start-up loans and training grants. Subsidies on work that is outsourced would also be a powerful incentive but a requirement would have to be that in order to qualify firms must demonstrate that recipients of work also receive work from other manufacturers. The local council's proposed footwear park is potentially an extremely important initiative if the firms involved were encouraged to develop specialisation in different stages of the production process instead of just competing with each other.

7.2.4 MANAGEMENT OF THE PROCESS

The view of academics discussed in section 3.3 clearly favours indirect intervention on the part of government (Hoen, 2001: 29; Nadvi & Schmitz, 1994: 38; SBP, 1999: 17; Enright & Ffowcs-Williams, 2001: 4). It is worth repeating Kashyap's (in Nadvi & Schmitz, 1994: 38) phrase 'facilitator from a distance' as the preferred role for government. While the general consensus, therefore, is that government should not exert 'hands on' control of the clustering presence it is also recognized that government, especially at the local level, can play a vital role in the successful development of a cluster. Schmitz (2000: 329) provides a telling example of the Brazilian footwear cluster's response to increased competition from cheap Chinese footwear. Five associations (footwear manufacturers, component producers, equipment makers and export agents) took the initiative to respond to the Chinese threat by upgrading the entire supply chain from raw materials to the end product, namely leather footwear. After a clear analysis of strengths and weaknesses within the chain, a number of concrete proposals for strategic joint action were formulated. According to Schmitz, however, the programme eventually failed

because a small number of influential entrepreneurs were opposed to it because some of the proposed initiatives, particularly in design and marketing, threatened to upset their relationship with their main foreign buyer.

This example, which closely mirrors the situation currently faced by the Pietermaritzburg footwear cluster, reveals three important lessons that can be applied in Pietermaritzburg. Firstly, Schmitz emphasizes the important point that this initiative emerged from within the footwear cluster. It is vital that the members of the Pietermaritzburg footwear cluster recognise that they have the most to lose from the demise of the industry and that it is ultimately up to them to take the initiative to find solutions. It is not realistic to expect government to take charge of the industry and to dictate its actions and any such attempt would probably be resisted. Secondly, the case illustrates the power of vested interests. Even in an industry struggling like the Pietermaritzburg footwear industry is, there are individuals making money who do not see the need to make radical changes that might upset their comfortable position. Internal politics must be recognized and addressed if a cluster initiative is to succeed. Thirdly, and perhaps most significantly, Schmitz concludes that the initiative failed because this internal conflict and other issues required mediation which was not forthcoming and notes that public agencies failed to intervene.

This assessment highlights the important role that public agencies can, and need to play in facilitating the cluster process if it is to succeed. While it is desirable that the original initiative should come from within the cluster, government involvement is required to oversee and facilitate the process. This will require the continuing involvement of an appropriate governmental agency or official with the responsibility for removing bottlenecks and obstructions from the cluster's growth path. A review of the literature available on the footwear industry in South Africa over the last ten years presents a depressing picture. Reading studies by Ismail (1993); Barrett (1995); Harrison *et al* (1996); Malla (1999) one finds the same issues being raised and the same solutions being discussed. The Pietermaritzburg footwear cluster's inability to thus far formulate a meaningful joint response to its situation once again highlights the important catalytic role government can play in funding research and employing facilitators that will convince cluster members of the benefits of increased cooperation.

Andile, Jordan & Associates (2000: 6,7) surveyed footwear manufacturers in Pietermaritzburg and found a) a level of inertia in that manufacturers would prefer to continue in familiar patterns rather than make changes in pursuit of growth, and b) that the benefits of operating under a cluster format had not been communicated or were not appreciated by manufacturers. These two factors are crucial to the future development of the Pietermaritzburg footwear cluster. Arguably the most important contribution that government, either local or regional, could make is to commission research that will produce definitive results concerning the benefits of clustering and then to fund a programme to disseminate these results amongst manufacturers because unless the participants themselves become convinced of the value of clustering the Pietermaritzburg footwear cluster will never progress beyond its current 'underachieving' status.

7.3 AREAS FOR FURTHER RESEARCH

While research to date has focused almost exclusively on the Pietermaritzburg footwear industry it would arguably be far more accurate and meaningful to talk in terms of a Kwa-Zulu Natal footwear cluster that included Pietermaritzburg. While clustering has been considered at a national level (South African Footwear Cluster Study) and at a local level (Pietermaritzburg Spatial Development Initiative) no formal study or research is available that examines a regional footwear cluster and yet it is arguably at this level that the clearest and most meaningful benefits of clustering are to be found. This is an important area for further research. Measuring and describing the Kwa-Zulu Natal footwear cluster would provide valuable new insights. Such research would also provide an important new perspective for policy-makers at a provincial level. For example, while the Pietermaritzburg footwear cluster on its own might not justify a major investment in a new tannery, at a regional level such an undertaking might prove feasible. Research is necessary to identify these regional issues and to show the importance of the footwear industry to the Kwa-Zulu Natal economy.

Having conducted preliminary exploratory research it would hopefully now be possible to identify specific research hypotheses that could be tested. A quantitative analysis would provide important data that would allow for a more objective analysis of the strength of linkages within

the cluster. Such data might also prove valuable in motivating for increased interaction between cluster members and in justifying the expenditure of public funds in developing the cluster. While the lack of data would pose a challenge, a quantitative analysis of the Pietermaritzburg footwear cluster would provide important new insights and would greatly assist in identifying the most important areas for policy-makers to address.

7.4 RECOMMENDATIONS

In terms of Enright and Ffowcs-Williams' (2001: 18) typology described in section 3.3, there are three possible approaches to cluster development, organic, transplant or hybrid strategies. It is the argument of this study that a significant regional cluster already exists but that the degree of inter-firm collaboration and specialisation is relatively small and that there is a lot of scope for organic cluster strategies that aim to promote the development of the cluster by increasing the interaction between firms, removing infrastructural bottlenecks, developing human resources and by fostering inter-firm collaboration. However, an examination of the Pietermaritzburg footwear cluster also reveals surprising and substantive gaps in the production pipeline which need to be filled by means of transplant strategies in which outside companies are actively recruited to locate within the cluster or are developed to fill these gaps. It would therefore appear that some form of hybrid strategy would be appropriate for the Pietermaritzburg footwear cluster wherein organic growth within the existing cluster is encouraged, whilst specific deficiencies such as a local tannery, design capabilities, export agents are addressed by seeking to recruit or establish new firms. It is vital, if the Pietermaritzburg footwear cluster is to be competitive with international rivals, that the entire supply chain be studied for ways to reinforce and exploit strengths and to remedy weaknesses.

It has further been suggested that the future growth of the Pietermaritzburg footwear cluster lies in specialising in the production of higher value men's footwear for the export market. The fact that firms in the cluster do not currently export extensively indicates that achieving this goal would require major changes in the way the cluster is structured and how cluster participants interact. To be internationally competitive the cluster should pursue greater specialisation and should establish

an industry association tasked with marketing the cluster as a whole. The role of government in facilitating cluster development by providing the right support cannot be underestimated.

In conclusion then, based upon the available literature on cluster development and the examination of the Pietermaritzburg footwear cluster the following recommendations can be made.

- Government (local, regional or national) should commission and fund research to measure the potential economic benefits to footwear manufacturers of clustering. This research should preferably be conducted by suitable parties from the local university in order to develop the local knowledge base.
- Government should employ a broker with experience in promoting inter-firm cooperation to communicate the results of this research together with other benefits of clustering to local footwear manufacturers. This broker would also need to be tasked with facilitating dialogue between cluster participants and encouraging greater cooperation between manufacturers.
- Local footwear manufacturers, suppliers and agents should be encouraged to establish a cluster association.
- A newsletter, mailing list and regular forum needs to be established for the cluster to raise members' awareness of the cluster and what it can achieve.
- The existing small tanneries must be included in the cluster forum to improve relations and communication between them and manufacturers so that they can start working together.
- Funding should be sourced from government or international funders to establish a Footwear Centre at the University of Natal.
- The cluster association should establish close links with both the University of Natal, the Durban Institute of Technology and the various training colleges in Pietermaritzburg to identify areas for research and training for the industry.
- The proposed footwear park should be pursued by the local council but according to the cluster principle. The footwear park should be used to encourage specialist firms.
- The City Council should attempt to encourage manufacturers of leather goods to establish operations in Pietermaritzburg. This might require offering incentive packages or the provision of specialised services.
- Training should be provided by the local council, and/or trade unions, for footwear employees that have been retrenched to adapt their knowledge of working with leather in shoe

manufacture, to that of manufacturing general leather goods. These individuals should be provided with the necessary support to establish their own businesses.

- Government, or the local cluster association or both, should finance comprehensive market research with a view to identifying export opportunities, suitable distribution channels and possibilities for developing a distinctive South African product/brand for the export market.
- The cluster association and/or city council must promote the idea of a specialist design institution that can service the needs of the entire cluster.
- An export consortium needs to be formed in order to collectively promote and market footwear produced in Pietermaritzburg.

7.5 CONCLUSION

This study has examined the literature on clustering in order to analyse the extent to which the Pietermaritzburg footwear industry can be viewed as a cluster and how it can be developed as a cluster. It was found that while certain criteria such a geographic proximity are met other requirements such as collective action and synergies are lacking or are underdeveloped. Consequently it was concluded that the Pietermaritzburg footwear industry could be described as a cluster but that it currently only represented a latent or underdeveloped cluster. An analysis of the cluster identified a number of deficiencies that need to be addressed if the cluster is to develop. A set of recommendations was suggested to address these weaknesses and to promote the concept of clustering. The failure of previous efforts to promote clustering within the Pietermaritzburg footwear industry, however, indicates that the task of cluster development is not an easy one and will require a sustained and concerted effort by the major roleplayers if it is to succeed.

REFERENCES

Albaladejo, M. 2001. "Determinants and Policies to Foster the Competitiveness of SME Clusters: Evidence from Latin America". QEH Working Paper Series. Working Paper No. 71.

Andile, Jordan & Associates. 2000. SMME Shoe Manufacturing Feasibility Study. Major Findings Report presented at the Pietermaritzburg-Msunduzi Investment Conference, March 16.

Anonymous. 1997. Footwear Manufacturers, Employers and Unions' Attitude to the KZN Regional Economic Forum Local Footwear and Leather Industry Accord. Unpublished document.

Austrian, Z. 2000. Economic Development Quarterly. "Cluster Case Studies: The Marriage of Quantitative and Qualitative Information for Action". Vol. 14, No. 1, February, Pg. 97 – 110.

Bagella, M. and Pietrobelli, C. in Rabellotti, R. and van Dijk M.P. (Eds.) 1997. "From SMEs to Industrial Districts in the Process of Internationalisation: Theory and Practice". Enterprise Clusters and Networks in Developing Countries. London: Frank Cass & Co. Ltd.

Ballard, R. 2001. A Preliminary Study on the Bovine Leather Value Chain in South Africa. CSDS Research Report No. 40. Industrial Restructuring Project, School of Development Studies, University of Natal, Durban.

Barnes, J. and Morris, M. 2000. Improving Operational Competiveness Through Firm-Level Clustering: A Case Study of the KwaZulu-Natal Benchmarking Club. CSDS Working Paper No. 24. Industrial Restructuring Project, School of Development Studies, University of Natal, Durban.

Barrett, B. 1995. Trends in the Footwear Industry in Natal: 1987 to 1991. Unpublished masters thesis, Centre for Industrial and Labour Studies, University of Natal, Durban.

Beaudry, C. and Breschi, S. 2000. "Does 'Clustering' Really Help Firms' Innovative Activities?" CESPRI Working Papers . No. 111. Milan: Centre for Research on Innovation and Internationalisation Processes, Universita' Bocconi.

Bless, C. and Higson-Smith, C. 1995. Fundamentals of Social Research Methods: An African Perspective. 2nd Ed. Cape Town: Juta.

Brenner, T and Weigelt, N. 2000. "The Evolution of Industrial Clusters". Computing in Economics and Finance. No. 284. Pg. 1 - 22.

Chakravorty, S.; Koo, J. and Lall, S.V. 2003. Metropolitan Industrial Clusters: Patterns and Processes. World Bank Policy Research Working Paper 3073.

Clancy, P.; O'Malley, E.; O'Connell, L. and van Egeraat, C. 2001. European Planning Studies. Vol. 9, No.1. Pg. 7-28.

Cooper, D.R. and Schindler, P.S. 2001. Business Research Methods. New York: McGraw-Hill.

Creusen, H. 2001. "Four Views on Dutch Clusters". CPB Memorandum. CPB Netherlands Bureau for Economic Policy Analysis. Memorandum No. 22.

Cutter, M.G.B. 1998. A Study of a Successful Small Business in a Struggling Industry With Particular Reference to How it Adds Value to its Product: A Case Study of Groundcover Shoes. Unpublished honours dissertation, Dept. of Business Administration, University of Natal, Pietermaritzburg.

Dahl, M.S. 2001. Synopsis for the Danish Cluster Studies. http://www.oecd.org/pdf/M00001400014019.pdf

DTI. 2000. Annual Report 1999 –2000. Johannesburg: Department of Trade & Industry.

DTI. 2001. Sisebenza Sonke. Johannesburg: Department of Trade & Industry.

Durrheim, K. 1999. in Terre Blanche, M. and Durrheim, K. (Eds.) Research in Practice: Applied Methods for the Social Sciences. Cape Town: University of Cape Town Press.

Enright, M.J. and Ffowcs-Williams, I. 2001. Local Partnership, Clusters and SME Globalisation. Local Economic and Employment Development Programme, OECD Territorial Development Service.

Gordon, I.R. and McCann, P. 2000. "Industrial Clusters: Complexes, Agglomeration and/or Social Networks?". Urban Studies. Vol 37, No. 3, 513-532.

Harrison, P.; Futter, M. and Meth, F. 1997. An Industry in Distress: Pietermaritzburg's Footwear Sector. CSDS Research Report No. 10. Centre for Development Studies, University of Natal, Durban.

Hill, E.W. and Brennan, J.F. 2000. "A Methodology for Identifying the Drivers of Industrial Clusters: The Foundation of Regional Competitive Advantage". Economic Development Quarterly. Vol. 14, No. 1, February, Pg. 65 – 96.

Hoen, A. 1997. "Three Variations on Identifying Clusters". Paper presented at the OECD-Workshop on Cluster Analysis and Cluster-based Policy,Amsterdam,10/11 November.

Hoen, A.R. 2000. "Clusters: Determinants and Effects". CPB Memorandum. CPB Netherlands Bureau for Economic Policy Analysis, Memorandum No. 17.

IDCa. 1997. The South African Footwear Cluster Study: Counterpart Group Summary Report. Johannesburg: Industrial Development Corporation.

IDCb. 1997. Pietermaritzburg Spatial Development Initiative. Industrial Appraisal: Aluminium, Footwear & Forestry Products. Johannesburg: Industrial Development Corporation.

ILO. 1992. Recent Developments in the Leather and Footwear Industry. Geneva: International Labour Organisation.

ILO. 2002. "Trends in production, trade and employment" http://www.ilo.org/public/english/dialogue/sector/sectors/textile.htm {last accessed 05/10/2003}.

Isaksen, A. 1998. "Regionalisation and Regional Clusters as Development Strategies in a Global Economy." STEP Report. STEP Group, Report R-01, Oslo.

Ismail, F. 1993. An Industrial Strategy for the South African Footwear Subsector. Unpublished report submitted to the Industrial Strategy Project (ISP).

Jackson-Moss, C. 1999. The Feasibility Of A New Tannery In The Pietermaritzburg Spatial Development Initiative (SDI) Area. Unpublished summary of investigation done by the International School of Tanning Technology for the Development Bank of South Africa and the Department of Trade and Industry.

Kotval, Z. and Mullin, J. 1998. "The Potential For Planning An Industrial Cluster in Barre, Vermont: A Case of 'Hard-Rock' Resistance in the Granite Industry". Planning, Practice & Research. Vol. 13; Issue 3. p311-319.

KwaZulu-Natal Regional Economic Forum. 1997. The Pietermaritzburg-Msunduzi Footwear and Leather Workplace Challenge Project. (unpublished document).

Leedy, P.D. 1988. Practical Research. 4th Ed. New York: Macmillan Publishing Company.

Lennox, P. 1999. "Scotland Clusters Semis : You name them, they're there. (Industry Trend or Event)". Electronic News. Vol. 45 Issue 29, July 19, p40.

Lorenzen M. 2002. "Ties, Trust, and Trade". International Studies of Management and Organisation. Vol. 31, No. 4, Winter 2001-2002, Pg. 14-34.

Malhotra, N.K. 1993. Marketing Research: An Applied Orientation. Englewood Cliffs: Prentice-Hall.

Malla, M. E. 1999. Learning From Failure? A Case Study of the Pietermaritzburg Footwear Sector. Unpublished masters thesis, Centre for Industrial, Organisational and Labour Studies, University of Natal, Durban.

Marshall, A. 1913. Economics of Industry. London: Macmillan and Co.

Martin, R. and Sunley, P. 2001. Deconstructing Clusters: Chaotic Concept or Policy Panacea?. Revised paper presented at the Regional Studies Association Conference on *Regionalising the Knowledge Economy*. London, 21 November.

McCormick, D. in Van Dijk, M.P. and Rabellotti, R. (Eds.) 1997. Enterprise Clusters and Networks in Developing Countries. "Industrial District or Garment Ghetto? Nairobi's Mini-Manufacturers". London: Frank Cass & Co. Ltd.

McCormick, D. 1998. Enterprise Clusters in Africa: On the Way to Industrialisation? IDS Discussion Paper 366. Institute of Development Studies, University of Sussex, Brighton.

Moore, N. 2000. How To Do Research: The Complete Guide To Designing And Managing Research Projects. 3rd. Ed. London: Library Association Publishing.

Mytelka, L. and Farinelli, F. 2000. "Local Clusters, Innovation Systems and Sustained Competitiveness". UNU/INTECH Discussion Papers. The United Nations University, Institute for New Technologies.

Nachmias, C. and Nachmias, D. 1981. Research Methods in the Social Sciences. 2nd Ed. New York: St Martin's Press.

Nadvi, K. 1999. "The Cutting Edge: Collective Efficiency and International Competitiveness in Pakistan". Oxford Development Studies. Vol. 27, No. 1, Pg. 81-107.

Nadvi, K. and Schmitz, H. 1994. Industrial Clusters In Less Developed Countries: Review Of Experiences And Research Agenda. IDS Discussion Paper 339. Institute of Development Studies, University of Sussex, Brighton.

Nation (Thailand). 2002. "What Porter's Model Misses". Dec. 30. Worldsources Inc.

Norman, G. and Pepall, L. 2002. Knowledge Spillovers, Mergers and Public Policy in Economic Clusters. Working paper, Dept. of Economics, Tufts University.

Oldham, G.W. and Hickson, M. 1992. City of Pietermaritzburg Industrial Survey. Pietermaritzburg: University of Natal, Department of Economics.

Page, C. and Meyer, D. 2000. Applied Research Design for Business and Management. Sydney: McGraw-Hill Book Company.

Pederson, P.O. in M.P. van Dijk and R. Rabellotti (Eds.) 1997. "Clusters of Enterprises Within Systems of Production and Distribution: Collective Efficiency and Transaction Costs". Enterprise Clusters and Networks in Developing Countries. London: Frank Cass & Co. Ltd.

Peneder, M. 1997. Creating A Coherent Design For Cluster Analysis and Related Policies, The Austrian "TIP" Experience. Paper presented at the OECD Workshop on Cluster Analysis and Cluster Based Policies, Amsterdam, October 1997.

Pietrobelli, C. and Barerra, T.O. 2002. "Enterprise Clusters and Industrial Districts in Colombia's Fashion Sector" European Planning Studies. Vol. 10, No.5, Pg. 541-561.

Porter, M.E. 1998a. "Clusters And The New Economics Of Competition". Harvard Business Review. November-December.

Porter, M.E. 1998b. The Competitive Advantage of Nations. London: Macmillan Press Ltd.

Porter, M.E. 1998c. On Competition. Boston: Harvard Business Review Book Series.

Quince, T. and Whittaker, H. 2002. "Close Encounters: Evidence of the Potential Benefits of Proximity to Local Industrial Clusters". ESRC Centre for Business Research. ESCR Working Paper No. 235, University of Cambridge.

Rabellotti, R. in Van Dijk, M.P. and Rabellotti, R. (Eds.) 1997. "Footwear Industrial Districts in Italy and Mexico". Enterprise Clusters and Networks in Developing Countries. London: Frank Cass & Co. Ltd.

Rabellotti, R. and Schmitz, H. 1999. "The Internal Heterogeneity of Industrial Districts in Italy, Brazil and Mexico". Regional Studies. April; Vol. 33; Issue 2; p97-109.

Rosenfeld, S.A. 1997. "Bringing Business Clusters Into the Mainstream of Economic Development". European Planning Studies. Feb. Vol. 5; Issue 1; p3-24.

Sengenberger, W. 1993. "Local Development and International Economic Competition". International Labour Review. Vol. 132; No.3; Pg. 313-329.

Schmitz, H. 1995. "Small Shoemakers and Fordist Giants: Tale of a Supercluster". World Development. Vol. 23, January, Issue 1, pg. 9 – 28.

Schmitz, H. 2000. "Does Local Co-operation Matter? Evidence from Industrial Clusters in South Asia and Latin America". Oxford Development Studies. October; Vol. 28; Issue 3; p323-337.

Small Business Project. 1999. Clusters as a Vehicle for SME Development: an alternative perspective. Johannesburg: Small Business Project in South Africa.

Smith, H. 2002. "Strength in Clusters". Estates Gazette. 5/25/2002. Issue 221. p100-104.

Statistics South Africa. 2001. Census of Manufacturing: Principal Statistics on a Regional Basis. Pretoria: Statistics South Africa. Report No. 30-01-08 (1996).

Stilwell, T. 2001. An Investigation of the Footwear Cluster as a Possible Solution to the Problems Caused by Globalization in the Pietermaritzburg-Msunduzi Footwear Industry. Unpublished master thesis, School of Business, University of Natal, Pietermaritzburg.

Strydom, B. 1998. The Role of Business Linkages in Restructuring the Footwear Industry in the Greater Pietermaritzburg Metropolitan Area. USAID: EAGER discussion paper 25.

The South African Cluster Programme. 1997. "Co-operating to Compete". Johannesburg: DTI.

Sunday Times Business Times. 1997. Industry's Clusters Get Their Act Together. August 17.

Van Dijk, M. and Rabellotti, R. (Eds.) 1997. "Clusters and Networks as Sources of Co-operation and Technology Diffusion for Small Enterprises in Developing Countries". Enterprise Clusters and Networks in Developing Countries. London: Frank Cass & Co. Ltd.

Visser , E. in Van Dijk, M.P. and Rabellotti, R. (Eds.) 1997. "The Significance of Spatial Clustering: External Economies in the Peruvian Small-Scale Clothing Industry". Enterprise Clusters and Networks in Developing Countries. London: Frank Cass & Co. Ltd.

Weber, A. 1929. Theory of the Location of Industries. Chicago: University of Chicago Press.

Wilkinson, D (Ed.) 2000. The Researcher's Toolkit: The Complete Guide to Practitioner Research. London: RoutledgeFalmer.

APPENDIX A

CREUSEN'S ANALYSIS

Creusen's Analytical Framework

Supply-demand clusters (a)	Regional clusters (b)	Innovative clusters (c)	Information networks (d)
Definition of cluster definition refers to value chain, supplier-user relations via intermediate supplies and embodied knowledge transfers	definition refers to regional concentration/ agglomeration of firms and employees in only a few industries	definition refers to (joint) innovation and knowledge transfers among competitors on product market	theoretical definition broad and vague but in case-studies more concrete, definition refers to regional networks of firms, labour, institutes and government
Driving force to cluster interaction between (technically) interdependent agents enhances more useful and better diffused innovations	agglomeration of firms to reduce transaction costs on trade between specialised regions, given forward and backward linkages and/or factor intensities (strong intra-industry trade and medium transaction costs foster clustering)	innovation to gain competitive advantage product market, e.g. by reducing production costs or opening of new segments	improvement of competitive advantage and productivity growth by knowledge spillovers and innovation reducing transaction costs and production slack, or improving match with customer preferences
Characteristics of clusters clusters based on intermediate supplies, because specialization entails increasing dependency on (informal) links in the value chain	clusters based on regional agglomeration of firms (and/or employees), relying on trade with other specialized regions	clusters based on ex post knowledge transfer (through patents and licenses) and/or ex ante transfer (joint R&D); success is much related to the extent of effective knowledge protection, and/or firms' absorptive capacity of spillovers	network building by informal and creativity/innovation directed contacts; regional proximity may help in network building/informal contacts; such networks may particularly refer to regional companies and institutes applying a similar technology
Size and structure of cluster meso-economic linkages between industrial sectors	mathematical models of two industries with many firms in two cities/ regions	formal models of few firms/ competitors in a single industry	regional but broad network of - leading companies, suppliers and customers in a value chain - firms in related industries using the same technology - universities, institutes and government on micro-economic

Supply-demand clusters (a)	Regional clusters (b)	Innovative clusters (c)	Information networks (d)
Definition of cluster			
definition refers to value chain, supplier-user relations via intermediate supplies and embodied knowledge transfers	definition refers to regional concentration/ agglomeration of firms and employees in only a few industries	definition refers to (joint) innovation and knowledge transfers among competitors on product market	theoretical definition broad and vague but in case-studies more concrete, definition refers to regional networks of firms, labour, institutes and government
Driving force to cluster			
interaction between (technically) interdependent agents enhances more useful and better diffused innovations	agglomeration of firms to reduce transaction costs on trade between specialised regions, given forward and backward linkages and/or factor intensities (strong intra-industry trade and medium transaction costs foster clustering)	innovation to gain competitive advantage product market, e.g. by reducing production costs or opening of new segments	improvement of competitive advantage and productivity growth by knowledge spillovers and innovation reducing transaction costs and production slack, or improving match with customer preferences
Characteristics of clusters			
clusters based on intermediate supplies, because specialization entails increasing dependency on (informal) links in the value chain	clusters based on regional agglomeration of firms (and/or employees), relying on trade with other specialized regions	clusters based on ex post knowledge transfer (through patents and licenses) and/or ex ante transfer (joint R&D); success is much related to the extent of effective knowledge protection, and/or firms' absorptive capacity of spillovers	network building by informal and creativity/innovation directed contacts; regional proximity may help in network building/informal contacts; such networks may particularly refer to regional companies and institutes applying a similar technology
Size and structure of cluster			
meso-economic linkages between industrial sectors	mathematical models of two industries with many firms in two cities/ regions	formal models of few firms/ competitors in a single industry	regional but broad network of - leading companies, suppliers and customers in a value chain - firms in related industries using the same technology - universities, institutes and government on micro-economic

Source: (Creusen, 2001: 4-5).

APPENDIX B

LIST OF INTERVIEWEES

LIST OF PERSONS INTERVIEWED

COMPANY	PERSON INTERVIEWED	CLASS	SHOES PER DAY	NO. OF EMPLOYEES	UNION.	REGISTERED BARGAINING COUNCIL	OUTSOURCING CLOSING	OUTSOURCING LACING
Divine Shoes	Shan Pillay	C	1.5 - 2 000	120	Y	Y		
Roopsons	Mr Baboo	C	2 200	160	N	Y		
Shaylyne Footwear	Salva	C	200	12	N	Y		
Tomahawk	Ken Pillay	C	250	13	N	Y		
Schoeders Lacing	Mrs Adam	L	2 - 300	50	N	Exemption		
	Jeff Bodill	M		5	N	N		
Amber Footwear	Alaister Dean	M	4 500	285		Y	N	Y
Ballucci Footwear	Roy Moodley	M	850	100	Y	Y	N	Y
Cardello Footwear	Mr Essa	M	350	20	N	Y	Y	Y
Corrida	Peter Maree	M	3 500	450	Y	Y	Y	Y
Crouch Footwear	Peter Crouch	M	1 100	110	Y	Y	Y	Y
Cyrico Shoes	Cyril Padayachee	M	400	20	Y	Y	N	Y
Dick Wittington Shoes	Mr Boodhoo	M	1 100	300	Y	Y	N	?
Eddels	John Comley / Jonathon Hallowes	M	4 - 4 500	1000	Y	Y	Y	Y
Jaluka Shoes	Nick de Wolbeck	M		26	N	Y	N	Y
Lugogo Shoes	Duncan Naidoo	M	200	17	N	Y	Y peak	Y
M.G. Shoes	Mr Aboo	M	700 - 1 000	140	Y	Y	N	Y
Rene Footwear	Mr Pillay	M	400	12	N	Y	N	Y
Sirilli Shoes	Eros Sirilli	M	200	34	Y	Y	N	Y
Springfield Shoes	Roy Eckstein	M	30 000	2680	Y	Y	Y	Y
Three Stars	Ahmed Jassat	M	450	15	N	N	Y	Y
Zandills	Jack Bassage	M	1.5 - 2 000	220	N	Y	Y	Y
Bargaining Council	Reggie Sakadevan	O						
KZR-REF	Mel Clark	O						
SACTWU	Kevin Perumal	O						
D M Components	Ruben	S		45	N	Y		
Edendale Tannery	Willie Schlosser & Bev Cheeseman	S		85	Y	Y		
Deco Agenices - John Whittle Agent	Debbie Comly	S						
Natal Shoe Components	David	S		45	Y	Y		
Natal Tool & Die	Grant Love	S		10	Y	Y *		
Ribtech	Ashley Zwart	S	8 - 9 000	38	70%	Y		
Trenset	Mr. Naicker	S						
TOTAL				6012				

M = Manufacturer
S = Supplier
C = CMT
O = Other
L = Lacing

* Steel & Allied Workers Bargaining Council

APPENDIX C

INTERVIEW SCHEDULE

INTERVIEW GUIDE

MBA DISSERTATION: CLUSTER STUDY

SCHOOL OF BUSINESS: UNIVERSITY OF NATAL, PIETERMARITZBURG

Name of Company: _____ Date: _____

Name of Person Interviewed: _____

Number of Employees _____ Unionised? _____

Bagaining Council? _____ No. of Shoes Produced? _____

Price level of shoes produced? _____ Cost to produce? _____

Horizontal Linkages:

Use of outsourcing:

Lacing: _____

_____

Closing: _____

_____

CMT: _____

_____

_____

Advantages of outsourcing? _____

_____

_____

_____

Problems with outsourcing? _____

_____

_____

_____

Backward Linkages

Source(s) of Leather? _____

Leather: Price? _____

Leather: Quality? _____

Leather: Lead times? _____

In-soles? _____

Knives? _____

Lasts? _____

Moulds? _____

Components? _____

Reliability of suppliers? _____

Lead Times? _____

Problems? _____

_____

Forward Linkages

Major customers? _____

Relationship with customers? _____

Problems with customers? _____

_____

_____

General Comments on the Pietermaritzburg footwear industry:

_____

_____

_____

APPENDIX D

DTI APPROACH

The new approach to competitiveness

⇒ Competitiveness occurs in clusters of industries

⇒ Productivity is increased through continuous innovation and upgrading

⇒ **Firms** compete and wealth is produced by **firms**, **not** politicians, bureaucrats or academics!

⇒ Size and scale are less important sources of competitive advantage

⇒ effective management of human resources is crucial

- **Firms must think about related and supporting industries**
- **Government policy must support competitiveness**

Supply-side measures include:

National programmes:

- *Spatial Development Initiative (SDI) (including Development Corridors)*
- *Regional Industrial Location Study (RILS)*
- *Cluster Initiatives*

Industry specific programmes

- *Motor Industries Development Programme (MIDP)*
- *Clothing and Textiles Duty Credit Certificate Programme*

Specific measures:

- *Support Programme for Industrial Innovation*
- *Technology and Human Resource for Industry Programme*
- *Export Marketing Assistance Programme*
- *Pre-shipment Export Finance Guarantee Programme*
- *Small, medium and micro-business financial and non-financial programmes*
- *IDC development finance programmes*
- *SRIDP → Small and Medium Manufacturing Development Programme*
- *RIDP →* ***Tax Holiday Programme***
- *Accelerated Depreciation*

Forthcoming Supply-side Support Programmes:

- *the Competitiveness Fund*
- *the Sectoral Partnership Programme*
- *the Sectoral Workshop Facility (Workplace Challenge)*

and constant reviews of current and possible future programmes.

- Therefore, the tax holiday programme must be seen as a key element in a broad and coherent set of industrial development programmes aimed at growth, employment, and redistribution.
- These replace expensive existing demand side interventions such as tariffs, GEIS, as well as the RIDP.

Tariff Reform

Need driven by:

- reliance on international trade to improve economic performance
- highly protected industries in the past have performed poorly in terms of growth and employment
- compliance with World Trade Organisation (WTO) agreements
- tariff protection is ad hoc and open to lobbying
- reduce inflation - better deal for consumer
- promote downstream industries

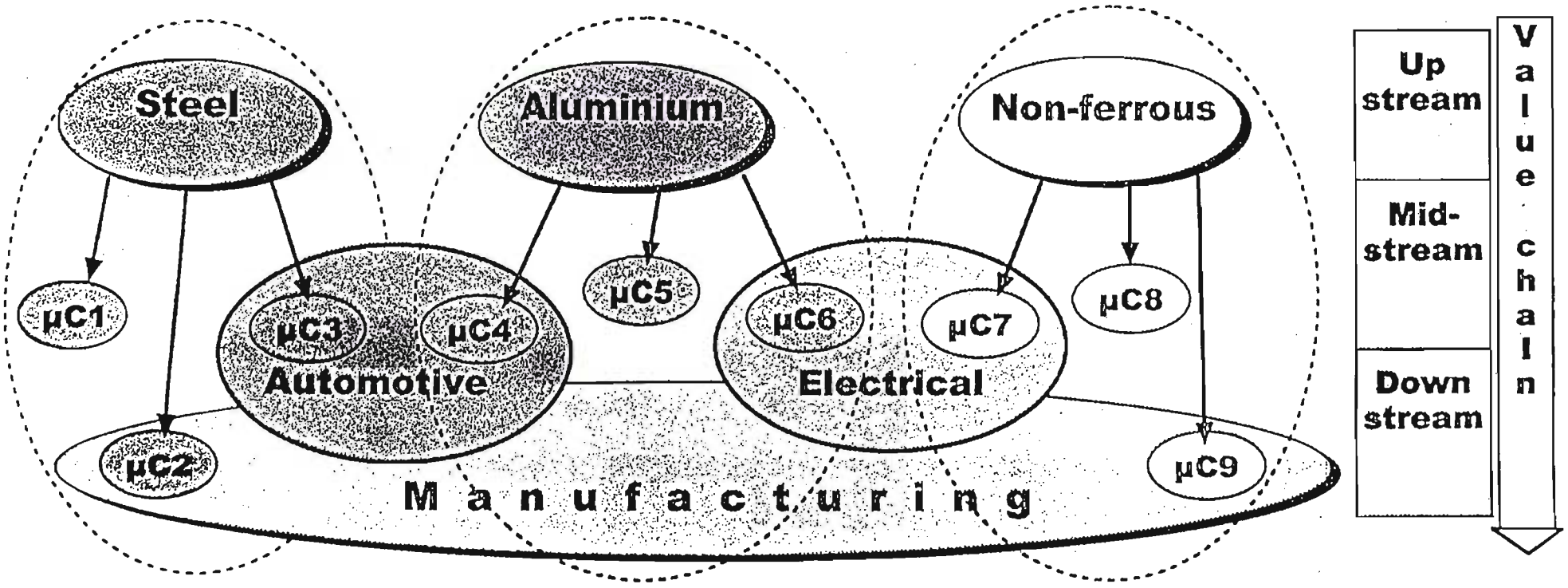
Implemented through:

- 33% reduction in weighted average tariffs
- removal of import control and formula duties
- in general, primary products 0 - 10%, secondary 15%, tertiary 20%
- reduction in number of tariff lines from 13 000 to 9700

Overall objectives of Cluster Initiatives

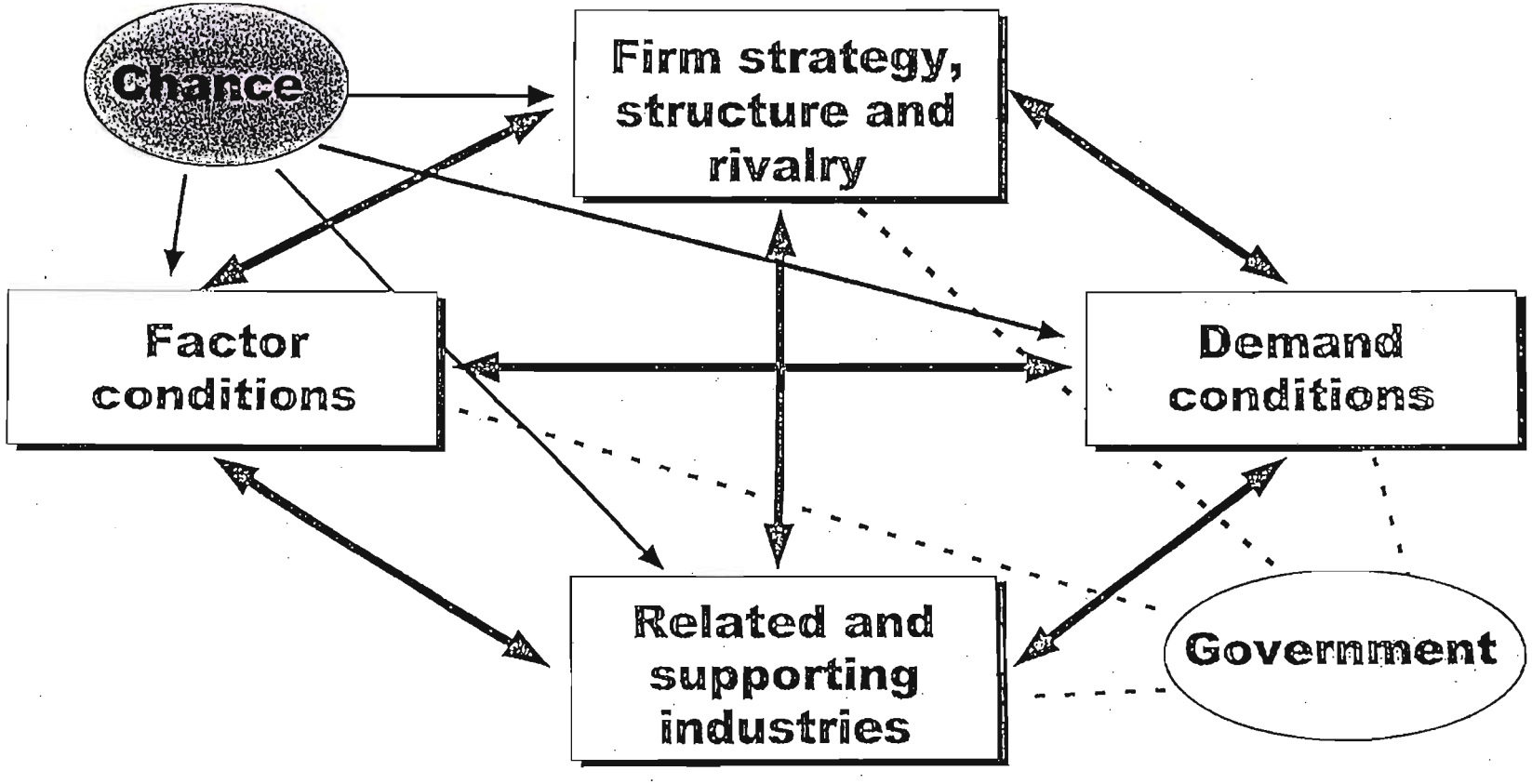
- Build the platform off which firms using South Africa as their home base can compete
- Build the competitiveness and sustainability of particular clusters
- Maximise sustainable job creation
- Maximise exports through global competitiveness
- Build robust clusters which can pass innovation through the economy
- Create sectoral successes which serve as role models
- Focus DTI and other support programmes to maximise industry buy-in and competitiveness

Some examples of a cluster hierarchy



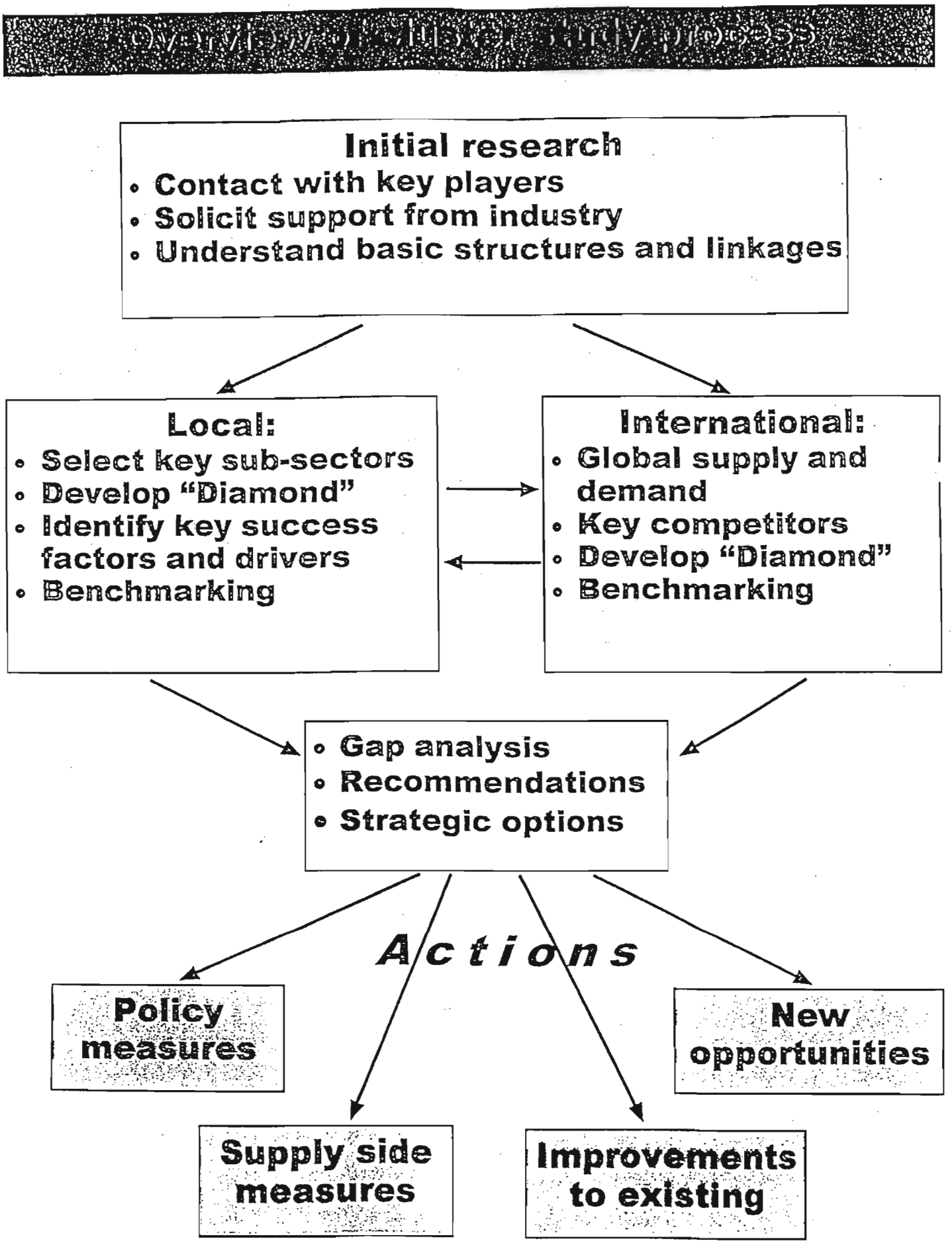
(μCx = micro cluster x)

Moving down the value chain, the cluster "affiliation" becomes less clear cut and is a matter of agreement or convenience



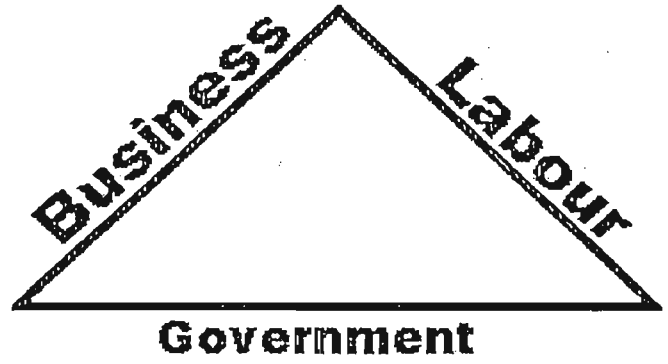
A cluster **study** tells you where you are

A cluster **initiative** involves all players in continuously upgrading the "diamond"


Initial research
• Contact with key players
• Solicit support from industry
• Understand basic structures and linkages
Local:
• Select key sub-sectors
• Develop "Diamond"
• Identify key success factors and drivers
• Benchmarking
International:
• Global supply and demand
• Key competitors
• Develop "Diamond"
• Benchmarking
• Gap analysis
• Recommendations
• Strategic options
Actions
Policy measures
New opportunities
Supply side measures
Improvements to existing

Why a Cluster ?

The Golden Triangle



Time to acknowledge the power of the team

> ***"Strong emergent economies are to be found in countries (and companies) that encourage trust, co-operative behaviour, the sharing of information and a common value base"***
>
> Prof John Kay, London Business School

Cluster Initiatives

The result of cluster study is important – doing it together is even more important!

⇒ Agree a shared vision

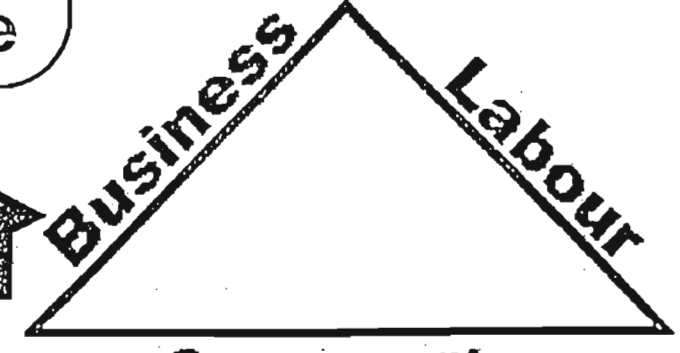
⇒ Share information

⇒ Agree specific actions

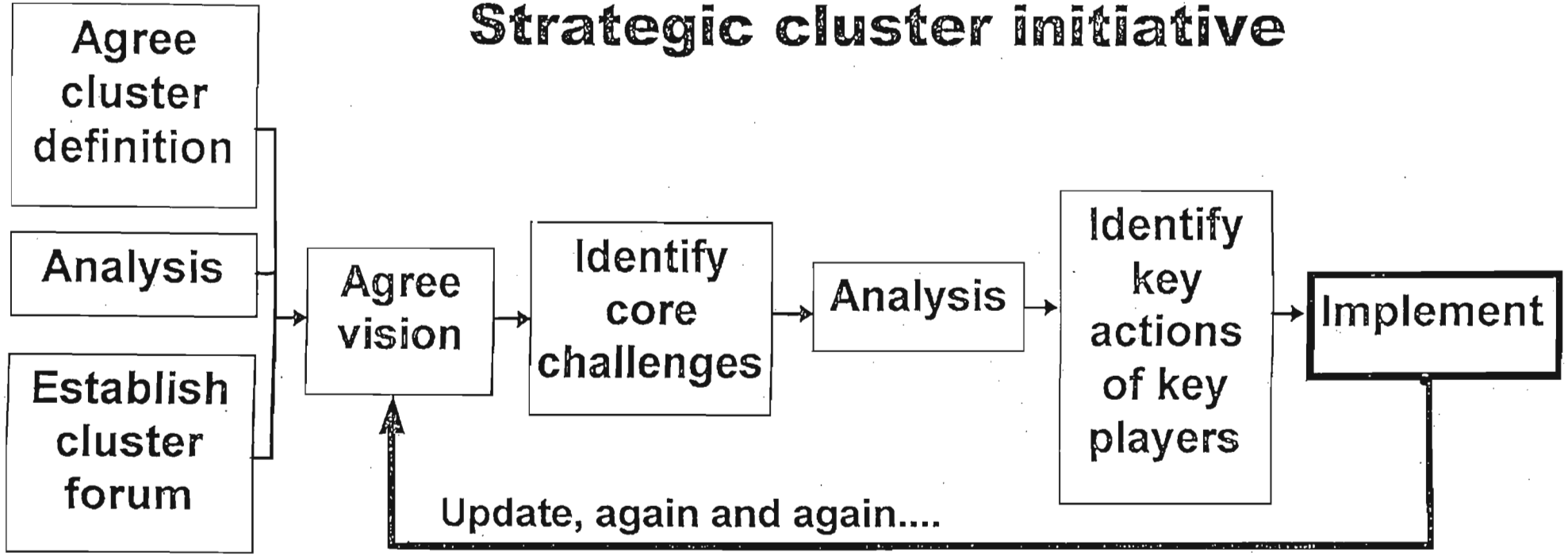
⇒ Work together!

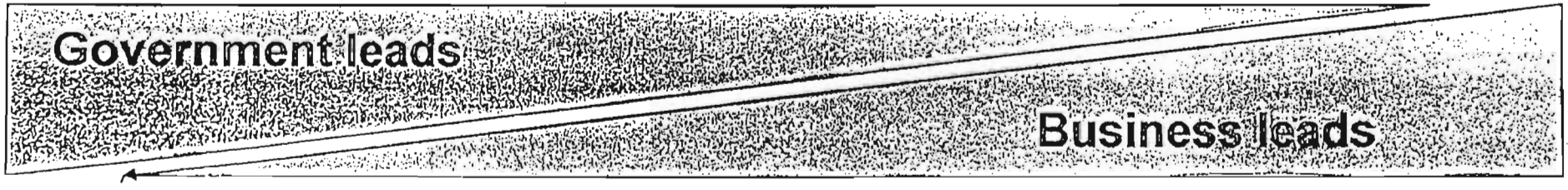
➔ Promote trust and co-operative behaviour

➔ Develop a common value base

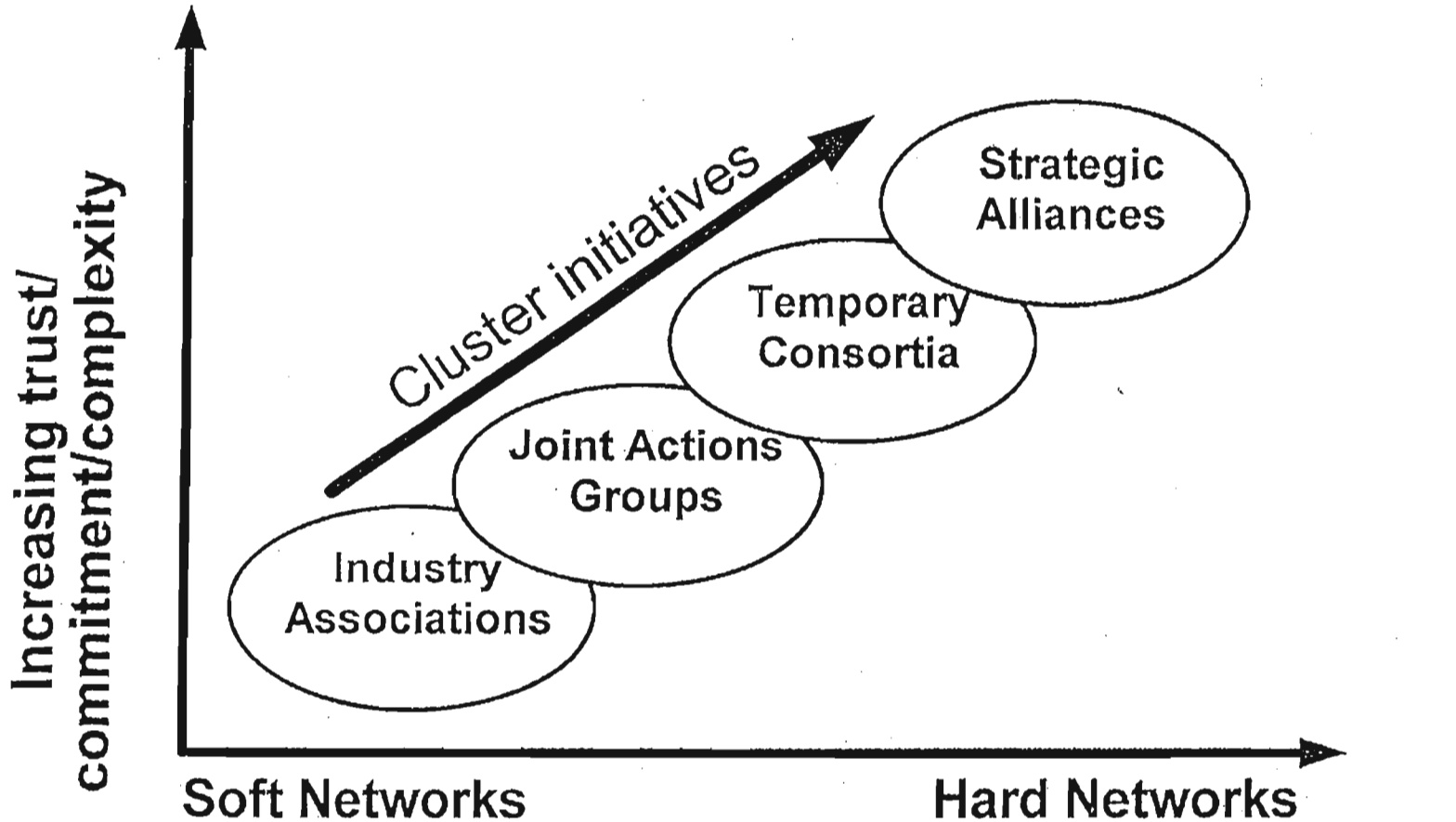


Strategic cluster initiative





Levels of Cooperation



Cluster initiatives lead to increasing trust and commitment to joint working

APPENDIX E

LOCAL FOOTWEAR AND LEATHER INDUSTRY ACCORD

LOCAL FOOTWEAR AND LEATHER INDUSTRY ACCORD

Preamble

The parties recognise the critical importance of the footwear and leather industry in the economy of Pietermaritzburg-Msunduzi, particularly with regard to the sector's contribution to employment in this area.

The parties recognise the fact that this role of the footwear and leather industry is seriously threatened due to a number of factors, and through this Accord the parties reaffirm their commitment to foster a partnership approach in order to save and strengthen the industry to become globally competitive.

The parties recognise that the fundamental framework for the restructuring of the industry as a whole is developed and coordinated through national agreements, structures and processes in which the stakeholders are involved. The Accord essentially seeks to add value to the national process through the development of an action based industrial restructuring programme, aimed at assisting firms on the ground.

This Accord confirms the parties' belief in the need for the footwear and leather industry to be effectively restructured so as to secure the survival of the enterprises, the jobs of workers and the future of the industry.

This Accord Lays the basis upon which the parties may further develop and negotiate detailed strategies and plans for restructuring and productivity improvement in the enterprises in the province, within the parameters of national agreements and other bargaining processes.

2. PARTIES TO THIS ACCORD

1.1 EMPLOYERS IN THE LEATHER INDUSTRY IN KWAZULU-NATAL
represented by the Footwear Manufacturers Federation (FMF)

1.2 ORGANISED LABOUR IN THE LEATHER INDUSTRY IN KZN
represented by the National Union of Leather Workers (NULW) and

S.A. Clothing and Textile Workers' Union (SACTWU)

1.3 PIETERMARITZBURG-MSUNDUZI TRANSITIONAL LOCAL COUNCIL

1.4 KZN DEPARTMENT OF ECONOMIC AFFAIRS AND TOURISM

3. PRINCIPLES OF THE ACCORD

The parties hereby commit themselves to the following principles in dealing with the restructuring and improvement of the economic performance of the footwear and leather industry in Pietermaritzburg-Msunduzi.

3.1 Any process developed from this Accord to address the crisis in the footwear and leather industry must involve the legitimate representatives of relevant stakeholders.

3.2 All relevant and available information must be made available timeously to the parties participating in any process, to ensure effective mandating processes.

3.3 Resources will be sought to facilitate the full participation of all parties in any process.

3.4 The discussion of restructuring and global competitiveness improvement must include the upfront commitment from all parties to the preservation and creation of employment.

3.5 The parties recognise the central importance of successful restructuring for industry survival and will therefore make every effort to remove obstacles to the effective discussion and implementation of measures agreed upon.

3.6 The parties recognise the current bargaining structures in the industry, and the provisions of this Accord shall not override these bargaining arrangements.

3.7 The Accord will seek to:

3.7.1. strengthen the relationship between business, labour and government;

3.7.2 provide the enabling environment for the development of partnerships on the shopfloor between business and labour which will empower them to address the challenges of restructuring effectively;

3.7.4 upgrade the skills and capabilities of management and the workforce;

3.7.5 strengthen the ability of government, at all levels, to support the industry, through the implementation of appropriate supply side measures;

4. INITIATING ACTIONS

4.1 A number of factors have been identified as being critical to the restructuring of the footwear and leather industry in the region. These factors, and others which are not specifically mentioned below, will have to be addressed and strategies regarding them developed in order to action the principles agreed to in this Accord.

4.1.1 Develop strong pipeline linkages

There is a need to analyse the footwear and leather production and consumption pipelines, and develop a strategy for facilitating the reorganising aspects of those pipelines to secure the long-term benefit of the industry in this region.

4.1.2 Tannery

There is a need for a prefeasibility study for the re-establishment of a tannery in the Pietermaritzburg area. The establishment of the tannery will be integrated with the southern KZN Spatial Development Initiative (SDI) process.

4.1.3 Improve capabilities to design and engineer footwear

The present shortage of footwear technology and design skills restricts the range of footwear that can be offered, inhibits efforts to improve quality and adversely affects cost competitiveness. There is therefore a need to investigate and develop a strategies for developing this capacity.

4.1.4 Focus on product ranges

There needs to be a strategic shift away the tendency to provide a very wide range of products to various markets. A refocusing on supplying new markets must be integrated with a strategic focus on a more limited product range based on reliable market research and networks.

4.1.5 Increase Resource Utilisation

A range of factors have made it difficult for the manufacturer to re-invest and stay abreast with modern technology. Improved use of plant and equipment therefore needs to be encouraged.

4.1.6 Government Support

(i) Efforts to stop all illegal importation of footwear and leather goods must be increased and given priority status by all parties, which will be taken up through the national process.

(ii) Efforts must be made to raise the awareness of footwear manufacturers regarding supply side measures and to provide some assistance for accessing and making effective use of the measures.

4.1.7 Develop Human Resources

There is a need to facilitate each manufacturer being able to conduct a training needs analysis and to act on the results of this analysis. The efforts of the industry through the Footwear Industry Training Board need to be reinforced, so that the impact of training is maximised in this area.

4.1.8 Labour and Management Restructuring

Leading international footwear companies are characterised by flatter management structures, teamwork and worker empowerment schemes. Stakeholders will need to discuss these elements of the industry transformation process, and possibly provide guidelines to assist parties at plant level.

4.1.9 Improve Industrial Relations

Although industrial relations in the industry are generally healthy, the stakeholders may initiate efforts to improve management-labour cooperation around a number of issues relating to production and the outcomes of production.

4.1.10 Develop Union Leadership through capacity building

Positive labour-management relations and a partnership-based commitment to productivity improvement are required in order to effectively transform companies into internationally competitive enterprises. Achieving this requires the appropriate levels of knowledge and skill on the part of union leadership.

4.1.11 Provide social support for Displaced workers

Although this is a national issue which requires Government intervention, a range of action initiatives at local level could assist in addressing the plight of workers who are retrenched as a result of restructuring. A local process to explore and implement viable options needs to be supported.

4.1.12 Informalisation of the Industry

There is a need to analyse the causes for and implications of the increasing informalisation of the pipeline in the region, with a view to strengthening the informal sector's relationship with the formal sector of

the industry.

4.1.13 Identification of Pilot Firms

Through the mechanisms set n place by this Accord, the parties will agree on a process for identifying a number of firms where agreed restructuring initiatives will be piloted. The firms identified will need to agree to facilitate other firms and industries being able to learn from their experiences.

5. IMPLEMENTATION OF THE ACCORD

5.1 In order to address the key issues and to ensure the implementation of this Accord, a Local Footwear and Leather Steering Committee is hereby established.

5.2 The Steering Committee will be responsible for the management of the industrial restructuring process at the local level, its mandate will be governed by the framework of the Accord. The Committee will maintain close co-ordination with the national footwear cluster counterpart group.

5.3 The Steering Committee will develop a clear strategy and agreed programme of action for restructuring of the industry in Piertermaritzburg-Msunduzi.

5.4 The Steering Committee will be constituted by at least one person duly nominated by each of the parties to this Accord.

5.5 The said Committee will elect a convenor and will decide how often they will meet, and how they will report to respective constituencies.

Signed at PMB-MSUNDUZI. this 3RD. day of OCTOBER 1997

For the Footwear Manufacturers Association : _____

For National Union of Leather Workers : _____

For S.A. Clothing and Textile Workers' Union : _____

For the Pietermaritzburg-Msunduzi TLC : _____

For the KZN Dept of Economic Affairs and Tourism : _____