

Creating competitive advantage in developing countries through business clusters: A literature review

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Globalization of trade is increasing the world competition and this has resulted in a growing number of countries and individual businesses seeking survival beyond their internal resources. Thus, the role of business clusters has become increasingly important and has gained more attention from both policy makers and academia, particularly in developed countries. This paper reviews the literature on clusters and their contribution to building competitive advantage for businesses. The review relies mostly on research that was conducted in developed countries, with only little evidence found in developing ones. The research reveals benefits that businesses can enjoy by clustering, among which are the sharing of strategic business information, innovation, market access, labour pooling and proximity to suppliers and customers. Associated challenges of clustering are also explored. The paper also points out some practical insights for policy makers and research implications for researchers in developing countries.

Key words: Business clusters, competitive advantage, developing countries.

INTRODUCTION

Cluster policy has become a focal point for many new business policy initiatives. This paper examines business clusters in an attempt to understand and put together factors that can help businesses, especially the small scale achieve some competitiveness in the global market. Porter (1990), points to changing competition and notes that assumptions underlying the factor of comparative advantage were more persuasive during the eighteenth and nineteenth centuries, when industries were still fragmented and used mostly, basic labour skills. Few Industries now resemble those that the theory of comparative advantage was built on, with more product differentiation and varying customer needs. Hence Porter's work on the business cluster concept has turned into a norm for industrial development and policy stimulation around the world (Schimtz 1995a, b; McDonald and Vertova, 2001; Lagendijk, 1999). Among the crucial factors that explain the evolution of clusters are the external inducement derived from market competition and rapid changes in technology in today's world which, crucially affect the foundations of firms' or nations' competitiveness (Guerrieri et al., 2001). In both traditional and 'high-tech' economic activities, clustering have become a new model of economic development and has yielded important insights into the options of business strategy development (Lagendijk, 1999).

Emphasis here is that successful businesses are increasingly becoming more dependent on environments that are enhancing co-operation and innovation. Generally the concept of clustering suggests a change in the unit of analysis from an isolated firm to a network of firms (Staber, 2001). Clusters now take precedence over large businesses as they are presumed to hold a promise for leveraging development resources through the encouragement of synergies, external economies, and hence increasing returns (Feser, 1998). They are now perceived as the way forward to success in the ever-changing world market. This paper has been organized into four sections. These include (i) the evolution and definition of cluster concept (ii) benefits of clustering (iii) challenges to encouraging business clusters (iv) conclusions.

EVOLUTION AND DEFINITION OF THE CLUSTER CONCEPT

Evolution

The modern foundations on business clusters were popularized by Porter (1990) in his efforts to stimulate a new approach to corporate strategy. Thereafter, a number of empirical studies have been published on the same subject over the past decades and is a testimony of

the importance of clusters in business literature. However, the concept of business clusters is not new. Clustering dates back as far as the early twentieth century and has always been part of the social fabric even though not very pronounced (Das, 1998). However, in the last few decades modes of economic organization have changed dramatically with a marked increase in the use of business clusters as a strategic tool to help businesses compete more especially the SMEs, at an international level.

The actual grounding of business clusters dates as far back as 20th century when Marshall (1920) wrote a book on the "*Principles of Economics*" in which he referred to external economies prevailing among firms in British industrial districts. Schmitz (1995a,b), notes that Marshall introduced the concept of external economies in order to show (i) why and how the location of industry matters and (ii) why and how small firms could be efficient and competitive. He emphasised the fact that economic gains can be secured by a concentration of many small businesses with related activities within particular localities and referred to the concentrated businesses as "*localised industries*" or industrial districts. He also referred to the economic gains accumulated by way of business concentration as "*external economies*."

Economic gains provide a strong incentive for businesses to locate closer together (Baptista, 1996) and as this happens, they become like one big firm and their output also increases. This can directly or indirectly result in cost savings accruing to the firms. For example, closely located businesses can take advantage of large skilled pools of labour, greater opportunities for intensive specialisation and heightened diffusion of industry-specific knowledge and information. These external economies could help the small firms become efficient and competitive. According to Jacobson and Mottair (1999), a business enjoys the advantages of both diversity of ownership in different business and the diminution of transaction costs of a single business.

Definition of a cluster

The concept of clustering as a mode of economic development policy making has attracted a lot of interest yet there has not been any specific meaning of a cluster (Feser, 1998). Porter (1998) defines clusters as:

"Geographic concentrations of interconnected companies and institutions in a particular field.....They include for example, suppliers of specialized inputs as components, machinery, and services and providers of specialized infrastructure" (p78)

This is an up-dated version of Marshall (1920) concept of industrial districts where he first hinted how small businesses relationships might influence regional growth and development. Even though Marshall never really gave a

clear definition of what industrial districts are, Schmitz (1995b) assumes that the industrial districts are "*clusters with a deep inter-firm division of labour*." Cooke (1996b), comments on the upward evolution of the Marshallian concept of localised industrial districts of the nineteenth century to the twenty-first century notion of economy built on clusters of firms that efficiently produce high quality goods designed for high-quality markets.

Several other authors have attempted to define the cluster. Rosenfeld (1997) defines it as concentrations of businesses that collaborate to produce synergy because they are within a geographic proximity and easily depend on each other. He perceives industrial districts and clusters to be one thing as he argues that the most obvious manifestation of clustering is Europe's industrial districts and America's industrial agglomerations. Feser and Bergman (2000) note that the term cluster means different things to different researchers and policy makers alike. Various authors also confirm that the cluster concept has proven very difficult to pin down (Steiner, 1998; Guerrieri et al., 2001). Altenburg et al., (1999) observes that the term is used quite indiscriminately for a broad range of business arrangements and in its broadest sense is being used to depict local concentrations of certain economic activities. Steiner (1998) has labelled clusters as having "*the discreet charm of obscure objects of desire*." The list of definitions goes on and Rosenfeld, (1997) observes that there are different types of definitions as there are different types of organizations.

The various definitions have given rise to confusion as to how clusters differ from related phenomena such as industrial districts, networks, technopoles and industrial research collaborations. Authors have researched on similar issues but using different labels for the past two decades (Feser, 1998). What Porter (1990) calls a cluster, economic geographers have variously labelled industrial districts, new industrial spaces, regional industrial complexes, and so on. This overall flexibility of the definition allows for different forms of best practice to fit into different contexts and therefore leading to the concept's policy appeal to both developed and developing nations. That is to say, different definitions imply different policies and strategies for development and use of clusters. (Feser, 1998), notes that in America industrial clusters are frequently used for marketing purposes, whereas in Europe clusters are used to identify and characterize the conduits through which learning, technology and innovations are disseminated.

BENEFITS OF CLUSTERING

Various authors have written on the benefits of clustering from studies conducted across the world, mostly from developed and a few from developing countries. For the developed countries, examples include (Frisillo, 2007; Cooke, 1996a, b; Yoong and Molina, 2003; Porter, 1998; Staber, 2001; Lagendijk, 1999; McDonald and Vertova,

2001) to mention few. For the developing countries the examples include Rabellotti (1999); McCormick (1999); Schmitz (1995a, b); Visser (1999) and Nadvi, (1999). Some of these benefits are discussed below.

Innovation benefits

Many countries have cleared the transitional path from import substitution to competitive-orientation hence the survival of companies nowadays has become mainly innovative competency-based (Staber, 2001). The non-protectionist trade policy reforms and the resultant trade globalization and liberalization have broadened the scope of many markets, thus intensifying competition. A clear example of trade liberalization of the world market is shown by the garment industry, where quota restrictions on garment exporting countries, especially those of Asian origin, are no longer applicable since January 2005. Firms in this industry, particularly small ones have to struggle to survive wherever they are. Thus clustering has become a major strategy to instill innovative measures among businesses to improve their competitiveness and survive the globalized markets. When in a cluster, businesses experience a lot of competitive pressure from within and non-price competition is prevalent (McDonald et al., 2001). This results in innovation as businesses continuously find new products and the best methods of production. Generally, clusters enhance the ability to innovate (Frisillo, 2007; Vanhaverbeke, 2001).

Businesses need to work towards achieving strong means of competitive advantage (Kloosterman et al., 2001; Piercy et al., 1996), as the inflexible Fordist mass production can no longer cope (Stammer, 1995; Jessop, 1992). Innovation in the Fordism era, to a great extent took place inside the larger enterprises and also occurred in a more linear process described in a sequence of stages from research and development all the way to production and marketing (Isaksen, 1997). Innovation through clustering has become very important in the post-Fordism era and emphasizes on the increased significance of incremental innovations that takes place as an interactive learning process between firms. This therefore, calls for lasting co-operation between firms and other supporting institutions where closer location, constant face-to-face communication can be enabled. There is need to respond to new challenges and opportunities through a continuous redefinition of inter-firm relationships and the external boundaries of the cluster.

Market access

Clusters are crucial for market access. Rabellotti (1999) observes that market liberalization has affected most developing countries negatively. Exports from these countries to the developed ones are likely to depend on improved variety, reliability and delivery speed. Business clustering is a solution to this and has become the major

driving force in the international market (Schmitz, 1995a, b; 1999; McCormick, 1999; Brautigam, 1997). Small manufacturers can cater for the internal market, but rarely can they compete in the distant markets if they are not part of any local network to complement each other. Rabellotti (1999) interviewed exporters in the Guadalajara cluster in Mexico and they confirmed receiving large orders that were relatively standardized allowing members to work together to fill such an order. Exporting in groups can help firms overcome their key resource deficiencies and provide an assured path to foreign market penetration.

The findings from a textile group in Scotland, the Scottish Cashmere Club have demonstrated the power of co-operation among competitors in export market expeditions (Phambuka, 2003). Co-operation of the club members gave them a bigger identity in their export markets as compared to individual firms competing on their own. This group even had the ability to organize fashion exhibitions with little or no outside assistance. They saw this as a positive sign for locating in a cluster.

Strategic business information

Strategic information exchange is one advantage that results from clustering and does contribute to the informed decision-making of a business (Visser, 1999). Uzzi (1996) conducted a study among some clustered small American apparel firms, specifically looking into information exchange between them. He concluded that information exchange in embedded ties is more proprietary and more tacit than information exchanged at arm's length. According to Cooke and Wills (1999), the concept of "embedded ties" includes strategic and tacit know-how that boosts the firm's transactional efficacy and responsiveness to the environment. Businesses need advanced information on quality improvement or how they could manage their flexibility and other innovative strategies that can boost their competitive advantage in the international market. Therefore, businesses should actively co-operate and seek complementary views from each other, including outside the cluster.

Labour market pooling

By bringing together a number of businesses from the same industry, a larger pool of skilled labour can be created (Porter, 1998; Kloosterman et al., 2001). Within the boundaries of the cluster, a dense, mobile, and specialized labour source can be found which in turn can enable the firms to take a short-run labour adjustment if needed (de Propris, 2001). For example, a need may arise to attend to changing customer needs of quality or increased customer demand. The transaction costs of searching, screening and hiring are reduced because businesses can easily find skilled and specialized workers they need within the cluster (Porter, 1998). Labour mobility enables

continuous on-the-job training that ensures improvement on workers' expertise and saves conventional training costs. It also enables multi-skilling and ensures not only the availability of highly trained labour but also labour that is 'flexible' within the cluster.

Proximity to suppliers and customers

In a cluster most of the firms are likely to be drawing upon the same specialised inputs, that is, using the same suppliers and other services (Prevezer, 1997). All these inputs are likely to be available locally at greater variety and low costs, thus reducing the transaction costs of having to source from afar. A cluster has greater negotiating power with the suppliers than an individual firm. Where suppliers are located nearby, the need to store large quantities of inputs diminishes, hence saving the amount on cost of working capital needed (Porter, 1998). In addition, nearby suppliers are best positioned for regular information exchange and improved cluster development (Porter, 1990). A cluster may also pull in customers that offer the best possibilities for transmission of information, engaging in regular interchange about emerging needs and technologies.

Pooling of financial resources

Clustering can facilitate specialisation and therefore, effectively allows investment in small steps by individual businesses. It enables businesses to operate according to their ability without necessarily putting too much strain onto their available financial resources. In some instances, associations formed within the cluster can create solid relationships with financial institutions, and thus can provide some guarantees for loans to the cluster members (Rosenfeld, 1997). Rosenfeld asserts that in Europe, banks are accustomed to working with clusters.

As discussed above, the benefits of business clusters are quite substantial and all emphasize on acquisition of business competitive advantage. This is particularly important in the international market where competition is tense. It will be desirable to encourage clusters for business and economy long-term benefits, particularly in developing nations. More businesses would be attracted to join the clusters if they were convinced of benefits of being part of such structures. However, this is not an easy task. The next section looks at some of the potential challenges in the formation clusters.

CHALLENGES TO ESTABLISHING BUSINESS CLUSTERS

Inherent complexity of cluster management

The greatest challenge in building clusters is the inherent complexity of management and multiplicity of partners in decision-making process (Shotton, 1998). Shotton argues

that rather than operating by the hallowed principles of divide and rule, networks and partnerships in clusters imply overlapping relationships that can only be managed through consensus building, but that is difficult to achieve. Clusters require a different mentality from that traditionally one prevailing in our societies, whether public or private. Transition from the individualism of economic man, where interest is pursued by individual actions alone, to teamwork and the subsequent existence of mutual understanding, is what characterizes a cluster (Best, 1990).

Mizrahi (1998) related the co-operation that is required in clusters to Game theory. This theory is concerned with the prediction of outcomes from social situations where two or more people are involved. The assumption is that there is always a problem of multiple person decision-making. Decision making at all levels has to embrace the ideas and orientations of all the members concerned in order to develop the kind of culture that the new situation demands and to cope with the increased role of complexity (Brooks et al., 1996). These authors argue for the development of flexibility in management of the clusters to facilitate strategic competitiveness in the organizations' chosen markets.

Opportunistic behaviour

The business community needs to be aware of and understand the changing modes of competition (Bessant and Kaplisky, 1995). If this happens, then businesses would accept ownership of their own acts and their particular predicament. Sometimes a group of entrepreneurs will stick together for as long as there are material benefits from the project they are involved in. However, Altenburg et al. (1999) argue that the greatest difficulty in cluster development is getting individual businesses to see beyond their narrow personal interests. There is dilemma in the choice between co-operating and competing. Some members may have more self-interest at heart, but it is full co-operation that is needed for cluster success.

Best (1990) provides an interesting parable "*the tragedy of commons*" in an attempt to explain why, businesses may not work together even though there may be some benefits accruing to them in doing so. He points out that the benefits of joint action are solely dependent upon the norms of mutual responsibility, mainly reciprocity and sufficient levels of trust. These are needed to encourage professional interaction and collaborative behaviour. Such norms are crucial to best working clusters (Rosenfeld, 1997). However, these may be easily eroded by opportunistic or free-riding behaviour of some individual businesses that want to enjoy the benefits given by others yet are not willing to give something in return. The fact that individual behaviour is motivated by self-interest creates a strong potential for conflict in any human interaction (Mizrahi, 1998). This conflict usually will turn into a tit-for-tat situation where one individual

would co-operate and continue to do so, as long as others do. They would also calculate any of their future moves into co-operation depending on the value they attach to the present co-operation. If they see this value as decreasing, then any offer intended for the benefit of the other party will be reduced as well. Subsequently, this will reduce the synergy, dynamism and the subsequent competitiveness of the cluster.

Domineering members in the cluster

Schmitz (1995b) and Rosenfeld (1997), point out that some members dominate clusters. This usually occurs in cases where some self-help organizations are established. The domineering members may use the organizations to serve their own interests and not collective interests of all members. Rosenfeld notes that it is not uncommon for a cluster in the US to be dominated by a very small number of large companies. He further observes that in a worst case scenario, these large companies may easily leave the cluster for other places where production costs are lower, hence creating some gaps in the core clusters. The issue of trust is a precondition to enjoying the benefits in clusters and should be reciprocal. Where it is biased other members may not feel free to join or continue in the cluster and will not be free to share their own ideas. This limits the development of innovative ideas to the detriment of the cluster success. The shared know-how is perceived as the best source of competitive advantage (Cooke, 1996a).

Conclusions

Globalization of trade offers new opportunities in terms of new markets, new technologies, new skills and others. But most important of all, it is leading towards outward orientated growth prospects among enterprises than ever before. However, as the globalization heightens, it exposes developing countries to competition from imports, multinational companies and other lower cost enterprises. Simultaneously, products from these countries have to meet the international standards in terms of quality, price and delivery for them to compete well in the global market.

Overall, businesses need to survive and over the past two decades the business cluster approach has increasingly been recognized, particularly by developed countries as an important strategy to help them compete successfully in the world market. Thus the review of the cluster approach has both practical policy and research implications. Specifically it serves as a challenge or guide to policy making on business development in developing countries where most businesses are SMEs. SMEs generally suffer enormous competition as a result of the recent world market globalization and liberalization. In the present review, there is implication that developing countries still lag behind in the use of the cluster approach despite

its many benefits. These countries need to see business clusters as critical and part of a wider competitive agenda. Clusters need to be encouraged as part of business development despite the challenges involved.

However, to implement a successful cluster approach in developing countries, various aspects need to be considered before hand. Among others, there is need to assess the quality of public-private sector relationships, that is how civil servants, charged with the responsibility of implementing policies, and private sector agents, who must respond to those incentives and the support provided, react towards one another (Staab, 2003). The same policies aimed at promoting economic growth can have a positive impact in one country and a negative impact in another because of the quality of public-private sector relationship. The relationship should be of that of mutual trust amongst the partners, thus necessitating a friendly and supportive environment for the business to flourish. Noteworthy also, is that every government has a big role to play in building successful clusters. Some government designated institutions can serve as effective monitoring systems for businesses in clusters. Contrary to what has been regularly said about the negative experiences by private businesses with government initiatives, some findings suggest that indeed collaborative work in clusters can be institutionally shaped. By helping to identify flocking mechanisms (Phambuka, 2003) or common problems that mainly affect most businesses in a particular industry, government institutions can help instill a positive attitude towards co-operation among businesses.

Flocking mechanisms may even play a bigger role in trust development amongst members of the cluster. The Scottish Cashmere Club, mentioned above earlier on, is characteristic of this (Phambuka, 2003). With a strong involvement of Scottish Enterprise Borders, a government institution, the idea was to first pull all the companies together at a very basic level and know what each was doing. Because of some overlaps in what the companies were doing, a better view of what the industry as a whole required, was mapped. Then there was an agreement by the companies, led by Scottish Enterprise Borders, to make submission to the government in one voice, lobbying for the latter to look at textile industry's needs. Thus, the Scottish Cashmere Club was formed and now focuses building on and maintaining relationships between its members. Though Scotland is developed, this example can be easily practiced in a developing country.

Facilitating trust development among businesses is not easy, but trust is a precondition for every successful cluster, hence should be emphasized. Finance remains the most vulnerable business development tool and is easily abused. Policy makers ought to consider alternative innovative solutions to business development and clusters being one such, rather than financial incentives. A practical research implication in this paper is that the literature on clusters that has been produced in developed countries can assist with the development of methodological foundations for further

research in developing countries.

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