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Clustering, Innovations and Trust: the Essentials of a Clustering Strategy for Scotland

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Abstract

Scottish Enterprise, the development agency for Scotland, has recently launched a ‘Clusters Approach’ for its key industrial sectors. Building on the established literature on industrial districts and the practice of successful public-private sector working in Scotland and elsewhere, this approach to regional economic development readily acknowledges that clustering is reliant on strong partnerships and that if synergy is to be maximized then the whole process of the knowledge based economy is dependent upon... “working to build trust and a shared vision”. However, we believe that if Scottish Enterprise is to be successful in its clustering strategy, then the nature of trust and cooperation within a partnership framework needs to be fully understood. We focus on the need for trust and cooperation, therefore, along with some brief commentary regarding the role of trust and cooperation within the industrial districts of the *Third Italy*. Analysing the experience of the existing partnerships in Scotland, the evolving partnership governance structures within Scotland are examined. We then conclude with policy implications and warning signs for the development of a clustering strategy based on the learning economy within Scotland.

Introduction

Scottish Enterprise, the development agency for Scotland, has recently launched a 'Clusters Approach' for its key industrial sectors, arguing that if regions and nations are to be competitive in the next century they must be at the forefront of knowledge production. In order to compete, Scottish Enterprise (SE) readily acknowledges that the information and ideas created and developed through clustering are reliant on strong partnerships and that if synergy is to be maximized then the whole process of the knowledge based economy is dependent upon... "working to build trust and a shared vision." (Scottish Enterprise, 1988, p1). The envisaged strong partnerships will ideally consist of customers, suppliers, competitors, universities, colleges, research bodies and the utilities, in other words will be a private/public sector mix. This is hardly surprising given the nature of the output produced, namely information, and the notoriety of the private sector to under-invest in research and development. This under-investment occurs due to the large element of fixed cost associated with the development of a new product or process, the inability of the innovator necessarily to reap the benefit of the innovation, and the uncertainty attached to whether a new product or innovation is to be successful. Given that knowledge production creates spillovers, and that much of the knowledge produced is tacit, and further, that new product and processes will benefit from critical commentary from all the players involved in the Partnership, there is a spatial element attached to the idea of achieving a competitive advantage through the establishment of a 'Learning Economy' within the globalised economy. The spatial dimension can be at a regional or a national level or indeed can transcend state/regional boundaries. Much of this is readily accepted within the existing literature and is acknowledged within the second section of this chapter.

Of equal importance to the creation of new products and processes, and because 'Learning Economies' consist of Partnerships, the ability for efficient communication between the members of the cluster is essential. This efficient communication will be assisted if the partners within the cluster can trust one another so that fears of one member appropriating the new idea or innovation can be reduced. What would greatly facilitate communication is the adoption of an appropriate institutional framework. This

is recognised within the current literature on ‘Learning Economies’, but the nature of trust and cooperation is rarely discussed within this context. The ideas of trust and cooperation, however, are acknowledged to be the key to the success of some of the most well known regional economies of recent times, the industrial districts of the *Third Italy*, for example. We believe that if SE is to be successful in its clustering strategy, then the nature of trust and cooperation within a partnership framework needs to be fully understood. We focus on the need for trust and cooperation, therefore, along with some brief commentary regarding the role of trust and cooperation within the industrial districts of the *Third Italy* in the third section of this chapter.

Within the Scottish economy, there already exist examples of partnership frameworks which could be adopted to assist the success of Scottish Enterprise’s clustering strategy. The most successful of these partnership institutions is the Strathclyde European Partnership (SEP). The SEP has received widespread acclaim (Danson, Fairley, Lloyd and Turok, 1997) as a model for bringing together the key players - both public and private - for the delivery of regional economic development. The evolving partnership governance structures within Scotland are examined here at a regional and county level highlighting both good and bad practice. We then conclude with policy implications and warning signs for the development of a clustering strategy based on the learning economy within Scotland.

Innovation and Learning

In its desire to establish a clustering strategy, SE is acknowledging the long held view that European firms and industries are losing their competitive advantage in the main to the US and Japan (CEC, 1993). This loss is attributed in part to the lack of innovation within the EU: “Among the factors having a major impact on the competitiveness of the Community economy, Member States point particularly to the followinginadequate assimilation of new technologies combined with failure to exploit properly the results of research and technological development, leading to difficulties in concentrating the production of goods and services in leading-edge and high value-added industries.” (CEC, 1993, p72). Yet conversely within the EU, certain regional economies have been

economically successful in terms of the usual economic indicators such as job creation and GDP growth. The reasons for success within these regions is partially attributed to the ability to be innovative. The role of knowledge and the innovation process has been identified by economic growth theorists as being a significant factor in endogenous growth theory and in accounting for the Solow residual (Boltho and Holtham, 1992; van der Ploeg and Tang, 1992; Scott 1992). The key component of the innovative process is the creation of knowledge, a point recognised by theorists and practitioners alike, (see, for example, Gregersen and Johnson, 1997; CEC, 1993). The recognition of this point has focussed attention on how firms, regions and indeed nations innovate. In researching this phenomenon, regional scientists have utilised the methodology of the evolutionary economists: Gregersen and Johnson (1997), Morgan (1997), Grabher and Stark (1997), Storper and Scott (1995), Storper (1992 and 1995) and Lundvall and Johnson (1994). A major contribution on the discovery and utilisation of knowledge is attributable to the institutional framework which evolves to facilitate the process. Institutions in this sense include both formal organisations, such as regional development agencies, and informal, which can be defined as... “a social organization which, through the operation of tradition, custom or legal constraint, tends to create durable and routinized patterns of behaviour.” (Hodgson, 1988, p10). The emphasis from the regional science perspective is that due to the nature of knowledge - much of it being *tacit*, it is not easily transferable - the system or region which creates it will develop the advantages associated with innovation. Furthermore, Storper (1995) highlights the importance of what he describes as “untraded interdependencies”. For Storper the interdependency arises due to the way technology is developed. Utilising the evolutionary approach he focuses on the path dependency nature of technological development. “Technologies, for one thing, are subject to a variety of user-producer and user-user interactions.” (Storper, 1995, p204). Where clustering occurs because of some commonality of technological development then “untraded interdependencies” arise, such as common coded language, norms, customs and practices. These common institutions lead to easier communication and facilitate trust and cooperation. Similarly, Freeman comments... “Firms learn both from their own experience of design, development, production and

marketing and from a wide variety of external sources at home and abroad - their customers, their suppliers, their contractors...and from many other organisations - universities, government laboratories and agencies, consultants, licensors, licensees and others.” (Freeman, 1994, p470). This list is not unlike those institutions identified by Scottish Enterprise which make up a typical cluster: companies, customers, suppliers, utilities, research institutes, education (see below).

***** FIGURE TO BE INSERTED*****

Whilst original ideas may be learnt from outwith a specific locality the implementation, the innovation, can be achieved most efficiently within an area with sympathetic institutions, that is, an area where “untraded interdependencies” have developed. Gregersen and Johnson (1997) make a distinction between “the production of knowledge and the utilization of knowledge”. What is significant for Gregersen and Johnson is that... “learning has become increasingly endogenous. Learning processes have been institutionalized and feed-back loops for knowledge accumulation have been built in, so that the economy as a whole is learning by interacting in relation to both production and consumption. When economies learn how to learn the process tends to accelerate.” (Gregersen and Johnson, 1997, p481). This would be the ultimate aim of a clustering strategy based on the learning process. The whole process of acquiring new knowledge, the processing of the new knowledge into innovative methods of production resulting in new learning for all the participants in the cluster which in turn leads to further advances in new knowledge.

Surprisingly, many of the regional scientists already cited negate to identify the locational aspects of learning regions with the earlier studies of Marshallian industrial districts, Storper (1992) being a notable exception. It was Marshall who first identified the establishment of what is now described as *tacit* knowledge, with his description of industrial districts possessing the attribute of new ideas “as being in the air” (Marshall, 1916, p271). Indeed, it has been suggested that Marshall himself can be regarded as an institutionalist/evolutionary economist (for example, see Jensen, 1990). In the words of Marshall, “Good work is rightly appreciated, inventions and improvements in machinery processes and in the general organisation of the business have their merits promptly

discussed; if one man starts a new idea it is taken up by others and combined with suggestions of their own; and thus becomes the source of yet more ideas” (Marshall, 1890/1930, p271) Implicit in this citation is an ongoing interaction between the key players in a spatially specific area, in Marshall’s case an industrial district. This citation of Marshall’s provides a full summary of the learning process as analysed by Gregersen and Johnson, (see above citation) and Lundvall and Johnson (1994, p26). In addition to the usual list of agglomeration economies and external economies of scale which are gained through organising production within spatially defined areas, we have seen that the learning economies also develop norms and practices which enable the key players to interact in an efficient manner.... “The idea that lies at the centre of the concept of innovation systems is that the overall innovative performance of an economy depends not only on how specific organizations like firms and research institutes perform, but also on how they interact with each other and with the government sector in knowledge production and distribution.” (Gregersen and Johnson, 1997, p482). In a similar vein Lundvall and Johnson comment.... “knowing how to do things in isolation is not the decisive type of knowledge any more. Knowing how to communicate and cooperate becomes much more important than before.” (Lundvall and Johnson, 1994, p25). Storper (1995) notes that all production systems involve uncertainty and that “The main way that such uncertainty is resolved is through *conventions*, which are taken-for-granted rules and routines between the partners...” (Storper, 1995, p208). The most important of these conventions we would argue is trust and cooperation. So whilst theorists of the ‘Learning Economies’ identify the need for communication and whilst the method to produce efficient communication namely the conventions of trust and cooperation are acknowledged the nature of trust and cooperation is not widely discussed. It is to this aspect of relationships within the ‘Learning Economies’ we now focus our attention.

The Nature of Trust and Cooperation

It has already been noted that if a cluster is to operate efficiently then effective communication is essential. If communication is to be effective then a degree of trust

and cooperation will facilitate this process. In this section we wish to highlight some of the key characteristics of trust and cooperation which will assist in the efficient operation of a clustering strategy. In a similar vein, where trading takes place amongst the various actors within a cluster learning occurs as with trust and cooperation, that is, wherever exchange takes place, either in the market, or through firms, a degree of cooperation takes place. So, for example, the division of labour, so crucial for *The Wealth of Nations*, is dependent on cooperation between the parties involved. Similarly, business deals involving millions of pounds are concluded on the strength of a handshake and currency deals struck over computer terminals are all based on a degree of trust.

Burchell and Wilkinson (1997), building on these aspects of conducting business, highlight what they see as two dimensions of a business relationship, that of cooperation and competition: “Trading partners derive mutual benefits from cooperation in production from which their incomes are ultimately derived, but they compete over the proceeds of production because what one gets the others cannot have. Every business relationship is therefore by its nature both rivalrous and cooperative” (Burchell and Wilkinson, 1997, p219). What we observe in a clustering strategy is a greater emphasis being placed on the cooperative aspects of the exchange relationship. Accepting that there are two sides to a business relationship we are confronted with the problem of ensuring economic actors, who may prefer a cooperative option, are not to be the victims of opportunistic behaviour.

One method of attempting to restrict opportunistic behaviour is by organising production within an institution, such as a firm, as opposed to the institution of the market. Coase (1937) observed there are instances where it is economically more efficient to do this. The costs of using the market mechanism can be reduced by organising production within the structure of the firm. Similarly, contracting arrangements can act as a means to reduce the costs of coordination, but there are costs involved in establishing and monitoring contracts (Williamson, 1993). Furthermore, it has been observed (Macaulay, 1963) that whilst detailed clauses are often written into contracts they are seldom used... “contract and contract law are often thought

unnecessary because there are many effective non-legal sanctions. Two norms are widely accepted. (1) Commitments are to be honoured in almost all situations; one does not welsh on a deal. (2) One ought to produce a good product and stand behind it.” (Macaulay, 1963, p63). So even when measures are taken to monitor actors’ behaviour it is often the case that an environment develops whereby implicit contracting ensures enforcement is not necessary, the cooperative aspect of trading surfaces once again. What these preliminary comments tell us is that there is a degree of cooperation and trust in evidence wherever exchange takes place and that whilst there are legal sanctions available for organisations to enforce compliance these are rarely used. These comments are worth bearing in mind in our examination of the characteristics of trust and cooperation to which we now turn.

Gambetta (1988) in discussing the relationship between trust and cooperation argues that it is through cooperation that trust will evolve. Gambetta defines trust as “a particular level of the subjective probability with which an agent assesses that another agent or group of agents will perform a particular action, both before he can monitor such action (or independently of his capacity ever to be able to monitor it) and in a context in which it affects his own action.” (Gambetta, 1988, p217). As we have already noted, in a similar light effective learning will occur when actors engage in exchange. This definition from Gambetta raises two important points. First, there is the implication that individual actors will calculate the probability of an actor behaving in a particular way. This behaviour can be monitored. Secondly, Gambetta raises the possibility that not all activities of an individual actor can be monitored. If actions cannot be monitored what guarantee is there that an actor will behave in the manner expected? How can cooperation be guaranteed? In situations where behaviour cannot be monitored is it worthwhile calculating the probability that the individual will act in the expected manner? It will be argued below that where exchange takes place within productive systems, in this case clusters, institutions will develop which will ensure, as far as possible, that certain types of behaviour can be guaranteed. Using monitoring arrangements suggests there is some way of guaranteeing compliance or at least ways of preventing opportunistic behaviour. In other words, Gambetta is moving beyond a

simple transaction cost approach. Gambetta's definition implies monitoring is not always necessary.

In line with Gambetta's definition, the literature on industrial districts identifies trust and cooperation in a way which transcends the notion of simply reducing transaction costs. The accepted values of trust and cooperation transcend the productive units of the district and embrace the whole community. "A carefully nurtured collective identity can potentially provide the social fabric which sustains cooperation in an industrial district as in a corporation." (Best, 1990, p237). The identification of the industrial district encompassing firms and a wider community as a whole, "as in a corporation", is a point identified by Becattini in his definition of an industrial district: "I define the industrial district as a socio-territorial entity which is characterised by the active presence of both a community of people and a population of firms in one historically bounded area....The most important trait of the local community is its relatively homogeneous system of values and views..." (Becattini, 1990, p38-39). This collective identity has resulted in a large degree of trust and cooperation between the SMEs operating in the industrial districts of *The Third Italy*.

The trust and cooperation occurring in the industrial districts of *The Third Italy* are of a differing order than that occurring in a simple exchange relationship. We would argue that due to the establishment of a culture of trust and cooperation between the firms we are witnessing economic interaction with limited calculation and monitoring. In the literature at least three different types of trust are acknowledged: contractual trust, competence trust and goodwill trust (Sako, 1992). Contractual trust is the trust which exists between trading partners which results in the belief that goods will be delivered on time, be of the required specification and agreed quantity and quality. Competence trust simply refers to the belief you have that a trading partner will fulfill a particular task. Goodwill trust occurs in situations where initiatives are undertaken beyond the specific remit of a contract... "the role of goodwill trust extends beyond existing relations and includes the transfer of new ideas and new technology. Thus, while contractual and competence trust mainly benefit operational efficiency, goodwill trust also contributes to the dynamic efficiency of productive systems" (Burchell and

Wilkinson, 1997, p218). Quite clearly, it is this latter type of trust which is to be found within the established industrial districts. The question then arises how can contractual trust be developed into goodwill trust? Ideally this is the type of trusting relationship which is required if a clustering strategy is to be successful. Put another way, how can the cooperative aspect of an exchange relationship be developed so that cooperation and trust become the norm for business undertakings?

These objectives can be achieved by two, not unrelated, means: policy delivery and collective action. Policy delivery can be utilised to promote a cultural change. Collective action needs to be developed to guarantee cooperation and trust within the productive system. A pertinent example of policy delivery resulting in a cultural change is provided by Hodgson (1988), who uses the example of the introduction of seat belt enforcement in the UK. The point about this policy initiative is that it resulted in changed behaviour. The policy was accompanied, of course, by a degree of coercion. The chances of detection of not wearing a seat belt, however, were slim and the educational campaign highlighting the benefits of wearing seat belts was established long before 1983, the year of introduction of the law enforcing their use. Hodgson's argument is that: "The authority of the law had the effect not simply of changing behaviour by the introduction of penalties or the perception of costs and benefits. In addition, it changed these individuals themselves and their goals." (Hodgson, 1988, p137). In other words, through policy delivery individual behaviour can be changed. Change affecting many individuals will result in a different culture being established. Using coercion implies that action can be taken to ensure compliance. Over-reliance on coercion, however, may well lead to distrust. Actors may well question the amount they are actually trusted if they have to be continually monitored. More significantly, if one actor is able to exercise coercion over another this suggests an unequal distribution of power in the relationship. "It introduces an asymmetry which disposes of mutual trust and promotes instead power and resentment." (Gambetta, 1988, p220).

To overcome the potentiality of mistrust through monitoring or punishment strategies which may be used in an attempt to guarantee compliance the promotion of collective action needs to be encouraged. Potential members need to be aware of the benefits to be

achieved from belonging to the productive system: “large organisations that are not able to make membership compulsory *must also* provide some noncollective goods in order to give potential members an incentive to join” (Olson, 1971, p17). The economies arising out of organising production within industrial districts have been highlighted elsewhere (Oughton and Whittam, 1997) and are not of a major concern for this chapter. This promotion of collective action within established productive systems, such as industrial districts, has led to the actors taking on a group identity, as previous citations have indicated. The development of a group identity results in the individual actor placing the group’s interests above their own self-interest. However, even where it is appreciated that benefits exist for the individual by pursuing group interests there is still the necessity for some compulsion. Where elements of public goods are being delivered there is always the temptation to “free-ride”. Goods and services, such as facilitates for engaging in research and development, are typically provided within learning economies, and contain elements of public goods. Cooperative advertising strategies promoting a region or country as a whole indirectly advertise all businesses within the geographic area and hence suffer from the “free-rider” problem. Within industrial districts the compulsion element resides in the fact that you have to be a member of the club, the Real Service Centre, the cluster and thus if you break the rules you can be excluded. Once established inter-firm relationships develop norms of behaviour, custom and practice which facilitate trust and cooperation which can result in ‘embeddedness’ (Granovetter, 1985). Being a member of the club leads to the established relationships being long term due to the investment undertaken to become a member in the first place, and if you did leave “competitors and customers would ask why” (Arrighetti et al, 1997, p190).

In this section we have identified the dual nature of business relationships. There are economic gains to be achieved, particularly for SMEs, by the promotion of the cooperative side of the business relationship. In order to promote the cooperative side of this relationship it is necessary to reduce the risk of opportunistic behaviour. This can be done via the promotion of trust and the establishment of inter-firm relationships. We noted three different types of trust and argued that it is goodwill trust which should be

sought in establishing networking relationships between firms. We have further argued, by drawing on the experience of the *Third Italy*, that policy delivery can assist in the development of trust and cooperation. Whilst it would be desirable that punishment strategies or enforcement mechanisms are not used, because of the danger of promoting distrust, these factors are always present, even in best practice examples of inter-firm relationships. The enforcement mechanisms exist in the form of institutional norms and practices and in the development of more concrete organisational structures. Member firms who may 'cheat' on other member firms can be excluded from the institution or organisation. This idea of examining firms within a framework of institutions and organisations suggests Scottish Enterprise, with its objective of establishing clusters, needs to develop a collective approach to the creation of inter-firm relationships. We now consider the recent working of the established partnerships within the economy of Scotland.

The Development of Clustering Within Scotland

It has been claimed that Scotland has given the European Union the model approach to regional economic development, with its strategic partnerships of central and local government, regional development agencies, QUANGOs, and other players in the public, private and voluntary sectors (Danson et al, 1997). These partnerships have been established over the last twenty years, especially in West Central Scotland, through the progressive development of multi-agency, multi-annual, multi-functional initiatives, task forces and area agreements (Randall, 1987; Moore and Booth, 1986). Whilst there have been criticisms of individual partnerships (Boyle, 1989; Collins and Lister, 1996), their durability and transnational acceptance has been testament to the perceived effectiveness and success of these forms of comprehensive intervention in the regeneration and redevelopment of communities.

The ability of Labour Party dominated local authorities, such as Strathclyde Regional Council and Glasgow District Council, to work closely on a common agenda with the market oriented Scottish Development Agency (Danson, Fairley, Lloyd and Newlands, 1980), and the private corporation based Enterprise Trust movement (albeit that their

sponsorship was predominantly derived from the public purse) over such a long period in a series of partnerships at the local and sub-regional levels suggests the building of trust through cooperation and experience. This has been critical in producing a model of intervention which is now adopted across the European Union.

Although not cited in the literature of the successor body to the Scottish Development Agency, Scottish Enterprise, the advantages of such partnership working can be discerned in the move towards a cluster approach to regional economic development within Scotland. Both at a national level and also within regions and sub-regions, there is now an acceptance that partnerships are not only a legitimate and effective way of coordinating and focusing the resources of a number of agencies onto a problem, but also the favoured approach. Local further education colleges, housing agencies, health boards and others have joined the mainstream economic development bodies in stressing the benefits and the need to work in formal partnerships with each other in meeting economic and social challenges, and their commitment to participate in these formal arrangements. The clusters strategy (Scottish Enterprise, 1998) stresses the need to position Scotland at the high value end of the market (p4), with enterprises active in the cluster operating within 'a local economic environment geared to innovation, investment and upgrading' (p4). The strategy will be advanced by a flexible partnership of public and private sectors, which will include industry, education and government. It is argued that the 'search for synergy must underpin means as well as ends'. These partnership will devise action plans around which all economic players will cluster to promote an integrated development policy. Integration will be extended to the critical issues identified elsewhere by Scottish Enterprise: 'the need to capitalise better on Scottish scientific and technological expertise; to help companies build up their research, design and development capacities; to stimulate entrepreneurship; to encourage companies' international ambitions and to build a high-performance transport infrastructure' (Scottish Enterprise, p4, 1998).

The strategy is to be underpinned by these other objectives and agencies, therefore. It will be holistic, acting upon synergies and linkages. The clusters will be inclusive, of both indigenous and inward investment especially. Technology, innovation and

sustainable economic growth and development are stressed, suggesting the transmogrification of Scottish Enterprise back into the regional development agency envisioned in the 1970s, rather than the business agency of the last few years (Danson et al, 1980). This approach is being applied in many geographical and functional contexts with the reliance on the single agency forsaken in all areas of (re)development. This section of the chapter will assess the extent of this by focusing on one particular area in Scotland - Ayrshire - to evaluate the contrast between this sort of trans-public agency partnership, built on trust and cooperation established over many years, with the emerging clusters approach to industrial regeneration and development, based on a model which is promoted by Scottish Enterprise but which does not seem to recognise the full implications of the philosophical underpinnings of the industrial district.

Local Economy Regeneration Partnerships

In Ayrshire, through an initiative which is being replicated across lowland Scotland, the local enterprise company Enterprise Ayrshire (the locally managed government agency established to coordinate the delivery of training and business development services and infrastructure), the three local authorities (East, North and South Ayrshire Councils), the Ayrshire Chamber of Commerce, the government housing agency Scottish Homes, the trades unions through the Scottish Trades Union Congress, and Scottish Enterprise have come together as Ayrshire Economic Forum to prepare a collective Ayrshire Economic Development Strategy. Over the last year, the Forum has discussed the issues facing the county in the next half century to produce a Consultative Document 'A Vision for Ayrshire' (Ayrshire Economic Forum, 1998). This has been used to include the whole community in a period of reflection and debate over the future development of the area. This 'Challenge for the 21st Century' repeatedly stresses the need for partnership, cooperation and cohesion with a recognition of 'our identity', 'our collective voice', 'our common cause', 'our Vision' and 'community'.

Such phraseology and sentiment is supported by independent reviews of the local economy and local market. The report 'Labour Market and Skills Trends in Ayrshire' claims to be 'tangible evidence of the commitment to a partnership approach to

identifying and addressing economic issues in Ayrshire' (Ayrshire Economic Forum, 1997, p3), with again use of self-containment in the county labour market, integration and 'a strong partnership amongst local agencies' promoted as evidence of a cohesive economic community. Social inclusion runs through the policy recommendations subsequent to this report and on into the plans and philosophies of the other agencies separately.

Thus, Scottish Homes in the region promises that 'the majority of our [future] investment ... delivers against existing multi-agency commitments, with specific initiatives already identified and being prepared with partners' (Scottish Homes South & West, 1998, p29). In a similar vein, South Ayrshire's strategy document '2020 Vision' is built on the idea of partnership and cooperation with the other agencies operating in the area, and beyond. Joint campaigns in favour of infrastructure improvements (extension of the motorway system into the county) and in response to economic challenges (redundancies and closures) are strengthening progressively.

Within council areas, at a lower level of community, the former government's programmes for 'Priority Partnership Areas', 'Regeneration Areas' and 'Smaller Urban Renewal Initiatives' are continuing to attract the support of a range of organisations and demonstrate a significant degree of cooperation between agencies to deliver synergies and effective performances in economic development delivery.

At a higher scale, the members of the Ayrshire Economic Forum are cooperating to secure enhanced levels of inward investment, European Union funds and central government resources. These initiatives illustrate a maturing of the partnership approach established under the Scottish Development Agency and Strathclyde Regional Council in the 1970s, and nurtured over the intervening years. It is notable that they are still present after the dislocations precipitated by the creation of the local enterprise company network (as part of Scottish Enterprise, to replace the SDA) in 1991 and the reorganisation of local government in 1996. The trust secured and developed between organisations, and critically between the personnel of the successor bodies to the former SDA, District and Regional Councils, allows cooperation and partnership to survive and to be deepened in this environment.

By way of contrast with these developments, the recently promoted cluster approach in Scotland has shown less promise. The following section assesses the form and likely success of this approach to the economic development problems facing the Ayrshire economy.

The Clusters Approach at the County Level

In a development of the traditional industrial concept, the Scottish Enterprise cluster approach calls on companies to establish strong partnerships to build trust and a shared vision. These specialist networks or clusters will ‘fuel innovation and generate synergies’ that will enhance their international competitiveness (Scottish Enterprise, 1998, p1). These clusters will ‘mean encouraging competition, cooperation and strong networks right across the community and between the public and private sectors.’ The rhetoric, therefore, is very similar to the regional economic development partnership model described above.

This chapter does not intend a complete assessment of this sectoral reorientation of the Scottish Enterprise (SE) economic strategy, though see Botham (1997 unpublished) for an analysis. Rather, those key components of ‘Scotland’s Cluster Development Approach’ which illustrate the connectivity between the theory and practice will be analysed.

The accompanying diagram (above), taken from the SE strategy document, suggests a coherent, inclusive partnership of all relevant development organisations. The approach, and so resources, are to be focused on ‘some of Scotland’s most important value-creating clusters’: food, biotechnology, software, electronics, optoelectronics, and multimedia. Leaving to one side the geographical distribution of these sectors, most are under- or unrepresented in Ayrshire, for instance, and the dependence on foreign domiciled multinational corporations, there appears to be a number of divergences between the strategic approach seen from SE headquarters and the attempts at creating clusters more locally.

Within Ayrshire, traditionally two of the most significant sectors in terms of employment and gross value added have been textiles and engineering. Although both have a long history in the county, they have also seen major periods of restructuring, with new firms and products entering the economy locally and well established enterprises disappearing.

Past forecasts for these sectors and an assessment of their respective prospects and opportunities led to the creation of formal networking arrangements under two initiatives: the Ayrshire Textile Group and the Ayrshire Engineering Group.

As elsewhere in Europe, but especially in the UK, the clothing and textile industry has been considered as a 'sunset industry' since the late 1970s at least (Totterdill, 1992, p22). Structural adjustments in Scandinavia, Germany and Northern Italy to changing patterns of consumer tastes, competition from non-European countries and trading agreements prompted a reconsideration of the future for the industry in Scotland, and in Ayrshire in particular. Research suggested that to adapt successfully would require:

- intensive market intelligence linked to continuous design innovation;
- high levels of technical expertise, particularly in production planning and problem solving;
- a highly versatile system of production;
- effective use of distribution networks. (Totterdill, 1992, p24)

The idiosyncracies of the UK's relations with Europe are mirrored here in the response to the successful restructuring strategies adopted in the other areas of the EU. Evidence from the regionally important Nottinghamshire sector in England shows a range of local responses, some positive others less so. The need for intervention and the appropriateness of the forms of the above conditions pointed to the advantages of the establishment of an equivalent partnership or network in Ayrshire. Totterdill, at least, was arguing generally for a model close to the Emilia Romagna policy for such areas, representing a complex, multi-layered and decentralised model of partnership (1992, p47). The plans for Ayrshire supported such an initiative.

However, the subsequent development of the model locally is illustrative of the failure to achieve a positive restructuring of the industry, despite the creation of a partnership, without an understanding of the need to promote cooperation and trust (Danson and Whittam, 1998). And, as is argued below, this requires a degree of ownership by the constituent firms.

Scottish Enterprise identified textiles as an industry where clustering should be encouraged so that the industry can compete. At the local level Enterprise Ayrshire has

been instrumental in trying to implement this policy via the Ayrshire Textile Group (ATG). The textile industry in Ayrshire now represents 25% of Ayrshire manufacturing industry employing 9000 people and exporting £60 million per annum. In 1991 a partnership arrangement between Enterprise Ayrshire and the textile sector was established. This led to the creation of the ATG in 1992 with the establishment of a programme of assistance leading to the ATG acquiring its own premises in 1994. The commitment to working in partnership with the industry reflects the ethos of Enterprise Ayrshire's approach to local economic development... "it seeks to develop and build relationships with companies rather than superimposing a structure onto a sector." (ATG, 1994, p3). The ATG appears initially to have been successful in the "delivery of information advice and programmes in response to proven needs ... with more than 60% of local industry participating in some meaningful way" (ATG, 1994, p4). This has led to product development, moving products more up-market, increased diversification and marketing Ayrshire textiles as a group. However, there has been a failure to take the project forward to develop a "stand alone resource centre". To become "free standing", it is envisaged that the ATG must recover all its operating costs. In this context, Johnstone and McLachlan (1996) found textile companies reluctant to participate fully in the network which became an obstacle to realising economies of scale and scope, with 'a low level of trust and the strongly adversarial nature of the [local] sector' (p755) a significant factor. Unwillingness to pool resources, concern over allocation of orders within the network, apprehension over co-operation, and a failure to communicate were all cited as contributory reasons for the lack of a full commitment to the project by the member firms. The need for training in networking protocol and processes, the key role of the facilitator, and the benefits of contractual agreements between members were identified as necessary elements if the local industry was to create a successful cluster. It would appear that whilst ATG has attempted to develop a partnership the companies do not see the group theirs. There is a tacit recognition of this problem in terms of one of the reasons sought for the establishment of the "free standing" facility.. "The Ayrshire Textile Industry must view the ATG and its Resource Centre as their own" (ATG, 1994,

p13). This is one of the essential features of the 'ideal model' of the Strathclyde European Partnership.

Further, few companies were willing to pay for the services of the ATG, and where funds were provided for marketing, training and product development it was difficult to convince the firms of the requirement to quantify 'outcomes.' However, a limited number of innovative enterprises recognised the partnership as beneficial; these companies tended to support joint seminars, the use of CAD/CAM, the potential of linkages with tourism, and technology transfer initiatives. In the local lace sector in particular, which produces some unique products and occupies significant niche markets, there was a strong reluctance to pass on skills, experience and expertise to younger recruits. This will have inevitable consequences for the industry in Ayrshire.

A further attempt at delivering the clustering objective envisaged by Scottish Enterprise by a local enterprise company (LEC) is again to be found in Ayrshire: with the Engineering Ayrshire (EA) initiative. Engineering is the largest manufacturing sector in Ayrshire with over 180 companies employing over 14,000 people. It has a turnover of £1.9 billion and generates £1.3 billion in export sales (EA, 1997, p6). The original rationale for the establishment of the group arose because of the perceived lack of sales outwith the West of Scotland. To this end EA has organised trade missions, launched a public procurement initiative and provided individual members with export sales and product/process improvement support. The EA group is now seeking to widen its activities in order to capitalise on opportunities presented by changing market conditions. Of significance and giving grounds for optimism, vis-a-vis the possibility of the group becoming self-financing and realising key objectives such as developing the skills base in a collective manner, is the structure of the organisation. Unlike the ATG for example, the aims of EA state it should .. "be an organisation run by its members for the benefit of its members and the Ayrshire engineering and electronics sector" (EA, 1997, p9). Within its strategic objectives there is a responsibility placed on the membership to work in partnership with the relevant organisations, such as Enterprise Ayrshire, local councils, and trade associations and to attend relevant seminars and programmes. The group is managed by a steering committee, comprising senior

representatives from six companies and two Enterprise Ayrshire executives, which meets monthly. A full members' meeting is held at least once a year. By placing obligations and responsibilities onto the membership and by having an accountable framework for decision making of the group as a whole, it is hoped that the problems associated with the ATG in attempting to develop its strategy will be overcome. The essentials of an ideal network, outlined in the introduction, can be seen to be reflected in the EA clustering initiative.

Conclusion

The above demonstrates that a cluster strategy can be an effective instrument in the regeneration of a regional economy. The synergies and mechanisms for resolving conflicts identified in the case of the trans-public sector agency partnerships in Scotland have been significant in the adoption of the 'Scottish Partnership model' across the EU. However, the lessons from this approach coupled with the theoretical underpinnings in the literature on industrial districts have not been incorporated fully into the strategies for industrial clusters. Trust and cooperation are essential if the advantages of innovation and networking are to be realised across the players in a sector, and so if clusters are to be effective. In the successful partnerships described here, the long development of working relationships between organisations and between individuals have been critical in the process of formulating a successful approach to regional economic development. However, where networks have been dominated by multinational enterprises or their structures and modus operandii have been imposed from the centre, then there have been a significant problems in the perception and appreciation of the benefits of the new clusters, exemplified here by case studies from Ayrshire. Without some sense of ownership over their cluster and network, the small and medium enterprises who may have most to gain from the promotion of industrial districts realistically will remain excluded from these partnership activities.

The issue of the distribution of power within the cluster can be critical, therefore, to its acceptance and success. What guarantees are there that all the key players are going to play the game fairly? In other words, how can the cluster ensure that a multinational

corporation, which is not necessarily tied into a specific locality because of the relative mobility of capital, is going to share advances in knowledge acquired through the network?

As much of the output of knowledge is information and given the public good aspect of information, these concerns may be resolvable; certainly the evidence from Wales (Morgan, 1997) suggests this would seem to be the case. However, given the recent processes of the economic development of the Scottish economy and the special relationship with multinational corporations, this may not always be the result. As we have argued here, there is a need for Scottish Enterprise to create a structure for clusters which meets the desires of SMEs and indigenous companies to regain control over future development and so to have a stake in the growth and evolution of the industry.

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