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An assessment of the industry cluster approach as a tool for local economic development: The case of the new media industry in Birmingham

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Thesis Summary

Industry cluster policies are a current trend in local economic development programmes and represent a major shift from traditional approaches. This trend has been coupled by an increasing interest in new media industry as a significant focus for regional development strategies. In England clusters and new media industry have therefore come to be seen as important tools in promoting local and regional economic development.

This study aimed to ascertain the success of these policies. In order to achieve the aims of the study, the Birmingham new media industry was chosen for the study. In addition to an extensive review of the literature, semi-structured interviews were conducted with new media firms and Business Support Agencies (BSAs) offering programmes to promote the development of the new media industry cluster.

The key findings of the thesis are that the concerns of new media industry when choosing their location do not conform to the industry cluster theory. Moreover, close proximity in geographical location of the industries does not mean there is collaboration and any costs saved as a result of close proximity to similar firms are at present seen as irrelevant because of the type of products they offer. Building trust between firms is the key in developing the new media industry cluster and the BSAs can act as a broker and provide neutral ground to develop it.

The key policy recommendations are that new media industry is continually changing and research must continuously track and analyse cluster dynamics in order to be aware of emerging trends and future developments that can positively and negatively affect the cluster. Policy makers need to keep in mind that there is no uniform tool kit to foster the different sectors in cluster development. It is also important for them to be winning support and trust of new media firms since this is key in the success of the cluster. When cluster programs are introduced they must explain their benefits to industries more effectively in order to encourage them to participate in programmes.

The general conclusions of the thesis are that clusters are a potentially important tool in local economic development policy and that the new media industry has a considerable growth potential. The kinds of relationships which cluster theory suggests develop between do not, as yet, appear to exist within the new media cluster. There are however, steps that the BSAs can take to encourage their development. Thus, the BSAs need to ensure that they establish an environment that enables growth of the industry.

Key words: Clusters, location theory, regional development policy, new media and Information and Communication Technology.

Dedication

This thesis is dedicated to my high school headmistress Mrs Priscilla "Mancu" Mncube; my husband Sabelo and children Lobuhle and Bongumenzi.

Acknowledgements

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Glossary:

ABI	Annual Business Inquiry
AWM	Advantage West Midlands
AWMERS	Advantage West Midlands Economic Regional Strategy
BCCEDD	Birmingham City Council Economic Development Department
BCCI	Birmingham Chamber of Commerce and Industry
BEDP	Birmingham Economic Development Partnership
BEIC	Birmingham Economic Information Centre
BER	Birmingham Economic Review
BES	Birmingham Economic Strategy
BGTG	Business Growth Trust Groups
BSAs	Business Support Agencies
COG	Cluster Opportunity Group
DTI	Department of Trade and Industry
EDD	Economic Development Department
EDP	Economic Development Programme
EDU	Economic Development Unit
GORs	Government Offices for the Regions
ICT	Information and Communication Technology
IMEE	Interactive Media for Education and Entertainment
LEFM	Local Economic Focusting Model
OECD	Organisation for Economic Cooperation and Development
RDAs	Regional Development Agencies
R & D	Research and Development

SMEs	Small and Medium Enterprises
SIC	Standard Industrial Classification
SQW (Ltd)	Segal Quince Wicksteed Limited
TIC	Technology Innovation Centre
WMEB	West Midlands Enterprise Board
WWW	World Wide Web

Chapter 1

Introduction to the main research themes and issues

1.1 Introduction

Industry cluster policies are a current trend in local economic development planning. These policies represent a major shift from traditional economic development programs, which focus on individual firm oriented policies. Cluster policies are based on the recognition that firms and industries are inter-related in both direct and indirect ways. The popularity of the cluster policies has led to a strong interest among policy makers. Consequently, a number of governments in the OECD countries actively pursue cluster-based policy as a means to foster regional economic development (Lagendijk, 1999a; OECD, 1999b).

The industry cluster theory dates back to the works of Alfred Marshall (1930) who discussed the externalities of specialised industrial location. Marshall's work was further developed by Scitovsky (1963), Perroux (1955), Hoover and Vernon (1959) and Vernon (1960) to incorporate the concept of growth poles and backward and forward linkages, agglomeration economies, economic geography, urban and regional economics, regional science and social networks. The works of von Thünen (1826), Weber (1909), Christaller (1933), Lösch (1954) and Isard (1956) were among the main contributions to the traditional location theory.

Nevertheless, in recent years the industry cluster theory has been popularised by Porter (1990), through a comparative international study he conducted; it demonstrated that the economic base of nations succeed not only through the activities of isolated industries, but also through clusters of industries connected through vertical and horizontal relationships. His writing suggested governments, and other policy bodies, have a role to play in facilitating and supporting the development of competitive industrial clusters. He argued that governments could help to provide business with innovative and institutional environments vital for cluster success. As a result, a cluster approach was seen as a new way of enhancing competitiveness at regional and national levels.

This study has been applied in Birmingham England where the government has adopted the industry clusters approach for economic development in regions (DTI,1998). The Regional Development Agencies (RDAs) were charged with promoting the development of and reinvigorating business clusters. In addition, the Secretary of State for Trade and Industry, Peter Mandelson, in a speech in 1998 stated that the RDAs were to play a pivotal role in promoting networks and clusters in their regions (Maconichie and Hardy, 2001). The government's intentions were outlined in the White Paper "Our Competitive Future: Building the knowledge driven economy" and subsequently in the White Paper (DTI, 2001) *"Opportunity for all in a world of change: Enterprise, skills and innovation"*; where they clearly stated that they would support and encourage clusters through public policy.

According to Gibney (2000), the White Paper came at a time when local and regional development agencies were critically concerned with both sustaining and improving

the dynamic and developmental nature of their economies. Furthermore, the government had been losing their influence over domestic industry to global forces; whereby globalisation had allowed companies to source capital, goods, technology and to locate operations anywhere (Martin and Sunley, 2001). The cluster approach was seen not only as a new way of thinking about the economy, but also as an essential way of raising national competitiveness in an increasingly global market place (Martin and Sunley, 2001).

As governments pursued the cluster theory approach for economic development, there was the emergence of the new media industry. New media refers to the range of interactive digital products and services, which offer new ways to trade, market, educate and entertain, delivered through the internet, CD Rom, DVD, interactive TV and intranets (Pratt, 2000; Backlund and Sandberg, 2002). Pratt (2000) defines the new media industry as those firms "involved in developing tools and practices that exploit the potential of the worldwide web (www)". This industry is revolutionising economic activity with the new production technology, new products, new markets, new market relations and new occupational culture. So the promotion of the new media industry had become a significant focus for regional development strategy using the cluster theory approach; as it was generally believed that the new media industry was a highly desirable form of economic activity (Backlund and Sandberg, 2002).

The new media industry was also new to Birmingham's economy which had originally focused heavily on manufacturing. It was originally based on mining, metal works and engineering (Wood, 1976; Spencer et al., 1986; Elliot and Marshall,

1989; Martin, 1995). With the decline of these traditional industries, Birmingham City Council found itself faced with the challenge to develop a pleasant and prosperous city using the new economic development tools, that is, the cluster strategy, to promote the new media which had been identified as one of the growing clusters. The Council had to take proactive approaches to regenerate the economy of the city since it was faced with the problems of an outdated infrastructure and other industrial baggage; more so in promoting new growth sectors faced with the mismatch that existed between labour market demand and supply. Birmingham was to focus, among others, on the new media industry as it was identified as an embryonic cluster with high opportunities of growth.

1.2 The significance of this study

The industry cluster approach is based on the location theories [see Chapter 2] which state that firms locate in an area to minimise their cost in serving demand, mainly transportation. This study aims to ascertain the application of the theory in relation to the new media industry which focus more on offering professional services, dealing with high value, low weight manufactured products, that have minimal or no transportation costs as part of their production costs. The thesis provides empirical evidence on how new media firms choose their locations and the extent to which cluster theory applies to them. It thus contributes to the existing state of knowledge by establishing the relevancy of location in clusters to firms operating in this sector.

Local and regional economic development strategies across the country have sought to promote the development of new media firms. The research undertaken includes a

review of the current understanding of the change in local economic development policy from focusing on the traditional manufacturing industrial firms to bring economic growth in local economies to concentrate on new knowledge based media firms. Hence, it will also help clarify some of the conditions in which new media firms develop, as well as reflecting critically on how these may contribute to the current knowledge of the sector.

Birmingham was chosen for this research because of the ongoing transition in its economic activities. The city's infrastructure is changing, there is a lot of redevelopment going on and the economic activities are more towards electronic-commerce. Birmingham therefore supplies the circumstances that could provide evidence on the extent to which the industry cluster approach can assist in the city's transformation to a knowledge-based economy.

The new media industry sector and related producer networks are part of a rapidly growing economic segment in many countries. Its potential, particularly when it comes to job creation and economic development – have attracted significant political interest. The creation and promotion of new media clusters have become a significant focus for regional development strategies (Backland and Sandberg, 2002). Having policy makers eager to promote local industrial clusters, there is a need to rigorously test the formation and implementation of the economic development policy and to establish any influences that they may have had in encouraging the development of the cluster.

1.3 The aim of the thesis

The aim of the thesis is therefore to contribute to the existing body of knowledge by investigating and scrutinizing the cluster theory approach as a tool for local economic development and, in so doing, add to the current knowledge. The aim of the study was therefore designed to:

- Contribute to current knowledge of the Birmingham new media industry cluster.

- Increase understanding of the new media industry.

- Highlight some of the opportunities and challenges the new media industry presents for economic development.

- Explore the relevancy of industrial cluster theory to promoting economic growth through new media firms.

- Explore whether the new media firms' characteristics and features are in line with the "predictable causes of cluster development".

- Explore the effects of local competition and the city's overall environment in bringing the new media cluster participants together.

- Unveil the relationships between and within the new media firms as well as with other organisations and public institutions especially higher education institutions.

- Ascertain how the cluster concept came about in Birmingham.

- Increase understanding of the importance of policy intervention in promoting the new media industry clusters and the lessons for future policy making.

The research is based upon a case study of Birmingham City Council economic strategy using the industry cluster approach in promoting new media firms in the city. A deductive research method had been adopted when conducting the study, as the researcher started by analysing the theoretical structure of the industry cluster approach prior to testing this through empirical realism. Data gathering techniques used for the study included:

- An analysis of reports
- An analysis of the theoretical structure of the cluster approach
- Semi-structured interviews with new media firms in Birmingham
- Semi-structured interviews with Business Support Agencies who implement the industry cluster policies in Birmingham

This combination of research methodologies provided the information used to answer the key research question:

Is the industry cluster policy succeeding in promoting the new media cluster in Birmingham?

In answering the research question the following questions were used:

1.3.1 What exactly is the new media industry cluster?

According to Perrons (2002) the new media cluster is a largely new and dynamic sector arising from the new economy which is characterised by globalisation,

increasing use of computing and information technologies and growth of knowledge goods. This makes the boundary of the new media cluster not only broad, but also difficult to define; as new firms and industries emerge, established industries decline, and local institutions develop and change. Moreover, technological and market developments spawn new industries, creating new linkages or alter served markets.

Porter (1998) advises that, when drawing cluster boundaries, it is often a matter of degree, and involves a creative process informed by understanding of the most important linkages and complementaries across industries and institutions including competition. Consequently, there is a need to measure the strengths of different sorts of linkages and spillovers, identifying between strong and weak ties (Martin and Sunley, 2001). The research therefore aimed to define the new media cluster in Birmingham, in order to facilitate establishing focused polices targeting the sectors involved. The investigative question to help answer this research question was:

- What are the end products of the firms involved in the new media cluster?

1.3.2 To what extent does the theory on geographical location of firms still apply in new media firms?

According to a large body of literature, spatial localisation or clustering of firms and other organisations in the same or related sectors leads to economic benefits (Scott, 1988a; Storper 1992). Theories relating to these hypothesised benefits were based upon notions of traditional location theory that was later developed to agglomeration economies pioneered by Marshall (1920), discussed at length by Piore and Sabel (1984) and popularised as a cluster theory by Porter (1998).

Porter (1998) defines clusters as "geographic concentrations" of firms, maintaining that geographical clustering provides firms with a range of external economies of agglomeration (Scott, 1988c). These support co-operative and competitive relationships between firms in the effective development and manufacture of products. Cooke (2001) claims that firms are allocated "where the action is", meaning where there is action there is social capital which are the benefits of intellectual, technological and social "spillovers" based on network interactions with other firms, scientists, financers and people in the same business who have comparable mindsets to themselves.

However, the hypothesis is that geographical location is not likely to be of importance for new media firms because of the "death of distance" brought about by the Internet. This research aims to explore the main drivers for new media firms' locations. In so doing, several investigative questions arose which helped to answer the research question:

- How do new media firms choose their locations?
- What are the main drivers for their location choices?

1.3.3 Is there any collaboration between the new media firms in Birmingham?

In Porter's cluster theory, competition is perceived as an essential driver of rapid improvement and entrepreneurship (Porter, 1998). The hypothesis is that geographically concentrated firms are more likely to be interdependent. Conversely, new media firms offer services that are similar and are only differentiated on the basis

of experience and reliability, so it is essential to establish their perception on competition. The research aimed to identify whether social and commercial interrelationships/collaboration do exist between firms. The investigative question to help answer this research question was:

- Do new media firms have relationships with each other?

- How best can the new media firms establish relationships?

1.3.4. Do new media firms have relationships with other trade bodies and public organisations?

The literature suggest that trade associations are most likely to facilitate the formation of links between organisations. Porter (1998) asserted that social glue binds clusters together, making networks, relationships, and a sense of a common interest take on central importance. Thus, the mere presence of firms, suppliers and institutions creates an opportunity of economic value. However, the presence of the firms, suppliers and institutions does not necessarily ensure the realisation of economic advantage of the relationships. Hence, the social relationships are perceived to help in the value creation process. Thus, the theory suggests firms must pay explicit attention to building relationships and trade associations which play an important role in facilitating the formation of networks.

The formation of clusters is not automatic the formal and informal organisation mechanisms and cultural norms play a role in the development and functioning of clusters (Mitra, 2000). In the literature there has therefore been an emphasis on the

importance of explicit cluster policies to support cluster development. The research therefore aimed to establish if the firms benefit from the existence of trade bodies and public organisations. The investigative question to help answer this research question was:

- Are the new media firms part of any trade organisations?

- Does government intervention through trade bodies and public organisations to foster business cluster work for the new media firms?

1.3.5 What are the effects of Birmingham's historical business background on the new media industry?

Porter (1998) suggests that the sophistication and productivity with which companies compete in a location is strongly influenced by the quality of the business environment. For example, firms cannot employ advanced logistical techniques unless a high quality transportation infrastructure is available; a firm cannot compete using high service strategies unless they can access well-educated people. Firms cannot operate efficiently under onerous amounts of red tape, requiring endless dialogue with the government.

Birmingham is likely to have a unique constraint for the new media cluster. This arises from the argument that clusters can range from a single city or state to a country or even a network of neighbouring countries. As a result, the nature and characteristics of a cluster can vary in different locations. The research therefore, aimed to highlight any special characteristics of the new media cluster located in Birmingham. The investigative questions to help answer this research question were:

- Does the industry cluster theory seem to correspond with the picture of the new media firms in Birmingham?

- Why did the BCCEDD choose the cluster approach?

- Is the industry cluster approach appropriate for the new media industry?

1.4 Guide to subsequent chapters

The thesis is divided into the following chapters:

Chapter 2   Looks at the theoretical background of the industry cluster theory. The origins of the theory are established, highlighting how it has evolved throughout the years. Strengths and weaknesses of previous theories are analysed up to the emergence of new approaches leading to Porter's industry cluster theory.

Chapter 3   Expands on the industry cluster theory in terms of its importance, definition, key characteristics and features, and policy implications. This chapter attempts to answer the question commonly asked, "Why Clusters?"

Chapter 4   Explores the political context in which regional cluster policies have emerged, and their justification. Examples of the best practises of regional clusters are examined to determine the lessons that can be learnt from them.

Chapter 5   Explores cluster strategy as a local economic development policy in Birmingham, highlighting why, and how it was developed.

Chapter 6   Defines Birmingham's new media cluster and explain what the industry consists of in more detail.

Chapter 7   Focuses on the characteristics of the industry cluster theory that is tested in the research. These are location, collaboration, higher education institutions, the labour market and the image of the city.

Chapter 8   Presents the methodology used to gather the empirical data for this study. A deductive research method had been adopted using the qualitative approach. The chapter details and justifies the usage of semi-structured interviews, covering issues such as, data required, sampling and methods of data analysis.

Chapter 9   Provides a detailed analysis of the research findings from the interviews conducted with those Business Support Agencies which have played a role in promoting the new media industry cluster.

Chapter 10   Presents empirical findings on the views of firms concerning the assistance provided to promote clustering within the new media industry. The chapter also highlights the key characteristics and features of the new media industry cluster.

Chapter 11   Draws together the findings from the interviews with the new media firms and the Business Support Agencies in order to answer the research questions.

Chapter 12   The summary of the thesis is presented in this chapter together with the principal research contributions. The recommendation for policy makers when promoting cluster programmes are also outlined. The conclusions of the thesis are presented, demonstrating how the research has addressed the research questions and where the study fits in terms of the existing state of knowledge and literature.

Chapter 2

The transition from location theory to industry cluster theory

2.1 Introduction

This chapter looks at the theoretical background for the industrial cluster approach. It starts off with a discussion on the origins and development of the approach, highlighting how it has evolved. The strengths and weaknesses of previous theories are analysed up to the emergence of new approaches which led to the industry cluster approach.

In this study the industrial cluster approach is viewed from the location theory which started in Germany, where the work of von Thünen (1826), Weber (1909), Christaller (1933), Lösch (1954) and Isard (1956) were among the most important contributions. The contributions of pioneers of agglomeration economies such as Marshall (1890), Scitovsky (1963), Perroux (1955) Hoover and Vernon (1959), Vernon (1960) will also be analysed.

In discussing the industry cluster theoretical framework it is important to note that its formation and development expanded upon traditional industry location theory, which was developed by scholars from two academic disciplines, (economics and geography), who employed contrasting methodologies when carrying out studies on this subject. The economists emphasised the formal, abstract or deductive theoretical

approach, while geographers were concerned with arriving at generalisation through case studies with a largely intuitive content (Mawson, 1975).

The discussion on the industry cluster theoretical framework will allude to what Krugman (1991) and Bergnam and Feser (1999) contended: namely, the fact that the industrial cluster approach was not a new issue. This view is further emphasised by McCrone (1999) who argued that it has been evolving for a long time in economics.

2.2 The Traditional Location Theory

A large body of literature argued that the clustering of competing and complementary firms in a particular geographical location is not a new phenomenon (see for example Krugman, 1991; Bergman and Feser, 1999; McCrone, 1999). They stated that the formulation and development of theories concerning this expanded upon traditional industrial location theory. The changes in the theories is caused by the way in which economic activity has come to be spread over space which is to a great extent due to historical factors.

According to Glaeser and Kohlhase (2004), location theory was once a relatively simple concept to explain, since it was just based on transport cost. This focus was demonstrated in previous works by Weber (1909); Hoover (1948); Lösch (1954) and Isard (1956) where transportation costs played a central analytical and empirical role. Accordingly, transportation costs were considered to be an explicitly distance-related input into the production and distribution process. This was so because manufacturing at the time they were writing was done by small, single location

companies, utilizing simple inputs to produce a single product (Malecki, 1991). One of the short comings of this traditional location theory was that it did not anticipate the emergence of global firms and their network linkages (Fredriksson and Lindmark, 1979).

Nevertheless, in looking at the work of the early location theorists, it seems they were concerned with balancing the supply of production factors and the demand for products within an established area pattern of production, thus providing a spatial equilibrium of activities. The idea of optimum location for all production units stems from the writings of Ricardo (1812) which assumed the existence of conditions of perfect competition (Amin,1994).

Von Thünen (1826) developed the initial changes on the location theory concept by establishing that transport costs were the chief factor in determining the location of a firm. He demonstrated that the distance from the market would determine what agricultural products were produced, and that the transport costs as a proportion of the total value of the product differed from product to product. He concluded that the higher the ratio of transport cost to the total value of the product, the closer production will be to its market and the opposite also being true. He propagated the notion of rings surrounding each market showing how each type of agricultural product would be located (Blaug, 1985). This concept was developed on the assumption that the entrepreneur has a single goal of profit maximisation, that he/she has omniscient powers of perception, reasoning and computation and that he/she has perfect predictive abilities (Amin and Thrift, 1992).

Even though the work of von Thünen provided an explanation as to why agricultural firms chose their location based on transportation costs; there was still no guidance as to what factors determined the general distribution of economic activity over a geographical space. In an attempt to explain how firms chose their location Weber (1909), produced a model of industrial location. He illustrated the idea that an optimal location for a firm could be derived by concentrating on the influence of distance and so minimization of transportation costs related to the location of markets and raw materials. Thus, the optimum location of a firm was defined as the point at which transport costs per unit of production were least, or where the benefit of agglomeration and /or labour availability were sufficient to offset the disadvantages caused by locating away from the point where the transport costs were least (Amin,1994). This meant that different industries would have different optimum locations depending upon the nature and volume of their inputs, and hence their costs structure (Mawson, 1975). Since the theory was concerned with finding the lowest combination of production and transport costs, linear programming models were used to assist in the calculations (Beckmann and Thisse, 1986).

Weber's location theory was criticised for its unrealistic assumption that firms only produce a single product serving only nearby markets. Walker and Storper (1981) argued that Weber ignored the interplay between the isolated decision to locate a company facility and larger and more intricate investment decisions. Lösch (1954), later developed the Weberian theory by pointing out that the theory of location was not complete without considering the effect the location chosen for production would have on the demand for the product.

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Lösch established that an optimum location could be achieved if the demand for the product was completely inelastic to location of the firm; putting emphasis on the fact that firms must be based on profit maximization in which both cost and revenue factors should be considered. It was seen that the optimum location had the largest market area and it brought the highest possible revenue. However, the main limitation of this theory was that firms are unlikely to be able to identify their optimum location readily, and would proceed on a basis of trial and error. Lösch's work was also criticised for neglecting the supplying aspect of a firm (Walker and Storper, 1981).

Isard (1956) and Greenhut (1956) modified Lösch's ideas by attempting to embrace cost considerations more fully. As a result, they found that the optimum location would be at the lowest possible cost with highest possible revenue. The major drawback of this theory was the complicated calculations that were needed to identify the optimum location, since they had to take into account the spatial variations in both demand and supply (Beckmann and Thisse, 1986).

Chisholm (1968) noted that the location theories attempted to provide a spatial equilibrium of activities, but had reservations as to whether equilibrium could be obtained. He raised the point that apart from spatial considerations, population growth and technical innovation needed to be taken into consideration. He further argued that even if an equilibrium situation could be obtained it was not likely that it would be at a level that required the full use of resources. This resulted in a number of geographers becoming more interested in the idea of sub optimal, but profitable, locations (see Mawson, 1975; Fredriksson and Lindmark, 1979; Krugman 1991).

2.3 The Traditional Agglomeration Theory

Despite criticisms of traditional location theory, it gave birth to the principle of agglomeration; the concept of firms benefiting through lower costs of production by operating in close proximity to other firms (Malecki, 1991). These agglomeration economies may be classified as either localisation economies, when they concern firms in the same, or linked industries, or as urbanisation economies where they concern general cost saving from locating in an urban area. Marshall (1920) was the first to give reasons for spatial analytical systems identified earlier by Weber (1909) [Gordon and McCann, 2000]. Marshall's analysis followed directly from Adam Smith's initial observation of labour specialisation (Blaug, 1985).

Alfred Marshall (1920) defined an agglomeration economy as an atmosphere of invention that pervades industrial towns, and stated that entrepreneurs enjoy the ready circulation of ideas and information. He stated that by cross-fertilizing and synthesizing, firms could arrive at significant new insights, or inventions by experimentation. McCrone (1969) maintained that it was at this point that the role of external economies should be seen as crucial.

Marshall (1920) added to this view the argument that firms might also expand in a particular place because of the possibilities of using external economies. These could include pools of common factors of production such as land, labour, capital, energy, sewage system and transportation. The larger these pools were and the greater the degrees of specialisation they permitted, the greater the tendency would be to drive

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down factor prices or raise productivity. These possibilities provided the reasons firms chose to locate in certain places rather than others.

Later on, Scitovsky (1963) introduced the idea that there might also be 'pecuniary external economies'. These were said to arise from the beneficial impacts of one firm's new investments on the possibilities for greater profitability among other local firms. Harrison (1992), simplified Scitovsky's idea by giving the following examples of how the benefits may accrue to other firms:

1. When a firm incurs additional expenditure on its plant and equipment, it enhances the profitability of other companies' existing operations, so the latter gain a benefit without having incurred the full cost.

2. The other possibility is that the output from the new plant provides a cheaper or higher quality input to other producers in that locality.

3. Or the new facility attracts customers with whom many firms in the region may trade.

4. Another possibility is that the new private investment might encourage the government to repair or upgrade the infrastructure to which all firms in the area have access

Harrison (1992) further drew our attention to the differences in the contributions made by Marshall and Scitovsky. He stated that Marshall's external economies refer to a set of firms sharing access to an expanded commons, or to a more finely detailed local division of labour, whereas Scitovsky's pecuniary externalities refer to the dynamic impacts of one firm's new investment on the possibilities for enhanced profitability of other firms; and so their expansion. These views have continued to be the traditional

neo-classical position on the reasons for agglomeration for some time, having been tested by economists including Chenery (1959), Hirschman (1958), Perroux (1955) and Myrdal (1957).

Geographers, on the other hand have played an important part in describing, and thus highlighting the distribution of economic activity over the land surface. This point of view was illustrated in Lampard (1994) who observed that the process of economic development and growth of cities was accompanied by a process of concentration or urbanization. This implied that the process of concentration inevitably accompanied the process of economic development. Lampard suggested that the process of concentration was not so much a passive index of the process of economic development, but rather an active ingredient; the means through which an increasingly specialised economy evolves as well as the product of that process. Cities, therefore, are seen to provide essential means through which the increasingly specialized and dependent parts of an economic system may achieve integration.

Lampard also observed that interdependent activities interact readily, and that the availability of external economies in the form of specialized labour, public overhead capital, or transport services could be regarded as crucial in allowing new firms to evolve and develop. Pred (1966), argued that the process of concentration invention was inevitably concentrated in external economies because the density of interpersonal information exchange was highest, such that the probability of realising a synthesis of an inventive nature was high too.

Friedmann (1968) provided a more systematic and formal attempt at incorporating the concept and proposition of the process of concentration into a general theory of urbanisation. He argued that growth in the cities could be synthesised around the concept of the city as a high access social system. He also stated that cities provide the highest potential point of information exchange and they have grown and multiplied because people seek conditions for information exchange (McCrone 1969). The potential of information exchange was seen to vary over a given settled space in terms of the two variables of mass and distance, whilst the degree to which information may be sought also varied with the type of decision-making unit. Friedmann critics felt this model and its central concepts were abstract, although it offered the basis of several rich propositions (Blaug, 1985).

Perroux (1955) started from a basic concern for the phenomenon of economic development and with the process of structural change that accompanied it. Perroux envisaged this structural change in terms of the rise and fall of industry and the diffusion of the effects of these changing industries on others within the economy. He suggested that growth does not appear everywhere at the same time; it manifests itself in points or 'poles' of growth, with variable intensities; it spreads by different channels and with variable terminal effects for the economy as a whole (McMcrone, 1969).

Perroux (1955) further argued that dynamically growing and innovative firms and industries would grow at faster rates than those that were less so. These dynamic sectors would affect other industries through their backwards and forwards linkages, these would in turn affect relative prices and investors' expectations. Perroux further

contended that these linkages and price changes would diffuse and multiply through complexes of linked industries and the places where they were located; this ultimately led to the innovative activity that led to agglomeration economies.

Nevertheless, Perroux's theory was criticised with empirical evidence concerning the nature of the relationship between poles in economic space and poles in geographical space. Hanson (1997) pointed out the weaknesses in Perroux's theory in terms of the distance between developments in economic space and developments in geographical space. He further argued that the relationship between the two types of polarization was ambiguous; an industry may or may not become a key industry.

Perroux is also criticised because his formulation failed to offer any explanation regarding the actual location of his geographical poles, and that it could not in consequence claim to be a theory of the spatial distribution of economic activity. Further criticism was based on the neglect of the role of external agglomeration economies in explaining the eruption into society of the key industry. The existence of pre-existent geographic poles containing these external agglomeration economies was ignored (Hanson, 1997). It is evident from these two criticisms that Perroux has not adequately articulated the economic and geographical dimensions.

Lasuen (1969) concerned his empirical work with the key question regarding the necessity for development to be polarised in all spaces. He suggested that development was becoming decreasingly polarized, and, that increasingly polarizations over economic space distribute themselves over the system of cities in such a way that a relatively stable growth in that system is permitted. It was observed

that there was an emergence of a multi-product / multi-plant / multi-city type organisation replacing the original one product / one plant / one city type. This implied that innovations were now adopted and diffused through a highly flexible organisational structure, so that no firm was overwhelmingly committed to providing one innovation in one area, which could be expected to rise and fall with the product.

Lasuen (1969) showed the importance of an organized structure of firms in regional planning and the potential of acting in one type of topological space. For example, modifying organizational relationships between firms in order to realise goals in another topological space; for example, reducing geographical inequalities in economic prosperity. Furthermore, there is a need to avoid a myopic concern for spatial action in regional planning so that the potential of action on the spatial structure of society can be grasped in order to eliminate spatial and non-spatial inequalities.

Alden and Morgan (1974) concluded that the spatial concentration of an industry would reduce production costs if there were significant external economies of scale to be gained. The opposite would occur if the spatial concentration of an industry leads to significant external diseconomies, such as higher input prices for land and labour. It is also important to note that the costs of concentration or congestion are not only the private costs which fall on firms, nor is it only the social costs, such as lack of amenity and air pollution, there is also the public investment required in housing, schools and transport facilities for an increased population.

Due to these factors, these costs may vary substantially, depending on where they have to be carried out. One would expect them to be high in sparsely populated areas where the population is insufficient to support them. This would mean that there was an optimum size of urban agglomeration and that there are no mechanisms to prevent this size being exceeded in practice.

2.4 The location theory and the agglomeration theory

It can be argued that from the traditional location theory and agglomeration economies, firms locate their production facilities to minimise their costs in serving their demand. Armstrong and Taylor (1993) argued that agglomeration economies arise from the geographical association of a large number of economic activities, though these may not be in the same industry; they arise because of the concentration of many facilities jointly serving different industries. These industries include urban transportation and commuting facilities, well organised labour markets and large pools of workers with varied skills; the provision of social overheads, government services and a vast range of legal and commercial services such as lawyers, accountants, consultants, freight forwarding agencies and financial institutions.

Nevertheless, Klaasen (1965) argued that identifying the optimal size of an agglomeration occurs where the difference between the gross income per capita and operating cost per capita is highest. Klaasen's agglomeration theory indicates that, though there can be a point where there is the optimum size of the agglomeration, firms would continue to flood the region, or expand as long as they experience gross income even at a diminishing rate. Unless the government intervenes by influencing

firms, the growth of the agglomeration would increase the operation costs, these are the essential public services that rise per head of population and whose costs fall on the regional public authorities. Consequently, the agglomeration process, if left uncontrolled, may give rise to uneconomic units at both ends of the scale.

As a result, large cities suffer from important diseconomies; traffic congestion is the most obvious sign. Therefore, the most appropriate policy should be to encourage the building up of centres, which are at present somewhat below the optimum size, as well as the development, where necessary of new ones. However, because of the multiplier effect, the development of new centres will not be limited to the new centres themselves, but will be spread throughout the region. Moreover, the small centres, which are in more remote regions, which might be large enough to support a variety of specialist activities, are not able to do so when in proximity to very large cities. The larger the city, the wider the area it seems to dominate in this way. So, even if some economic activity could be diverted from a major agglomeration to new centres within the region, the effect of such development is likely to stimulate, at least to some degree, the agglomeration which it is the object of policy control.

As a result of the agglomeration process, argues that it is essential that regional policies minimize any adverse effects of locational disadvantage, while securing the benefits of growth and avoiding congestion (Klaasen, 1965). McCrone (1969) suggested that this can best be done by giving a particular boost to those areas within the problem regions which have the best growth potential, by regrouping population through a new towns policy and by giving them priority in public investment. This is the essence of a growth area or development pole policy.

Nevertheless, Vernon (1966) highlighted a new dimension to the agglomeration theory, he argued that during the first innovative stage in a product's life-cycle, investors and firms are most likely to be found in large metropolitan agglomerations. This was so because the introduction of new innovative products is highly dependent on communication and external economies. As well as this, during the first stage of the introduction of a new product, the design, market and inputs are still unstandardised. Unlike the traditional distance transaction costs paradigm based on the analysis of firms shipping well defined standard goods between regular points in location.

Piore and Sabel (1984) pointed out a key element of Vernon's (1966) product life cycle model. They argued that the inevitable transition to 'maturity' of standardised products was being undermined by the growing heterogeneity and uncertainty of market demand. As a result, firms produce under pressure from consumers demanding more specialised and differentiated goods, which mass production systems typically cannot supply. The response of some firms was the development of flexible specialisation; they observed that there was a sea change taking place in firm structures and relationships. The key feature of this was the breakdown of vertically integrated corporations and the adoption of flexible specialisation among the resulting networks of smaller firms.

Simmie (2001) describes flexible specialisation as a strategy of permanent innovation, whereby firms accommodate ceaseless change rather than try to control it. The strategy is based on vertical disintegration and flexible, multi-use equipment, skilled

workers and the creation, through politics, of an industrial community that restricts the forms of competition to those favouring innovation. According to Scott (1988b), the vertical disintegration of industry promotes spatial agglomeration as specialised producers achieve returns to scale through an external division of labour, locating in close proximity to reduce the cost of their unstandardised and unstable changes. Therefore, flexible specialisation offers a theoretical explanation as to why firms might decide to cluster together in particular places.

2.5 The comparative advantage of a location

According to Debbage and Rees (1991), competitive advantage is one of the most important and well-established concepts in economic geography as well as in economics. They state that the differences in production costs in national and regional space economies are testimony to the relative advantage of one location over another. This is consistent with Chisholm (1968) who stated that production costs do vary from place to place, and owing to climate, geological, topographical and other physical factors, some types of production are limited in geographic extent. Thus, comparative advantage is fundamental in our understanding of industrial agglomeration, location decision-making, regional growth and international trade because it provides a pattern of trade and production and the basis for regional specialisation of production.

Porter (1998) stated that firms could create a competitive advantage by optimising or coordinating their interdependent activities in business, in order to locate to a more competitive advantage position. According to Bergman and Feser (1999) these

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competitive firms depend to a degree on the competitiveness of their intermediate input suppliers, who in turn, depend on the capabilities of their suppliers, and so on, back through all links in the value chain. These firms also depend on service providers, sources of basic and applied R&D and competitors who provide opportunities for cooperation in solving joint problems (Best, 1990).

Bergman and Feser (1999) stated that the success of an individual firm may be partly traced to the size, depth, and nature of the cluster of related and supporting enterprises both private and public of which it is a part. Porter (1998) calls it the "competitive scope". He explained that a broad scope could allow a firm to exploit interrelationships between the value chains serving different industry segments, geographic areas, or related industries. Hence, when a firm has selected a narrow scope, it may be able to tailor the value chain to a particular target segment to achieve lower cost or differentiation.

The general idea behind the competitive advantage concept is that the environment of the firm has a positive influence on its output and the firms also expect to realise various benefits when they settle into a cluster, (Caniëls and Romijn, 2003). The benefits are those stated by Marshall (1920); Krugman (1991) and McCormick (1999), which are:

1. The presence of a labour pool with specialised skills

2. An industry centre that allows the provision of non-traded inputs specifically into an industry with a greater variety and at lower cost

3. Technology spillovers, which are defined as intellectual gains through exchange of information

According to Caniëls and Romijn (2003) the firms are induced to locate in a cluster because of the expected benefits as they co-locate, because the cluster grows and the expectations materialise leading to the emergence of a "growth pole" (Perroux, 1955).

Porter (1990) outlined the concept of comparative advantage and its long history in economics. He dated it back to Ricardo's 1817 notion that market forces will allocate a nation's resources base to those industries which are relatively more productive. A later version of comparative advantage was developed by Ohlin (1933) based on the notion that all nations have similar technologies but differ in factor endowments that form the basic inputs for production. This notion was more appealing to most governments who had designed various macro-level policies to improve comparative advantage in various factors; amongst others, these policies include reducing interest rates, devaluing currencies, holding down wages and manipulating other factors (Porter, 1990).

Porter (1990) suggested that comparative advantage based on traditional factors of production was not sufficient to explain patterns of trade nor economic competition between nations. Porter contended that the assumptions underlying classical comparative advantage theory would be unrealistic in many industries today because the interpretation of comparative advantage by companies is made complex by the turbulent environment caused by a dynamic economy and manifested in technological changes, the changing labour and financial requirements of a company, pricing strategy and spatial linkage patterns.

Debbage and Rees (1991) suggested that companies from more established industrial regions were more likely to perceive a comparative advantage in proximity to both markets and suppliers than were companies located in the less industrial estates. Hence proximity plays a powerful role in explaining firm location.

2.6 The Industry Cluster Theory

Following the competitive advantage of the location theory, Porter (1996) then developed the cluster theory by accepting the explanation given for the concentration of firms in terms of agglomeration. However, he stated that economies of agglomeration have shifted in nature, they are becoming increasingly important at the cluster level and not just within narrowly-defined industries. Porter (1990) was able to promote the industry cluster theory through a study he conducted demonstrating that nations succeed not only in isolated industries but in clusters of industries connected through vertical and horizontal relationships. He also presented the cluster approach as a new way of enhancing competitiveness on a national and regional level.

Porter (1996) stated that globalisation allowed companies to source capital, goods and technology from anywhere and to locate operations wherever it was most cost effective. Governments on the other hand were seen as losing their influence on competition to global forces. Thus, the clusters theory is seen as a theory tool whereby the government can regain control over the economic activities of that nation or region.

In consideration of the traditional location theory, the firm locates its production facilities to minimise its cost in serving its demands. Huallachain (1991) stated that at the regional scale, spatial association among sectors reduces costs in several ways: Firstly, locating successive vertical stages of production adjacently reduces the transportation costs to each participating firm. The stronger the functional interrelationship, the greater the incentive to cluster. Secondly, as a sector expands into a given location, firms can realise savings by specializing in the production of complementary products or use jointly supplied products.

Furthermore, traditional location theory also recognises that contributors of high order services require a large threshold population to support demand. In short, market opportunities increase with city size. Thus, the application of location theory to interregional clustering of business and professional services, high value, low weight manufactured products and corporate administration is not as straightforward as transportation costs are a much smaller part of production costs. As a result, a distinguishing attribute of high-technology services and products is that a large part of their costs are incurred due to information. Information costs are embodied in design, manufacturing technology and the firm's ability to convert an initial idea into a finished product. Information is in its most immediately useful form when it is in the mind of a skilled professional who can apply it flexibly to a variety of situations.

In view of the literature that explored the cluster phenomenon, Porter (1996) claimed that it could not be understood independently of a broader theory of competition and without the influence of location in the global economy. This is true when a firm can acquire information if it locates in a regional area with a concentration of firms that

employ the kind of skilled professionals who can solve unforeseen problems. In these regional areas there is a better chance of identifying the right person to solve particular problems and inducing that person to switch jobs. Information exchange also occurs in interpersonal networks. The theory is that skilled professionals with common social backgrounds and recreational preferences meet informally to discuss common problems and concerns. Labour forces in these industries are not just highly skilled, they are highly flexible. Similar problems can arise in any one sector of a cluster and are easiest to solve by either recruiting local skilled professionals or by seeking solutions within a network of acquaintances (Enright, 1998).

At the same time the cluster theory bridges network theory and competition since a cluster is a form of a network that occurs within a geographical location in which the proximity of firms and institutions ensures certain forms of commonality and increases the frequency and impact of interaction (Mitra, 1999). Freeman (1991) argues that network theory can greatly inform understanding of the ways clusters work and of how clusters can become more productive. Successful cluster upgrading depends on paying explicit attention to relationship building as an important characteristic of cluster development initiatives. The trade associations are seen as playing important roles in facilitating the formation of networks.

Cluster theory also provides a way to connect theories of networks, social capital and civic engagements more tightly linked to business competition and economic prosperity. It also identifies who needs to be in the network for what relationships and why; offering a new way of exploring the mechanisms by which these theories affect competition and market outcomes. Cluster theory helps isolate the most

beneficial forms of networks, revealing how network relationships are formed and how social capital is acquired. It also helps to unscramble questions relating to cause and effect (Freeman, 1991). For example, do strong relationships and trust arise because a cluster exists or are clusters more likely to develop from existing networks? Cluster theory then helps illuminate the causes of network structure, the substance of network activity, and the link between network characteristics and outcomes (Cook, 1996).

The theory suggests that much of the competitive advantage lies outside a given firm or even outside its industry, residing only in the locations of its business units. The approach allows firms to have a tangible stake in the business environments where they are located in ways that go far beyond taxes, electricity costs and wage rates (Porter, 1998). He established that the health of the cluster is important to the health of the firm. A firm benefits from the presence of local competitors. Trade associations can be competitive assets as well as lobbying and social organisations. Clusters are a driving force in increasing exports as well as magnets for attracting foreign investment (Enright, 1998).

2.7 The potential theoretical contributions of the study

The key to industry cluster approach is that what links each source of economic benefit is the fact that it accrues to firms within the local area, primarily because of their geographical proximity.

Geographical proximity is fundamental to the efficient working of the cluster approach as it relies on co-location in increasing the probability of trading linkages and employment matches being realised. However, none of these linkages and matches are permanent and each can be broken, substituted and re-formed an infinite number of times in response to any information or price shock to the system (Staber, 2001). With new media firms that are in a fast changing environment are these industry cluster traits evident? Moreover, how do they maintain their relationship as programmes are changed and updated?

Proximity may lead to co-operation or competition and co-operation, where it exists, may not automatically induce innovation. It has never been demonstrated empirically that a region's success is a function of primarily local business networking. Spatial clustering may occur even if some firms have few or no trading relationships with other local firms. Research is needed on the geographical aspect to inter-firm relations to clarify how the strategies and organisational attributes of firms interact with the spatial characteristics of inter-firm relations in determining the performance of districts and district firms (Staber, 2001). This study therefore set out to establish whether there are any trade relationships in the co-location that exists between new media firms.

The literature suggest that firms benefit from being close to others operating in different industries through exposure to different ideas and competencies, which is important in newly emerging industries or in industries experiencing rapid change. However, most empirical studies of inter-firm relations in industrial districts do not address this distinction and are silent on its implications for assessing firm and district

performance. Instead, the implicit assumption is often that all constituent firms benefit more or less equally from being close to one another. This assumption also needs to be tested empirically, because proximity may not only encourage cooperation but may also intensify direct competition and push other firms out of the market, depending on the type of externalities present in any given situation (Staber, 2001).

Since not all firms will benefit from every type of externality, there will be a variety of distribution and displacement effects between groups of agents with different characteristics. However, the actual relations between the firms, within firms and mobile factors are neither identifiable nor static. Firms and other actors will change suppliers, customers, products and inputs, simply in response to current advantage and to their very specific requirement (Gordon and McCann, 2000).

The study does not intend to come up with new models on each of the theoretical frameworks discussed, but it will try to strike a balance which could be used in developing methodologies which could then be adopted for assessing the impact of public policy on new media firms. Also, to ascertain what lessons can be learnt from studying formation and promotion of clusters in a city with long established, yet declining, industries.

The research was developed from two theoretical bases, one relating to the theories of agglomeration and the other related to theories of regional policy. The theoretical contribution of the study may not necessarily be on each of the theoretical frameworks, but the study intended to explore the two sets of theories in-depth, identifying their strengths and limitations. It is hoped that the findings could be used

to develop an understanding of the adoption of industry cluster policy in promoting

the development of new media firms.

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Chapter 3

Defining and Identifying Industry Clusters

3.1 Introduction

The previous chapter discussed the industry cluster theory. This chapter is aimed at bringing clarity to what an industry cluster is. It discusses the importance and advantages of industry clusters, and presents a critique of the literature defining clusters. The key characteristics and features of clusters are establishing including how to identify them. It also focuses in particular on the work of Michael Porter, who was by far the most influential person in the development of the theory.

3.2 Why Clusters?

For some the cluster concept is not only a new way of thinking about the economy, but is also essential in raising national competitiveness for an increasingly global market place (Martin and Sunley, 2001). This comes after governments began losing their influence over competition to global forces, because globalisation had allowed companies to source capital, goods and technology from anywhere and to locate operations wherever.

Notably, it has been increasingly implied, in the literature that the industry cluster approach could become a key aspect of regional development policy in terms of its

potential contribution to sustainable economic growth, employment and wealth creation in mature regional economies.

It has also become apparent that much of the competitive advantage lies outside a given company or even outside its industry, residing instead in the locations of its business unit. Therefore, the competitive advantage ability of firms depends in large measure upon the infrastructure of the market and the location that they operate in (Geroski and Knight, 1991). This is especially true for SMEs as the norms and pressures from community and peers are having more influence on business ethics in SMEs than moral or religious principles, anticipation rewards, upholding the law or fear of punishment (Miller and Besser, 2000).

Porter (1990) provided evidence for the response of firms to the competitive advantage of their location. He stated that:

> "The competitive industries in a nation will not be evenly distributed across the economy....The systematic nature of the 'diamond' promotes the clustering of a nation's competitive industries. A nation's successful industries are usually linked through vertical (buyer/supplier) or horizontal (common customers, technology, channels, etc.) relationships." (Porter, 1990:148-9)

Consequently, the cluster concept became the standard concept in the field. As a result, policy makers have become eager to promote local industrial clusters. In England the government through the DTIs 1998 and the 2001 White Paper stated their intentions to develop and promote clustering of industries.

3.3 Advantages of Clusters

It has been argued that some increasing returns would simply not occur if industries were dispersed. Therefore, the more geographically localised an industry is within a given nation, the more internationally competitive that particular industry is likely to be (Staber, 2001). Thus, the interest in clusters has not been confined to academic research. Over the past few years, the cluster concept has found a ready audience amongst policy-makers at all levels and they are all keen to find a new form of industrial policy or activism in which the focus is firmly on the promotion of successful, competitive economies (DTI, 2001).

Porter's own work has been one factor stimulating this policy interest; his writing suggested that governments and other policy bodies may have a role to play in facilitating and supporting the development of competitive industrial clusters (Porter, 1996; 1998). The argument is not that governments can create clusters, but that they can help to provide business, innovative and institutional environments vital for cluster success. These are the arguments he gave in favour of clusters:

1. They raise productivity by allowing access to specialised inputs and employees, enhancing access to information, institutions and public goods and by facilitating complementarities.

2. They increase a firms' capacity for innovation by diffusing technological knowledge and innovations more rapidly. Moreover, competitive pressure within each cluster increases firms' incentives to innovate.

3. Clusters stimulate higher rates of new business formation, as employees become entrepreneurs in spin-off ventures, since barriers to entry are lower than elsewhere (Porter, 1996).

The cluster theory is not without limitations: the concomitant weakness of the approach is that the cluster idea is somewhat vague and elastic, and clusters become hard to identify. Their multidimensionality and vague character pose problems of theoretical and empirical definition, as well as methodological investigation (Martin and Sunley, 2001; Backlund and Sandberg, 2002). As a result, the distinction between agglomeration and cluster is not altogether clear-cut, but the concept of cluster entails a richer industrial dimension. Cities can be said to be agglomerations of economic activities, but these activities need not contain any clusters. On the other hand, a well-developed cluster can be viewed as a specialised agglomeration, where firms mutually support interactions. This will reproduce particular specialisation of the firms involved. Such interactions depend in large part on spatial proximity, that is, agglomeration. Thus every cluster is in a sense an agglomeration, but not every agglomeration is a cluster (Lundequist and Power, 2002).

3.4 Defining industry clusters

The majority of the literature on industry clusters is focused on the actual definition of a cluster. As a result, much has been written in an effort to define them. Consequently, clusters mean different thing to different people, leading to a great deal of confusion as to what clusters are (see for example Mitra, 1999; Gordon and McCann, 2000; McCrone, 1999).

A very basic definition of an industry cluster is given by Doeringer and Terkla (1995) who defined industrial clusters as:

> "..geographical concentrations of industries that gain performance advantages through co-location." (1995:225)

This definition of clusters is similar to that of agglomeration economies, but in fact it is within industry clusters that agglomeration economies are likely to be observed. Beyond the basic definition, however, there is little consensus on how to define an industry cluster. This has been made worse by the fact that related terms, such as industrial districts, value chains and business networks are sometimes used interchangeably with the term clusters.

Notably, geographers refer to clusters as "regional innovation systems", "milieus", "industrial districts", "regional and business networks" (Hart, 2000). On the other hand, you have those that have defined clusters in terms of the characteristics these firms display (Rabellotti, 1997; Sengenberger and Pyke 1992; Van Dijk, 1992, Zeitlin, 1992).

Hart (2000), define clusters in a typology approach based on work already done by previous authors (Jacobs, 1997; Park, 1998; Garofoli, 1992). Cluster typologies are discussed in section 3.6 of this chapter. Nevertheless, Porter (1990) popularised the concept of industry cluster. In his book, Competitive Advantage of Nations (1990) he devides clusters into two types: vertical clusters and horizontal clusters. Vertical clusters were made up of industries that are linked through buyer-seller relationships.

Horizontal clusters, in contrast include industries which might share a common market for the end products, use technology or labour force skills or require similar natural resources.

Geroski and Knight (1991) defined clusters in terms of the special assets or skills that create competitive advantage for a firm and those that enable it to produce better-designed products more efficiently. They stated that the ability to produce better designed products depended on the firm's consumers, suppliers and on its rivals. Their definition of industrial clusters seemed to emphasise the competitive advantage of a firm. However, the definition ignores the interdependency of firms, thus limiting the physical resources of the firm.

Jacobs and DeMan (1992) argued that there is no one correct definition of the cluster concept. However, they use the definitions of vertical and horizontal clusters as the basis of their definitions; and then expanded these by identifying the key dimensions that may have been used to define clusters. These include the geographical spatial clustering of economic activity, horizontal and vertical relationships between industry sectors, use of common technology, the presence of a central actor, that is a large firm, research centre, etc., and the quality of the firm network, or forms cooperation.

Rosenfeld (1997), further developed the definition of industrial clusters by providing the criteria that includes the size of the cluster, the economic or strategic importance of the cluster, the range of products produced or services used, and the use of common inputs. Though, he did not encourage defining clusters exclusively by the size of the constituent industries or the scale of employment, pointing out that many

effective clusters are located in small inter-related industries which do not necessarily have pronounced employment concentrations. So his definition emphasizes the importance of the role of social interaction and firm cooperation to determine the dynamic nature of a cluster. He defined industrial clusters as:

"..a geographically bounded concentration of similar, related or complementary businesses, with active channels for business transactions, communications and dialogue, that share specialised infrastructure, labour markets and services, and that are faced with common opportunities and threats." (1997:10)

In an effort to come up with a working definition of industrial clusters, the author noted that most other authors make reference to Porter's (1998) work where he defines industrial clusters as:

"..geographic concentrations of interconnected companies, specialised suppliers, service providers, firms in related industries and associated institutions (for example, universities, standards agencies, and trade associations) in particular fields that compete but also cooperate." (1998:197)

Porter's definition highlights the following as key features of what constitutes a cluster:

- Firms must be interconnected or linked in some way; either they have some commonalities and /or complementarities;

- The geographical proximity of the interconnected firms, which is seen to encourage the formation of networks between the firms and enhance the value-creating benefits arising from interaction between firms; and

- There must be competition between the firms.

On the other hand, Enright (1998) gave a more restrictive definition, by defining industrial clusters as a group of firms in the same industry, or in closely related industries, that are in close geographical proximity to each other. He argued that the buyer-supplier relationships, or common technologies, common buyers or distribution channels, or common labour pools are what bind the cluster together. He further pointed out the importance of geographical proximity of the firms to enable face-to-face networking; providing common labour markets and encouraging diffusion of knowledge, especially tacit knowledge that is difficult to codify.

The literature cited above provides several common themes in the definition of industry clusters that provide this research with boundaries of what industry clusters are. Firstly, it is generally agreed that clusters are a dynamic phenomenon. It is the interaction and functional relationships between firms and associated institutions caused by skills, markets, innovation, technology, finance, supply chain and so on.

Secondly, most of the definitions of industrial clusters refer to the geographical scope of the cluster, and the importance of the spatial proximity. However, while geographic scope is important in defining clusters, every cluster has different geographic requirements, so there is no uniform definition of the appropriate geographic scope of a cluster. This is supported by Martin and Sunley (2001) who

argued that spatial scale, from the definition, is not clear since it can be defined on a local scale or regional scale and even on a national level. They also highlighted the need to address the fact that geographical scope for each country, or region, has its own unique cluster form.

A third common theme in the literature is the importance of looking beyond an individual firm. Most authors have argued for a broader definition of clusters that were defined by both horizontal and vertical relationships and included both direct and indirect linkages. This went beyond the supply chain concept, which focused on an organisation and its customers and suppliers. Though the firms' customers and suppliers of all the relevant factors would be involved, it extended outwards to educational establishments and research institutes which provided a large part of their human and technological capital. So the clusters for any product in the market would be influenced by globalisation, commercialisation, skills development, inward investment, start-ups and trade development.

However, there is a need for a cut off point in terms of the industries involved in a cluster. With new firms and industries emerging, established industries shrink or decline, local institutions change so does the industry boundary for the cluster. Therefore, there is a need to set a boundary, particularly for research purposes, because the standard industrial classification (SIC) system, though it has been generally used to categorize firms, cannot capture many important firms in competition as well as linkages across industries. Therefore, it can be inferred that clusters provide another way of organising economic data and viewing the economy.

Lastly, the role of social infrastructure is another theme prevalent in the literature. Rosenfeld (1996), in particular argues that information flow is critical in an effective industry cluster, and, in order to facilitate information exchange, a social infrastructure is required. He further points out that an effective cluster must include social interaction, trust and a shared vision in order to create the dynamic nature of a cluster. Thus, there is dependency on personal relationships, face-to-face communication and interaction among networks of individuals and institutions. However, Martin and Sunley (2001) point out that depending on social glue to bind clusters together and contribute to the value of the cluster creation process bring cause concern because the ever-changing relationships, networks, and common interests could make it difficult to define industry clusters.

3.5 Identifying of clusters

The varying definitions of industry clusters helps explain the differing arguments regarding the methodology for identifying clusters. One of the common approaches to identifying clusters is based on quantitative techniques, including location quotients and input-output (I-O) analyses (Rosenfeld, 1997). These tools help identify relative concentrations of industries in the region, as well as identifying the buyer-seller linkages in different industry sectors. Porter (1990) relied heavily on this type of analysis to form the basis of his international study of industry clusters. I-O analyses and other quantitative tools were also the basis for identifying clusters in several other studies by Bergman, Feser and Sweeney (1996) and Munnich and Lichty (2001).

The quantitative approach towards identifying industry clusters is generally regarded as a critical component of a cluster analysis. This type of analysis will provide an initial tool for identifying potential clusters and will indicate the relative presence of different industries in the local region. An I-O analysis is specially useful in the analysis of a vertically intergrated cluster, when the buyer-seller linkages are more obvious. However, the quantitative analysis does not address whether relationships really exist between the individual firms, and it does not account for other factors beyond the product-market relationship, such as industry collaboration and information flow (Doeringer and Terkla, 1995; Jacobs and DeMan, 1996; Rosenfeld, 1996, 1997). Although inter-industry transactions incorporated within production channels can sometimes be detected in input-output tables, neither the character nor the relationships among firms, nor the benefits of clustering can be discerned in this way (Doeringer and Terkla, 1995).

There is a general consensus in the literature that in order to truly identify clusters, it is necessary to conduct a qualitative analysis in addition to the quantitative analysis. Surveys and interviews with key industry representatives would help expand an understanding of the relationships that exists among firms, as well as further identify commonalties between industries. Porter (1998) outlined the following as steps for identifying clusters using a qualitative analysis:

1. You start with a large firm or concentration of like firms, then look upstream and downstream in the vertical chain of firms and institutions.

2. Look horizontally to identify industries that pass through common channels or those that produce complementary products and services. Additional

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horizontal chains of industries are identified based on the use of similar specialised inputs or technologies or with other supply-side linkages.

3. Isolate the institutions that provide it with specialised skills, technology, information, capital, or infrastructure and any collective bodies covering cluster participants.

4. Seek out government or other regulatory bodies that significantly influence participants in the cluster.

Table 3.1,below, summarizes what the researcher has identified as key features of the cluster theory based on the literature discussed above.

Table 3.1: Key features of the cluster theory

Feature	Benefits
Close geographical concentration	• Co-location of industries increase information flow • Promotes economic efficiencies • Encourages new business formation • Facilitates face to face contacts • Facilitates innovation as they share new ideas • Attracts relevant employees, suppliers and customers • Make friends as work in the same place • Development of social ties is important • Strengthen the individual facets of the diamond
Active rivalry	• Promote innovation and competitiveness • Promote efficiencies and specialisation • Magnifies and accelerates the process of factor creation, that includes providing conditions for competitive advantage
Co-operation	• Increase frequency and impact interactions • Creates an opportunity for co-ordination and mutual improvement in areas of common concern • It is a form of a network within a geographic location
New business spin off	• Increased rate of business formation through company spin-offs • Low barriers to market entry as specialised inputs, labour and services are readily available

Source: Adapted from Porter, 1996; Rosenfeld, 1997; Enright, 1998; Hart, 2000; Crouch and Farrell, 2001.

A cluster is possible when there are potential gains from proximity for those engaged in similar operations. We might, therefore, expect SMEs within a specialised area of production which are located near each other to enjoy potential advantages over more isolated firms, even if these gains do not result in exceptional concentrations.

To identify such groups we need to identify areas of specialism, geographical location, and number of firms. Crouch and Farrell (2001) argued that the higher the population density within a given territory, the more difficult it would be for firms located outside such concentrations to take advantage of any collective competition goods that are available. Thus, there are advantages that flow to firms located in and around the capital city. It has been observed that SMEs clusters are sustained by large customer corporations. However, in addition, there are two main ways by which clusters may be formed: by public policy initiatives and by market froces.

3.5.1 Policy-stimulated clusters

These are clusters that are formulated as result of a stronger desire from government to stimulate clusters by establishing a policy. Such that local public authorities and local businesses find themselves responding to the policy in forming cluster (Rosenfeld, 1997; Hart, 2000). In this type of cluster there is less reliance on market forces for the formation of clusters. Therefore, a need for interaction between government policy and formal and informal types of co-operation among SMEs is necessary (Hart, 2000).

Over the past years, there have been many policy efforts to promote co-operation among firms. However, there has also been some difficulty in measuring the impact of these policies and in obtaining evidence of the co-operation itself. Crouch and Farrell (2001) identified that one reason for difficulty in measuring the impact of the policies is that the European and national level funding scheme frequently emphasise the need for 'partnership' gives the local bodies an incentive to exaggerate the degree of co-operation taking place in order to secure funds. As a result, firms are encouraged to co-operate in districts receiving these funds, with little improvement to their effectiveness. Another difficulty in measuring the effectiveness of policies is that the sponsors tend to be ambiguous about the specifics of these initiatives.

3.5.2 Market-driven clusters

Crouch and Farrell (2001) emphasised the point that important clusters in relatively advanced economic sectors continue to exist outside any of the forms of governance. These are the clusters which are held together by market forces. For a market cluster to be effective, the industries require concentrations rather than specialised skills, a very large population base, high general educational level and many higher education institutions.

3.6 Typologies of Clusters

Hart (2000) identified four types of clusters namely: cohesive clusters, new industrial districts, innovative milieu and proximity clusters.

3.6.1 Cohesive clusters

Hart (2000) defined cohesive clusters as groups of firms that initially located together to reduce costs. This type of cluster can be traced back to the Weberian location theory where he argued that firms could locate into an area of less cost with regard to factors such as transport and labour. Weber's concern was to keep the costs of movement associated with material assembly and subsequent distribution to the market to a minimum. Even Marshall argued that, as goods became more sophisticated, labour costs would form a higher proportion of the overall value of the product and access to a pool of trained labour would become another key priority for firms.

Firms in this type of cluster are inter-dependent in terms of production linkages, but without any overall direction by any single firm because most firms are SMEs. They are also often located in urban, including inner city locations, such as the Jewellery Quarter in Birmingham and the Hackney area in London (Hart, 2000). Firms in this type of cluster, according to Hart (2000), tend to be extremely flexible, so they tend to respond rapidly to changes in the production of new products and they draw on the abilities of a highly skilled, local labour force; this is how they deal with the threat posed by innovation. They also tend to specialise in industries such as fashion items, reproduction furniture and printing.

3.6.2 New Industrial Districts

New industrial districts tend to be knowledge based clusters that are often contain a high proportion of companies in high-tech sectors such as computing, information technology and microelectronics. They rely extensively on R&D for the creation of new products. They tend to be located on the fringe of urban areas or even at some distance from them (Hart, 2000).

New industrial districts produce goods which are relatively small and light in weight and therefore have a high value to bulk ratio; consequently, transport costs are not a major concern for firms in locational decision terms, but transport speed and reliability of delivery are. Speed is seen as important to the new industrial districts and there is constant concern amongst firms about being overtaken by innovations produced by competitors so the pace of fostering innovation is brisk (Hart, 2000). Employees in this kind of cluster are typically highly educated, scientifically and technologically. In most cases the large firms in this kind of cluster form long-standing relations with their smaller suppliers and they work jointly on projects; they also tend to form stable supply chains that allow the firms to deal with the threats posed to them by innovation, and seek to control change through established long-term planning and production arrangements in what might be described as "a closed club" (Hart 2000).

3.6.3 Innovative Milieux

Innovative melieux are defined by Hart (2000) as social networks established between individuals within firms and between individuals in different firms. Hart's research indicates that the firms involved often had their bases in the experience of working together in the past, therefore trust bonds within the network were created. This type of cluster tends to be located in urban areas where established relations between firms and individuals have existed for some time. Learning takes place in a variety of ways, with individuals in different firms exchanging information or individuals moving from one firm to another. Examples of innovative milieux clusters include Emilia-Romagna and parts of Northeast Milan. Firms in this type of cluster are willing to jointly pursue common goals on innovative projects which may involve risk (Hart, 2000). In this type of cluster firms actively seek to promote innovation, rather than simply responding quickly to it and actively work together to promote common medium and long-term innovative goals. These firms respond to the threat posed by the innovative process by seeking to spread the risk through active and continuing syndication of their production arrangements (Hart, 2000).

3.6.4 Proximity Clusters

These are firms located in relatively close spatial relationships with each other but which do not form a kind of Local Production Network. They are not so much embedded in an area, but weakly attached to it. Hart (2000), states that in this type of cluster the individual innovative firms are near each other, but usually do not have continuing and systematic linkages with one another. The activities between these

firms simply happen at the same time and the two events are coincidental rather than effectively co-ordinated.

According to Hart (2000), proximity clusters typically occur outside major conurbations and, at least in his Hertfordshire example, contain a number of very small micro-firms. In these micro-firms Hart's work suggested the importance of the individual innovator has begun to reassert itself. The firms are highly innovative and develop specialist products which they sell all over the world. Often it is the continuing client of the firm - in many cases intermediate buyers, such as health services or defence organisations – who seek to promote innovation rather than the firm on its own. In this case, the innovative process is more influenced by demand-pull rather than technology push (Hart, 2000).

There are significant differences between the four different types of clusters discussed above. It is logical to assume that different types of clusters require different types of policy to promote innovation and competitiveness – policies which are appropriate to the type of cluster under consideration and its operating context – if they are to have their desired effect in fostering the innovative process.

3.7 A closer look at Porter's diamond model

The cluster theory developed by Porter (1996) is based on the sources of locational competitive advantage. Like most cluster studies, the researcher has also use Porter's work as a starting point for cluster analysis. According to Porter, the competitive advantage of an industrial cluster is promoted by the existence and quality of the four

interrelated determinants in the now well known "diamond model" shown in Figure 3.1.

Put slightly differently, Porter embeds firms and industries in the diamond model in order to explain their capability to create and sustain national and international competitiveness. Thus, according to Porter (1990), a competitive cluster is the manifestation of a diamond at work and this needs to be complete to achieve success.

Figure 3.1: Porter's Diamond Model

Aston University

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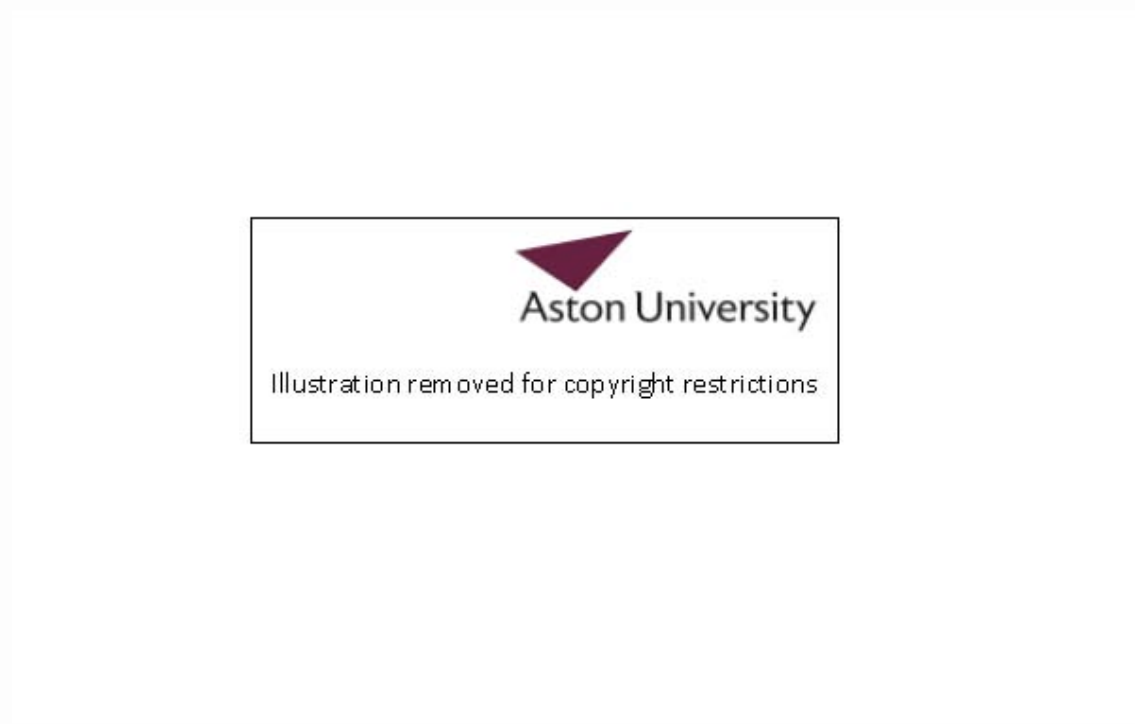
Source: Porter (1990:547)

The diamond captures the nature of a business environment in a location and it also models the effect of location on competition using four interrelated influences. These are:

- The nature of the firm strategy, structure and rivalry in the country, which includes attitudes towards competition, market institutions, the degree of local

competition, and other cultural and historical factors affecting how firms interact with each other, their workers, and the government.

- The factor conditions or basic endowments or conditions on which local firms seek to compete - for example, supplies of natural resources, human resources or technology related advanced factors.

- The demand conditions or the nature of local demand - for example, the existence of local demand for related intermediate goods.

- The presence of related and supporting industries including suppliers and successful competitors, both to stimulate cooperation and competitive rivalry.

Having described the determinants of competitive advantage, Porter adds the government as an external factor influencing the diamond (Porter 1990, 1998). Government refers to how the public authorities of a country or region influence the four determinants through various regulations and policies and is not theorised as a direct and integral participant in the cluster process. In Porter's view, the government's influence on clusters can be summarised as:

- Convening forums of firms, institutions and appropriate government agencies.

- Collecting and compiling cluster-specific information.

- Setting educational policies, encouraging public universities and school to respond to local cluster needs.

- Clarifying and simplifying regulations significantly affecting cluster's performance.

- Improving the sophistication of local demand for cluster products and services.

- Co-locating public with private investments.

In Porter's view, chance events are seen to play a somewhat greater role in shaping the environment for competing in particular industries than the public sector.

3.8 A critique of the industry cluster theory

A line of recent critics, starting with Krugman (1994) argue that Porter has not precisely defined the problems faced by firms. He argues that the industry cluster theory talk of "national competitiveness" as a concept that can give rise to erroneous government policies, which the British government is subject to. Whilst Lovering (1995) noted that the industry cluster theory had exaggerated the opportunities the clusters presents for economic growth. O'Shaughnessy (1996) states that:

> "Governments spend in the belief that they are helping macro industry and thereby national competitiveness, when the real problem is located at the micro level, the individual firm and, in particular, its anachronistic managerial practices. It is not easy for grand strategy to really ameliorate this, so the debate assumes a government involvement – non involvement dimension." (1996:17).

Although Porter's diamond provides policy-makers with a useful starting point for examining clusters, not all cluster initiatives follow his approach when deciding which cluster to focus policy support upon. In fact, according to a study examining cluster initiatives across Europe, the majority of cluster programmes were not preceded by in-depth regional analysis comparable with Porter's cluster mapping process (Lagendijk, 1999). Moreover, Lagendijk claims that the general Porterian

concept of clusters has been interpreted according to the specific needs of the local economy. Enright (2000), in his study also found that very few clusters nowadays adopt Porter's approach.

The industry cluster theory has been criticised (see Martin and Sunley, 2001) for not having a commonly agreed or theoretically determined cut-off for defining a cluster. Still others, especially policy makers, often simply claim clusters exist without recourse to in-depth empirical analysis. The critique is compounded by the fact that the theory emphasises on geographical proximity in the formation, performance and identification of clusters. Whilst this present a key weakness in that there is nothing inherent in the concept to indicate its spatial range and limits.

The theory is also criticised for its struggle to distinguish successful from non-successful clusters. Hart (2000) typologies of cluster give names to industrial activities that may not necessarily be clusters. There seem to be an apparent diversity of cluster typologies with no universal connection, thus what may be called a cluster might be aspiration rather than real.

Other critiques of the theory (see Harrison and Glasmeier, 1997) claim that the industry clusters are only capable of responding to small, incremental changes in technology and market demands. However with large changes Harrison and Glasmeier claim that clusters can be resistant to new information because it may introduce changes that are drastically different from processes used fr previous successes.

Most observers acknowledge, however, that Porter's work is merely the starting point for the majority of cluster studies, whilst tapping into a wider range of more developed ideas to explain the origins of industry clusters, the dynamics of cluster growth and the change and advantages in using clusters as a basis for regional policy (Bergman and Feser, 1999). Current thinking on clusters, led by Michael Enright, suggests that Porter's work should therefore be used as a starting point or as a catalyst to undertake cluster development and not as some kind of manual that has to be rigidly followed. From the policy perspective, different clusters are often highly place-specific and public policy towards clusters should be flexible enough to accommodate varying industrial, institutional and political conditions.

3.9 Conclusions

In the light of what has been discussed in this chapter and previous chapters, there is no doubt that Porter has been influential in developing the cluster concept that has become the standard concept in the field. Policy makers have become eager to see their regions fulfil their true economic potential through industrial clusters.

Nevertheless, the clustering of competing and complementary firms in a particular geographical location is not a new phenomenon and there have always been networks of commercial and non-commercial relationships between firms. The difference today is the sheer scale, speed, sophistication and impact of industry cluster development both at local and global level.

The four themes of the definition of clusters extracted from the literature will be tested in the case of the new media industry in Birmingham which will be discussed in Chapter 7 and 9. In view of the complexity in the definition of clusters, for the purposes of this research the fundamental characteristic of a cluster will be firms and institutions working together for mutual advantage. These will consists of firms that are interconnected and associated with institutions in the new media in Birmingham - including specialised infrastructure providers, government and other institutions providing special training, education, information, research, and technical support (such as universities, think tanks, vocational training providers); and standards-setting agencies.

The researcher has concentrated on local clusters because her interest is in the local authority initiatives and the adoption by local government of the industrial cluster approach to foster economic growth. The researcher acknowledges that the mere presence of firms, suppliers and institutions in a location does not necessarily ensure the realisation of its potential of being a cluster. On the other hand, the process of forming a cluster is not automatic; though it is true that formal and informal organisation mechanisms and cultural norms often play a role in the development and functioning of clusters.

In light of the former arguments, a number of issues have been taken into account when conducting the survey on the new media industry in Birmingham, in particular, its size, breadth, and state of development.

In forging an effective and functioning industrial cluster the Birmingham City Council Economic Development Department (BCCEDD) need the help of the RDA - Advantage West Midlands - to ensure its development. This follows Porter's suggestion on how governments and other policy bodies play their role in facilitating and supporting the development of competitive industrial clusters, as well as, providing firms with innovative and institutional environments vital for clusters' success.

The purpose of the research summarised in this thesis was to assess the extent to which the new media industry in Birmingham exhibits what the researcher has called the key features of the cluster approach (Table 3.1). These key features now form part of the research variables. It will help answer the second research question concerning the relevancy of the cluster theory to the new media industry in Birmingham.

As was indicated earlier, the interest in clusters has not been confined to academic research, but it has found a ready audience amongst policy-makers at all levels. They are all keen to find a new form of industrial policy or activism in which the focus is firmly on the promotion of successful, competitive economies.

The researcher therefore set out to establish whether the BCCEDD, through local policy initiatives, has been able to influence and or promote the development of the new media cluster in the City. This involved ascertaining whether the firms are benefiting from the initiatives, as stated by Porter, and as experienced by both the BCCEDD and the new media firms. It follows then that the question "Is the cluster

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approach strategy an appropriate tool for Birmingham new media firms?" will be answered.

Chapter 4

The industry cluster approach as a tool for local and regional development policy

4.1 Introduction

In the previous chapter we gained insight into the origins of the cluster approach. We saw how it has evolved through the years from traditional location theory. This chapter looks at how the cluster approach has become a vehicle for regional economic development.

The chapter starts by a brief history of Britain's regional development policy is examined to bring to light the influence of the establishment of the Regional Development Agencies (RDAs). Then highlights the importance of regional development policy, followed by the political context in which regional cluster policies have emerged and their justification. Examples of the best practises in regional cluster policies are examined to determine the lessons that can be learned from them. A critical examination of the extent to which clusters are viewed as the tool for local economic development follows, then establish the factors that gave rise to the policies adopted. This brings to light the key research questions based on the literature review.

4.2 The historical development of regional policy in Britain

McCrone (1969) argued that in most countries, regional development policies come about in response to a mixture of political, social and economic pressures. Britain has a long history of regional policy whose make up has changed immeasurably both in terms of the individual policy instruments at the government's disposal and the geographical pattern of assisted areas.

The policies can be traced back into the 1920s when the government started off by setting up an Industrial Transference Board. The purpose of the board was to facilitate the transfer of workers, and in particular miners, for whom opportunities of employment in their own district or occupation were no longer available. This was after the country was experiencing high unemployment due to the geographical concentration of export industries which were not growing.

The adoption of the labour mobility policy in the 1920s was successful in alleviating the economic disparities between regions for only a short period, as in the 1930s the problem unemployment level escalated (Taylor, 1991). Then, much of the work done was described as "ambulance work", as it was designed to provide urgently needed assistance and relief in areas of high unemployment (Miller, 2001).

The 1944 White Paper on Employment Policy was another regional policy for Britain (Martin, 1995). The main thrust of the regional aspects of employment policy was the creation of manufacturing jobs in the newly established development areas. A variety of policy instruments were introduced through the Distribution of Industry Act 1945;

these included loans and grants to firms, powers to build factories and establish industrial estates and the provision of basic services for industry. It was noted that the most powerful regional policy instrument was the system of controls imposed on the location of industry. The power of location controls was reflected by the leap in the number of firms moving into assisted areas after 1945.

In the early 1960s, regional policy was seen as a means of helping achieve a faster rate of national growth not merely a means of reducing regional disparities in welfare. It was the National Economic Development Council in 1963 that noted high unemployment rates indicated considerable labour reserves that could be drawn to employment and would result into a substantial contribution to national employment and national growth. Moreover, the social costs associated with increasing concentration of population and industry in Greater London also forced government to be committed to regional policy. Measures were introduced to induce manufacturing firms to locate their plant and machinery in the assisted areas and they were encouraged to do this through a mixture of incentives and controls. The policies relied on large capital grants and tax incentives to attract inward investment.

In the 1970s there was downgrading of regional policy as industrial location controls were relaxed and subsidies were reduced. In the 1980s regional policy was further downgraded by abolishing location controls in 1982 and the areas eligible for assistance were drastically cut back. Investment incentives were also reduced as a result of the abolition of the Special Development Areas. There were severe cuts in regional policy spending, which were achieved by sharpening up the focus of policy. Funds were targeted on a smaller number of assisted areas and the aim was to make

the policy much more cost effective in terms of a single guiding objective, that objective being to reduce regional disparities in employment opportunities (Spencer *et al.*, 1986).

Though there were severe cuts in regional policy initiatives, government remained committed to maintaining an effective regional policy to ease the process of change in areas which had been dependent on declining industries and to encourage new business in these areas (Jones, 2001). This was evident in 1988 where the role of the regional policy was to become part of government's drive to encourage self-help, regional development from within, and a renewed commitment to enterprise (Armstrong and Taylor, 1993). The DTI's White Paper in 1988 stated the objective of the regional policy was to help the depressed areas to improve their competitiveness and productivity, and to remove supply-side rigidities that prevent industry and commerce from generating self-sufficient growth. The key to reducing regional inequalities was therefore believed to be the stimulation of indigenous regional enterprise (Armstrong and Taylor, 1993).

In the history of British regional policy there seems to be a correlation between the level of central government commitment with the political party in power. It seems whenever the Labour Party was in power, more efforts were made to reduce the unemployment level through incentives than when the Conservative Party was in government. Lagendijk and Charles (1999) noted that in the 1980s when there were severe cuts in regional spending leading to the curtailing of resources for economic policy, local authorities were forced to search for other sources of funding; for example in Europe; and engage in partnerships with local businesses. There was also

an emergence of the EC regional policy that helped to fill the gap caused by the partial withdrawal of central government funding (Armstrong and Taylor, 1993). Table 4.1 lists some of the financial instruments offered by the EC and their functions.

Table 4.1: Financial instruments offered by EC

Financial Instrument	Objective(s)	Britain's Participation
The European Social Fund (ESF)	Grant to part finance training and workers mobility schemes.	Britain remain the major recipient of this type of help.
The European Coal and Steel Community (ECSC)	Offer loans to industries for investment and restructuring purposes. Helped redundant coal and steel workers.	Britain's coal and steel areas became eligible for financial from the ECSC.
European Investment Bank (EIB)	Provide loans to industrial and infrastructure.	Britain's rural areas became eligible and they targeted on the farming community.
European Regional Development Fund (ERDF)	Provided grants and interest rebates towards investment projects in industry and SMEs. Provided assistance to investments to infrastructure.	Britain is one of the major recipient of the EC regional policy spending.

Source: Adapted from Armstrong and Taylor (1993); Lagendijk and Charles (1999)

In an effort to increase competence at regional level to attract inward investment and EU funds, the government in 1994 established Government Offices for the Regions (GORs). These were groups of civil servants co-ordinating government business in each region. Their responsibility is shown in Figure 4.1.

Figure 4.1: Regional governance 1994
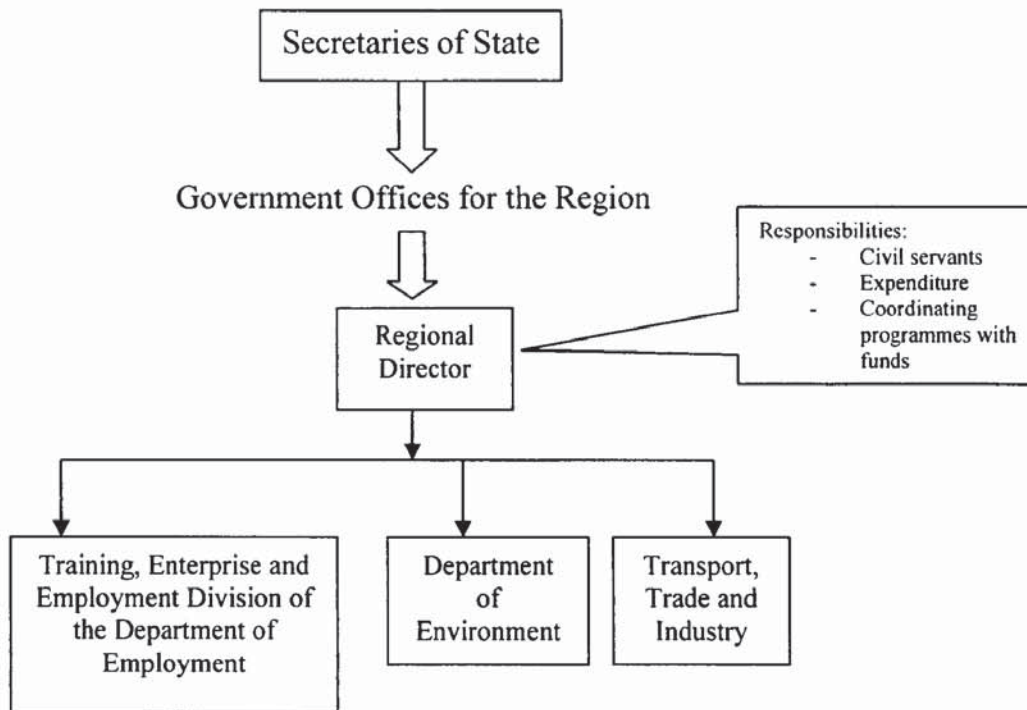
Source: Adapted from Mawson, (2000)

In spite of the development of GORs it was observed that there was no formal involvement of local authorities or other stakeholders within the region (Mawson, 2000; Roberts, 2000). Critiques of the GORs argued that there was an absence of any real support from Whitehall for the provision of regional budgets that could be allocated as a block grant and then deployed in a flexible manner in pursuit of specific regional policy objectives. Further, there were restricted, fragmented and patchy transfers of certain powers to the regional GORs who were accountable to the relevant Secretaries of State. According to Mawson (2000) there was poor coordination of regional development caused by:

- The fragmentation of the public realm arising from privatisation

- The establishment of "arms length" agencies

- The marketisation of public services

- Limited and poorly coordinated presence of government departments at regional level.

When the Labour government took office in May 1997 their strategy was to clarify the role of the GOR's and appoint new Regional Development Agencies (RDAs) for the English regions and to encourage the latter to work closely with both the GOR's and the voluntary regional chambers, which have been developing spontaneously in England. The Government's intention to create RDAs in each region was communicated in a White Paper, Building partnership for Prosperity in December 1997 and has been fully operational from 1 April 1999 (Benneworth, 2001).

The RDAs were established as public institutions, appointed by ministers. They have a chairman and several members of each RDA come from private business backgrounds. There is a strong formal representation from local government, and a token trade union presence. The primary task of the RDAs is to further the economic development of their region. RDAs are the lead bodies at regional level for coordinating inward investment, raising people's skills, improving the competitiveness of business, promoting sustainable and economic development, and social and physical regeneration (Benneworth, 2001).

The role envisaged for the RDAs was that they should act as a focus for the formation of an inclusive regional plan by first identifying actors and stimulating the articulation of their interest - particularly with regards to voluntary and community groups. They would then determine the regional vision between the contributors in an open

discussion that would finally lead to the policy process between those with the resources to do it.

Another important aspect of the RDAs role was in transforming the policies of regional actors such as TECs, the Chamber of Commerce and Local Authorities so that all the policies move in concert. According to Benneworth (2001) the role of the RDAs is to radically transform the current loose arrangement of common interests and actions in the regions into a single regional agenda, policy and operational strategy.

RDAs also provide advice to GOR's on the type of projects, which are suitable their regional economic strategy. The regional governance after the creation of RDAs is shown in Figure 4.2. Though there was change in the regional governance after the creation of RDAs, to debate the effects of these changes on the performance of the RDA's is beyond the scope of this research. There is no doubt, however, that the government believes that with the RDA's in place, they are pursuing a new regional policy quite distinct from other experiences (Ball, 2000). Therefore, this research has focused on the RDAs and their adoption of the cluster approach.

Figure 4.2: Regional governance 1999
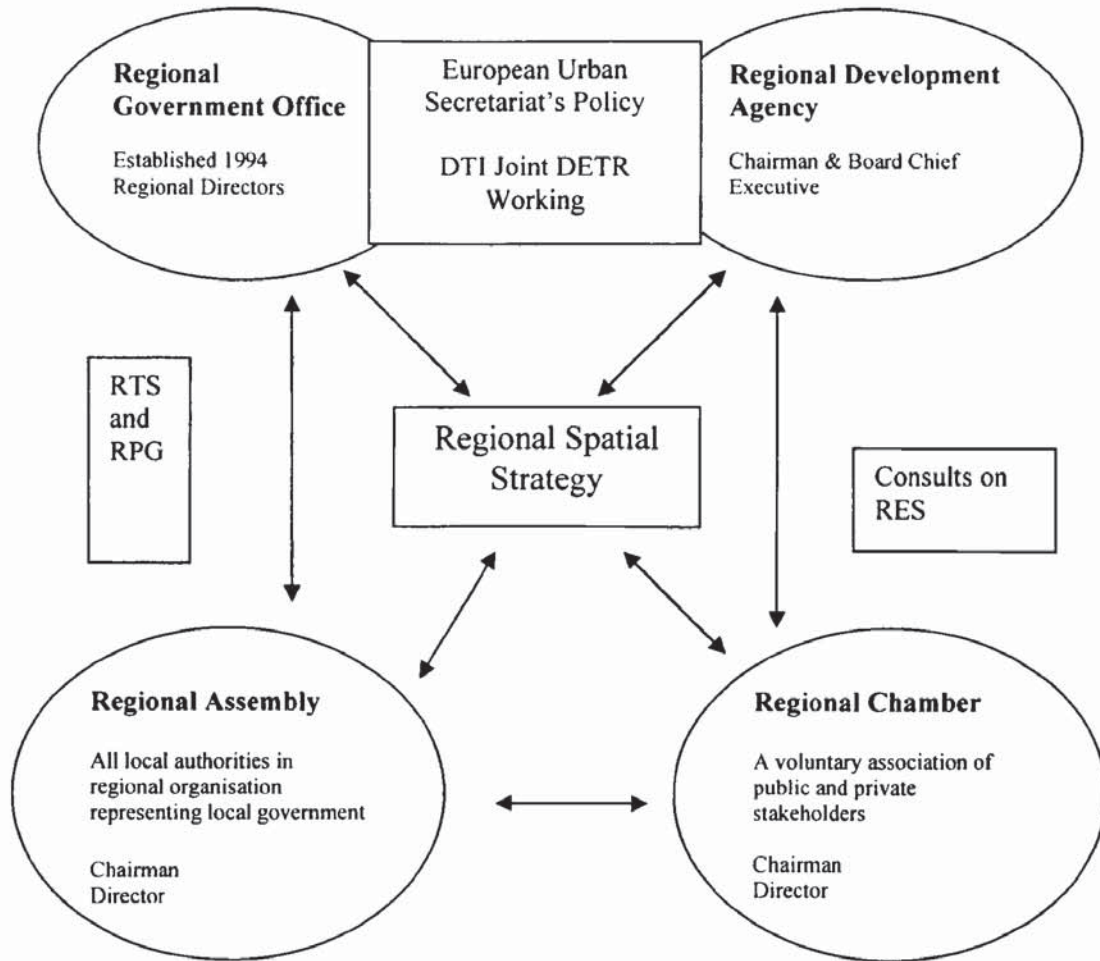
Source: Adapted from Mawson (2000)

4.3 Importance of regional development policy

Regional development policies are perceived as important tools for economic development - given the disparity between regions [McCrone (1969); Hoover and Giarratani (1989); Sternberg (1991); Lagendijk and Charles (1999); Gordin and McCann (2000)]. The main aim of these policies is to meet the objectives of the region. Lagendijk and Charles (1999) pointed out that the regional development policies could be seen as an attempt to fill the gap left by the hands-off stance adopted by central government.

Benneworth (2001) noted that, despite the rising level of employment and activity across UK, there were still major areas of the country that are still blighted by lack of jobs and which also lag behind the South East in growth rates productivity income. Thus, there was a need for policies to promote growth and employment in lagging areas. Over the years the use of monetary and fiscal measures at a national level had proved inappropriate to reduce disparities in regional economic conditions (Maconochie and Hardy, 2001).

Accordingly, McCrone (1969) asserts that free market forces cannot be relied on to operate satisfactorily in location decisions, thus regional policies are important. Additionally, economic growth requires a policy to ensure that the economy's spare resources are utilised as far as possible. Also, that the avoidance of inflation and achievement of steady growth are only compatible if wide differences in regional unemployment rates are avoided.

When disparities between regions are not addressed there are possibilities of harmful effects on the operation of the national economy (Armstrong and Taylor, 1993); such as;

- Dissatisfaction and resentment felt by those whose job prospects and living standards are poor through no fault of their own.

- Harmful economic and social consequences in the disadvantaged regions with persistently high levels of unemployment.

- Severe economic costs - such as building roads, rail networks and airports on the rapidly growing urban areas through the excess demand for social capital.

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- Severe economic costs in the areas losing their population where social capital is under-utilised.

Notwithstanding the popularity of regional policy, policy makers still need to be cautious when adopting regional policies. For instance, if the policy restricts expansion in a prosperous area resulting in firms moving to other areas or cancelling any expansion programmes, this can have harmful effects on economic growth of the firms as well as the region (McCrone, 1969). Hoover and Giarratani (1989) explained that policies could result in firms locating where they cannot fully maximise their potential, being limited by costs of production in that area, thus affecting their competitive position - even in the international market. Therefore, policy makers need to be informed and should examine all the options available to them to ensure that the policies they implement are the best for the region.

With all the attention given to the importance of regional policy for regional economic development by academics and practitioners; regional policies have undergone various seasons. They were in fashion between the 50's and the 70's and they were out of fashion between the 80's and the 90's. The 90's saw the emergence of a new kind of regional policy, the regional cluster policy. The UK government had pursued national sectoral strategies during the 1970s, then during the 1980s, central government moved away from such initiatives with the dismantling of sectorial teams within the Department of Trade and Industry and a shift in R & D programmes towards collaboration in generic technologies (Lagendijk and Charles, 1999). From 1999, the UK has been concentrating on regional development through RDAs established throughout England to pursue the regional cluster policy.

4.4 Regional Industry Cluster Policies

Regional industry cluster policy refers to all those efforts by government to develop and support industrial clusters in a particular region. This can be by a combination of different sets of actors, different strands of policies and approaches. According to Storper and Scott (1995), they can be seen as part of a new economic policy framework in which significant dimensions of economic policy at large are being formulated in terms of regional policy. This explains why cluster policy can be hardly isolated from other policy areas.

Industry cluster policy differs from traditional economic development policy in that it focuses on developing a strategy that will encourage an efficient allocation of limited resources available for regional economic development, provide a tool for industry recruitment, and encourage diversification of the industry base. Given the limited resources available for economic development, it is critical that the policy makers allocate these resources in the most efficient way possible in order to meet the needs of established and growing industries. By identifying clusters and understanding specific needs of the industries within the clusters, policy makers can build on the existing strengths in the region and provide more appropriate assistance to firms. This is in contrast to many previous policies, which direct resources at the industries the region hopes to attract, regardless of whether the existing environment is conducive to the development of these industries (Doeringer and Terkla, 1995).

Industry cluster policy can also serve as a tool for industry targeting and recruitment. When an industry cluster is identified, gaps in the entire production process become apparent (Porter, 1996). Local policy makers can use this knowledge to target industry recruitment to fill these gaps, and complete the overall production process.

Industry cluster policies are believed to stimulate competition, which in turn leads to economic growth. According to Lagendijk and Charles (1999), the key advantages of industrial cluster policy interventions are to:

- Provide intermediate markets in regional markets as firms are likely to suffer from informational failures.

- Break business isolation and facilitate co-ordination of modernisation and investment strategies between related firms.

- Improve interaction between the regional institutional system at large, by offering a platform for discourse on business development as well as long-term economic development of a region.

Cluster policies can therefore be seen as innovative steps in regional policy making because of the networking; promotion of inter-firm trading and learning and support the re-orientation of regional economic development towards growth sectors. More benefits accrue to the region when the clustering of the firms include industries across several sectors because they are more easily adapted and can better withstand downturns in the economy cycle [Henton *et al*. (1997); Rosenfeld (1997)]. Table 4.2 summarises the main justifications for cluster based regional policy and also includes the specific policy contribution which they may offer.

Table 4.2: Justification of a cluster based regional policy

General categories of systemic and market failures	Specific applicability to peripheral regions	Contribution of cluster based policies
Informational failures	Often severe, due to poor market and information infrastructure and segmentation of the regional economy (e.g. foreign vs. local firms).	Facilitating networks involving local and foreign firms; supporting information exchange system and business links brokering services.
Limited interaction between actors in innovation systems	Innovation systems poorly developed; in general, lacking co-ordination between key (public and private) actors in the regional economy.	Improving regional facilitation of social networking and institutional links, notably through public-private partnerships targeting specific clusters.
Institutional mismatches between public knowledge infrastructure and market needs	Proliferation of policy initiatives and support structures; co-ordination is however poor and lacking demand orientation	Rationalisation of support along cluster lines, e.g. through (real) service centres, university extension services.
Absence of demanding customers	Foreign plants may provide opportunities (also along non-trade lines) but they are often not sufficiently exploited.	Creating strategies for the regional embedding of foreign plants.
Government failure	Affecting particularly the implementation of technology policy and provision of business support.	Improving the co-ordination of regional governance structure, e.g. through regional development policy with capacity to develop (top-down) cluster policies.

Source: Adapted from Lagendijk and Charles (1999)

As a result, over the past ten years the concept of regional clustering has gained a lot of popularity in business, government and the academic world. Consequently, a number of governments in the OECD countries actively pursue cluster based policy as a means to foster regional economic development (Lagendijk, 1999; OECD, 1999b). This trend is also evident when browsing through national and regional policy documents and innovation based programs. One striking point immediately emerges: governments continuously stress the importance of regional clustering as a means to

dynamize firms and guarantee a high technology economic future. This popularity of regional cluster policy has led to a strong interest among policy makers.

4.5 The limitations of industry cluster policies

To date, there is little research on the effectiveness of industry cluster policy in generating economic development in cities or regions. As a result, judgement on there effectiveness can not be easily made. Rosenfeld (1997) criticises the use of traditional measures such as new jobs created and tax revenue generated. He claims that new measures be used for evaluating the overall efficiency of industry clusters. These include:

- The number of new spin-off businesses firms in the cluster have generated;

- The development of new technology and increased research and development capacity;

- The improvement of labour force skills; and

- The intensity and quality of firms networks created (Rosenfeld, 1997).

Rosenfeld (1995, 1997) provided a discussion of some of the general criticisms of industry cluster policy. The biggest concern is that cluster policies encourage over specialisation in the economy. If the industries in the cluster fail, then the economy in the entire region would be damaged. Many policy makers chose to encourage the diversification of the economy, and fear that the use of a cluster policy will run counter to this effort. Secondly, industry cluster policies are criticised for being more applicable to small, specialised firms, particularly because of the level of trust and cooperation required for a successful cluster. The third criticism of industry cluster

policies is that they only apply to urban areas, and that rural areas lack the necessary scale for a cluster.

Other critics of the industry cluster policy (see Quah, 1996, 2000) claim that the new telecommunication technology is replacing the need for special clustering. Therefore, firms will no longer receive a competitive advantage from close geographic proximity. As a result, the benefits of clustering especially with new media firms are questionable and there is need for research to prove otherwise.

Harrison and Glasmeier (1997) also critique cluster policy by claiming that cluster development is more appropriate in areas where there is already an existing, diverse economic base, which can support new markets and diversification. They also asserted that industry clusters were only capable of responding to small, incremental changes in technology and market demand.

Nevertheless, several regional policy developments have experienced the benefits of using the cluster approach [see Saxenian, (1994); Rosenfeld, (1996)]. The British Government developed RDA as a means to implement the cluster approach in its region. However, the policy makers are under pressure to find clusters in as many regions as possible to establish cluster programmes. There seem to be less concern with detailed empirical research into specific clusters. But without this research, it is impossible to identify weak links in existing value chains or to spot potential relations between firms that can be nurtured. Lacking such knowledge, the idea that targeted and specialist services can be supplied for clusters might look like wishful thinking.

4.6 RDAs and industrial clusters

An important feature of the revitalisation of regional policy and regional governance has been the role of clusters. Clusters feature in each of the Regional Economic Strategy to varying degrees as they have been heralded as a model of regional development.

It was in the 1990s that clusters began to be seen as the primary approach to promote growth and employment in order to reduce disparities in regional economic conditions. Although the term is a relatively new one, as noted in Chapter 2, its background can be traced back to the beginning of the nineteenth century in the works of Alfred Marshall on industrial districts. Marshall (1920) argued that Britain's economic growth and leadership during the nineteenth century was founded on the development of several examples of localised industries.

The emphasis that the Labour government in the UK placed on the development and promotion of clusters was first outlined in the White Paper "*Our Competitive Future: Building the knowledge driven economy*" (DTI, 1998). The White Paper highlighted the fact that business development is often strongest when firms cluster together, creating a critical mass of growth, collaboration, competition and opportunities for investment and knowledge sharing.

Government's commitment to clusters was evident when Lord Sainsbury, in November 1999, announced the establishment of a Cluster Policy Steering Group that drew together government, the RDAs, academia, local government, the private sector

and other cluster "experts" to identify barriers to the growth and development of clusters and develop appropriate solutions (Benneworth, 2001). This was followed by the research project to map existing cluster activity in the UK undertaken by a consortium led by Trends Business Research (SQW, 2003).

There were other research reports that the government initiated. The *Biotechnology Clusters* (DTI, 2000) was commissioned to protect the competitive position of the UK's biotechnology cluster. The report outlined a ten-point action plan to help the UK's growing biotechnology companies to become global players. There was another report undertaken by ECOTEC Research and Consulting "Planning for Clusters (Lagendijk, 2000) that identified how the planning system might promote the development of clusters.

Subsequently, in the 2001 White Paper "*Opportunity for all in a world of change: enterprise, skills and innovation*" the government committed to promote the growth of successful clusters. The RDAs were therefore asked to develop strategies for success for their regions, building on existing strengths with the assistance of the clusters mapping. These strategies were intended to highlight how the regions could improve their economic performance, enhance regional competitiveness, economic regeneration and business growth in each region. The government made clear that it is depending on the RDAs to play a pivotal role in promoting the development reinvigoration of business clusters. Thus, each RDA embarked upon a large-scale consultation process in its region with all the key regional stakeholders. Nevertheless, the best practises of regional cluster policies are presented in the following section.

4.7 Best Practises of Regional Cluster Policy

In justifying policy efforts towards regional clustering, governments frequently refer to success stories of clustering in other countries. In a number of places across the world cluster policies have been pursued for many years, but public authorities frequently end up by citing the same three examples of best practices: Emila-Romagna, Baden-Württemberg and Silicon Valley (Sternberg, 1991; Cooke, 1996; Di Giovanna, 1996).

4.7.1 Emilia-Romagna – Third Italy

The story of industrial growth in Emilia-Romagna, located in the northern part of Italy – sometimes known as "Third Italy" - has been told many times as noted by Storper (1993). Burroni and Trigilia (2001) stated that "Third Italy" has gained its popularity by attracting attention as a distinctive features of the Italian economic development with a significant role played by SMEs in a form of industrial districts; that is clustering and cluster policy. The local government in Emilia-Romagna has contributed to the development of these clusters by consensus-building (brokering) and by providing social business services.

Throughout this region, clusters producing machine tools, ceramic tiles, knitting and footwear abound. This is a network of firms that are characterised by a low level of hierarchy, by horizontal linkages among SMEs and by inter-organisational networks (Burroni and Trigilia, 2001). These firms are also supported by external economies of productive organisation in the following ways:

- The high-density of firms and widespread interpersonal trust favour the spreading of information about technological innovation, organisational problems and the production of the specific know how. Marshall referred to this kind of collective competition goods when he emphasised the role of the 'industrial atmosphere' as a peculiar component of the industrial district model (Marshall, 1920).

- Successful production of collective goods is dependent on the formal and informal processes that supply such goods (training, technological information, export promotion, information on market trends, and so on) since the firms are not large enough to produce internally the services they need.

- This production is supported by the complex institutional setting and by the particular governance structures of this kind of local economy.

The particular features of Emilia-Romagna inclusde:

- A network of SME centres exists that can be traced back to medieval communities. They enjoyed the widespread traditions of crafts and commerce, which were not eroded by industrialisation, urbanisation and immigration. The entrepreneurship of SMEs came mainly from these centres.

- The presence of self-employment in agriculture (sharecroppers or small-scale peasant farmers) was also important in supporting the formation of a flexible, low-cost, workforce with appropriate training and a particular work ethic.

- "Third Italy" also enjoyed the strong influence of both local political traditions and institutions tied to the Catholic and socialist and communist movements. Thus regions were characterised by a 'white' or 'red' regional political subculture.

Burroni and Trigilia (2001), in their study on Third Italy concluded that the following lessons can be drawn from the cluster:

- Global pressure has not reduced the importance of local economies in Italy.

- There is no "best" model that reacts to new pressures, rather, there are different answers in different contexts.

4.7.2 Baden-Württemberg

The German region of Baden-Württemberg is widely seen as one of the biggest industrial success stories within Europe over the past 30 years (Hospers and Beugelsdijk, 2002). According to Raco (1999) the region has developed a successful innovation system which has been constructed through shared, more formalised, collaborative institutions. Cooke (1998) described it as a network-based innovative system in which technology transfer, through educational and social institutions, is central to the local competitiveness of firms

The region's success is based on:

- The presence of a strong engineering cluster dating back to a pre-industrial tradition in crafts.

- The regional state's pro-active role in promoting cooperation between "state, industry and science".

- The development of lot of the state-sponsored programmes which have been designed to help market parties in the process of clustering, such as a technology transfer known as the "Steinbeis Stiftung".

- The ability of firms in the region to rapidly produce high-quality, specialised products with very short product cycles.

- The existence of SMEs of which many are family owned and have a more local emphasis than economies elsewhere.

- The region being said to possess highly skilled, well motivated and knowledge rich labour forces (Herrigel, 1993; Cooke, 1996; Lash 1996; Cooke, 1998; Raco, 1999).

The following lessons can be drawn from this cluster:

- Local ownership of firms enables more rapid management responses to changes in market opportunities, whilst simultaneously encouraging longer-term, trust-based relationships with other firms.

- There is a lot of interaction between individuals in education and industry, allowing a flow and circulation of information.

- Trade associations contribute to an industrial atmosphere of trust and reciprocity.

4.7.3 Silicon Valley

The most famous example of regional clustering is Silicon Valley, which is a micro-electronics cluster of firms producing semiconductors and computer chips that are sold world-wide to other component or system manufacturers. The growth of this cluster resulted from a complex series of historical, social, political and economic local circumstances which generated and reproduced the creation of a local milieu of production.

According to Saxenian, (1994) and Scott, (1988a) the region's success is based on:

- The combination of competition and co-operation among its firms being held responsible for its successful economic performance (Saxenina, 1994)

- The rapid rate of change, both in product and process technologies (Scott, 1988a).

- The existence of universities that provide a source of skilled engineering and technical personnel and provided the infrastructure for the initial creation of high-technology parks.

- The spatial concentration of the firms which created an enlarged supply of manpower, specialised inputs and services, and a social, cultural and educational environment that is appropriate for the industry.

- It being a highly flexible local agglomeration, which has evolved and continues to evolve and which is ideal for a fast changing, high-technology industry.

The following lessons can be drawn from this cluster:

- Having local education institutions develop programmes that will meet the specific needs of local firms is highly beneficial.

- The spatial proximity of firms must be more than simply a contingent influence but they need to be involved in the growth of local economic activity.

- Local structures need to be in place to facilitate forms of dynamic, reflexive learning that are required for the maintenance of success in the new, knowledge based economy.

Based on such success stories, policy makers have attempted to take into account their experiences when developing their regional industrial cluster policies. Hospers and Beugelsdijk (2002) noted that a number of government agencies all over the world still organise visits to Silicon Valley to see the miracle of the region. As a result, many governments have sought to replicate the experiences of these successful clusters of firms (OECD, 1999a). Nevertheless, these regions are far from representing a homogeneous phenomenon regarding sectors, technologies and institutional environments. At the same time, they reveal some similarities, which have attracted the interest of many researchers (Fingleton *et al.*, 2002). Among the most noted features them is the existence of different kinds of relationships between the firms, from the traditional input/output supply chain linkages to a wide range of collaborative relationships, and the capacity to maintain considerable knowledge flows and innovation between organisations.

4.8 Key Issues from the literature

From the literature on the historical development of regional development policy in Britain there seemed to be a number of problems faced by the GORs who were in charge of the regional policy. These included absence of real support from the central government, inflexibility to pursue specific regional policy objectives and restrictions which deprived them the authority to perform some tasks. Thus, the RDAs were introduced to develop strategies for economic development for their own regions. This came with the adoption of the cluster policy approach by the government, whereby the RDAs had to promote the development and re-invigoration of business

clusters. There is therefore a great expectation of the RDAs in using the cluster approach to produce a result in terms of economic regeneration with new businesses starting and promoting growth and maintaining existing businesses in the region.

The adoption of the cluster approach as the tool for regional development seemed to have come at a time when the government was willing to try anything that was available in the market that would help stimulate the economy through regional development. One could then argue that with the cluster being a tool that Porter had recommended for governments it was then the next available tool for the government to try without prior research.

Arguably, the cluster policy that is being developed through the RDAs has considerable merits because of the involvement of the different stakeholders whose contributions are relevant to the region and the industry. The question then is: Does the involvement of the different actors add to the value and sensitivity to the needs of the firms bearing in mind that an effective cluster should bring interaction between researchers, captains of industry and policy makers. Therefore, the cluster approach the Government's role could be seen to have changed from taking the lead with direct intervention policies into indirect inducement or facilitator for networking taking the role of a catalyst.

One of the main problems of the malfunction of the regional policy was the strict control of finances. With the RDA and clusters it is a way of easing the control on the finances.

The discussion of the historical development of regional policy in Britain show that policies adopted were initially labour mobility, then firms mobility and now they are looking at networking and forming relationships between the firms and other organisation to foster regional development. Now relationships between complementary and inter dependent firms are the key to economic growth. This is contrary to the traditions of regional science and economic geography which often treat inter relationships as the outcome of location decision.

One of the main functions of the RDAs, using the cluster approach, is to mobilise negotiate and act as a mediators between the regional actors to develop the policy. Thus, for the policy to be developed there is need for better interaction between agencies to exchange information. This brings about a shift in the formulation of policy, it is no more about a well defined set of policy measures but rather about people, knowledge, skills, interdependency and networking. Rather than seeing policy interventions in terms of a specific form of mechanism, it would be necessary to examine the process by which the stakeholders facilitate networking and how they interact between each other.

4.9 Conclusions

The discussions above have highlighted the potential benefits from cluster policies, there is a need to make it practical and relevant to each local economy. The research will look at Birmingham City Council case to assess their justification of establishing initiatives, their measure of output and the effectiveness of the initiatives.

In the light of what has been discussed in this chapter the next chapter will focus on the case of Birmingham City Council's adoption of the cluster approach and the influence from the RDA the Advantage West Midlands. There are a number of lessons that have been established from the best practises of regional cluster policies; will these lessons be relevant to Birmingham.

Chapter 5

The Birmingham City Council Economic Strategies

5.1 Introduction

This chapter explores how the Birmingham City Council, through their Economic Development Department (EDD), has adopted the industry cluster strategy as a local economic development policy. An overview of the economic transition of the City is presented with emphasis placed on the historical background of the strategies and /or policies that have been adopted by the City Council to promote the economic development of the City.

This review of the previous strategies and policies is intended to increase understanding of how these approaches differed from the industry cluster approach now adopted by the EDD and the extent to which the problems from the previous approaches were considered when developing the economic strategy of the City. This will also highlight changes in the current economic strategies brought about by the establishment of Advantage West Midlands (AWM).

5.2 Birmingham economic transition

The city of Birmingham has undergone a dramatic change in its economy; this came about as the long-established businesses in the city faced significant challenges

brought about by a decline in its maturing manufacturing markets. What was once a disproportionately large manufacturing sector has collapsed faster than elsewhere in the UK. Between 1971 and 1993, two thirds of the City's manufacturing jobs were lost (BCCEDD, 2001a) and between 1991 and 2001 the City experienced a decline of 27.6% in the manufacturing sector (BCCEDD, 2004). On the other hand, the service sector has seen an increase of 14.3%; because of this, the City that was once focused on traditional industrial firms has had to look to other industries for growth (BCCEDD, 2004).

Birmingham was known as "the City of 1,000 trades" and the manufacturing heartland of the nation. The City's economy and that of the whole West Midlands region was traditionally concentrated on manufacturing. Liggins in 1977 describes the West Midlands as:

> "...Britain's most prosperous post-war provincial region, one of Europe's greatest industrial regions and the industrial heart of the nation, and its major city Birmingham as the most pleasant and prosperous industrial city in Britain..." (1977:75)

Birmingham is the major city in the West Midlands region, so any economic changes in the region affect the City; such that between 1950-1976 the City was prosperous as was the region (Wood, 1976; Liggins, 1977). According to Wood (1976) at that period the prosperity of the City and region reached its "zenith", so subsequent developments in the city and region will be compared with this time. The post-war economic boom of the City was built upon its manufacturing industries, the key sectors being vehicles, metal goods, metal manufacture, mechanical engineering and

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electrical engineering. These industries provided 80% of the manufacturing employment constantly throughout the period from 1961-1981 (Spencer *et al*, 1986).

The West Midlands County Council in 1985 remarked that the region was one of the most prosperous in the country, with very low levels of unemployment and high earnings, giving its people higher than average living standards (Spencer *et al*, 1986). This is consistent with Wood (1976) who described the region as having distinctive social and economic characteristics that reflect its prosperity and these were:

- The region being predominantly an industrial region, with half of its employment still in manufacturing in 1972.
- The dominant industries in the region were prosperous.
- The employment growth rate in the region was above the national employment growth rate. Between 1951 and 1966, 361,000 extra jobs were created in the region.
- There was also rapid growth and high concentration into manufacturing and skilled manual employment.
- There were high levels of personal income, especially in manufacturing.

The economic characteristics of the region underlined the fact that the key to its prosperity lay in the manufacturing industries and in the jobs that they provided. Birmingham's economy was no exception to the rest of the West Midlands, it relied heavily on traditional manufacturing firms, which experienced rapid economic development in the nineteenth century based on mining, metal products and engineering (Wood, 1976; Spencer *et al*., 1986; Elliott and Marshall, 1989; Martin, 1995).

Apart from developing through manufacturing firms, the City also benefited from its councillors' influential power which played an increasingly interventionist role in its development (Martin, 1995). According to Chandler and Lawless (1985), Joseph Chamberlain laid the foundations of the City's success in attracting and retaining the growth sectors of the early decades of the twentieth century through municipal enterprises which he pioneered. These municipal enterprises were involved in providing the major public utilities of water, gas, electricity and public transport; this gave local government officials direct experience of business and commerce (Spencer *et al.*, 1986). These municipal enterprises also gave Birmingham a tradition of local economic intervention, which has been maintained in recent city council initiatives. The City also saw the establishment of a municipal bank.

The global post-war boom caused Birmingham to grow and prosper in such a manner that its growth was more brilliant than any other major British city outside London (Sutcliffe,1986). As a result, the City perceived itself, with some justification, as the engine room of national economic growth and prosperity. However, a turn of events occurred during the international recessions of 1974-75 and 1979-81, when the region's manufacturing industries suffered. The City started experiencing a series of major economic declines from the late 1970s onwards causing the structural weaknesses of the region's economy to be exposed. According to Martin (1995) the structural weaknesses were the redundancy of the City's fixed capital, concentration on the automotive sector and the growth in international competition and increase in import penetration. The structural problems were also compounded by the virtual absence of attractive sites and premises; the traditional businesses in the region were

slow to invest in new technology sectors and few moved into high technology or new markets. Moreover, new manufacturing investments were diverted away from the City because the West Midlands in the 1960s and 1970s was not eligible for regional policy grants for assisted areas. As a result, the City was deprived of a generation of investment in new product lines and processes (Wood, 1976 and Spencer *et al.*, 1986).

Thus, Birmingham's fortunes went into a free-fall as companies struggled to survive in the teeth of a deep recession (Martin, 1995). Birmingham City Council (1992a) justified the City's economic plight and loss of jobs in the manufacturing sector by saying they were linked to national trends, including under investment, exchange rate policies and increased productivity leading to reductions in the demand for labour. Hence, the national causes of decline in the economy were complicated in Birmingham because the city was considered to be a manufacturing specialist (Martin, 1995) and this, along with the predominance of producer services, render the city more susceptible to national economic cycles.

Another major factor in Birmingham's decline was also a reflection of the overcapacity of the European car and truck market, and the city's heavy dependence on vehicle manufacture - either directly or as provider of components. According to Martin (1995) there were massive redundancies at the Leyland (later Rover) site at Longbridge and the Leyland DAF plant in Washwood Heath. These redundancies were magnified by the knock-on impact on their suppliers. The City was further affected in the late 1980s and early 1990s by the decline of the UK coal industry with eleven of the twenty-nine Birmingham companies that supplied British Coal

expecting their contracts to be delayed or cancelled (Birmingham City Council, 1992b).

The decline in economic activities of the City caused that which was once pleasant and prosperous to old redundant buildings with a desperate need to be redeveloped. The image of the City changed; its historical industrial heritage had become its major weakness for its prosperity because it dependent on a narrow band of long established metal based engineering industries, like foundries, machine tools, and automotives products.

In response to the rising level of unemployment, the City Council built up one of the largest and best resourced Economic Development Departments in the country and embarked on an ambitious strategy to promote the regeneration of the local economy (Martin, 1995). Since then the City Council has been developing economic strategies that aimed to improve and develop the image of the City.

5.3 Birmingham's economic strategies

The City Council was faced with a challenge to bring back the pleasant and prosperous city. It had to take proactive approaches to generate the economy of the city. A wide range of radical economic policies were introduced, aimed at encouraging investment, stimulating the growth of co-operative investment and providing important skill training.

Spencer *et al.* (1986) observed that in the post war boom, the main role of the local authorities was one of providing social infrastructure such as education and housing which would have been a crucial adjunct to industry development. Thus, local authority involvement in the local economy was generally limited to land use planning.

In October 1971, Birmingham City Council resolved to deliberately encourage the retention and expansion of existing industry within the City boundary and to back this up with land allocation policies and a campaign publicising the city as an industry location. At this stage, the economic development policy was seen primarily in terms of land use and infrastructure (Birmingham City Council, 1973) rather than improving the economic climate the businesses operated under. The City Council continued to engage in an active economic development programme, but the policy initiatives evolved in an ad hoc manner, reflecting the roles of individual departments.

In 1974, different departments were to provide services as required by the City Council. Table 5.1 show the roles of the three departments that were in place at that time to promote economic development in the City, of which a majority of the services were from the Treasurer's Department.

Though there was no overall policy framework regarding the City's economic development strategy, the City Council was able to prepare a policy statement called Industry and Employment: the Birmingham Approach in 1978 (Elliot and Marshall, 1989). This policy statement served as an important reference document for the City's economic development. It listed the aims of the Council, which were to:

- Stabilise job losses.

- Create new jobs and wealth.

- Diversify the economic base by attracting outside firms.

- Alleviate the problems faced by indigenous firms.

- Develop high technology firms via a range of measures.

According to Spencer *et al.,* (1986), this policy approach failed because it was based on industry rather than people. There was also hostility between Conservative and Labour party council members, which in turn contributed to the failure of the approaches adopted.

Table 5.1 Roles of the Birmingham City Council departments in 1974

Department	Functions provided
The Treasurer's Department	• Developed a business and employment scheme • Loans • Loans guarantee • Interest and rent relief grants • Grants for adapting or improving industrial building • Business bureau that provided advice services.
The Estates Department	• Managing city properties • Prepared a registry of vacant premises • Clearance of sites • Construction of advanced factory units.
The Planning Department	• Deal with Construction Packages

Source: Adapted from Birmingham City Council (1973)

Nevertheless, an Economic Development Committee was established in 1979 to coordinate the relevant economic activities of the various departments – the Treasurer's department, the Estates department and the Planning department - with the exception of education and training matters; the committee had their own budget and control over their work. Spencer *et al.* (1986) noted that the budget allocated to

the departments grew, but there were few attempts to develop a coherent and explicit economic and employment strategy for the City. They suggested that the cause was the absence of a clear organisational focus and the disparate nature of the activity.

In February 1982, the West Midlands Enterprise Board (WMEB) was established to invest in good local companies to secure jobs for the future. The Board provided equity and long-term finance for medium-sized and large local firms. Those considered for assistance were primarily engaged in the manufacturing sector and either employed fifty or more persons, or had realistic prospects of growing to that size. The investment decisions made by WMEB were based on appraisals by the investment executives of business plans prepared by the applicants, set within the context of a sector statement prepared by officers of the West Midlands County Council regarding wider economic trends within the industry and the strategic significance of the investment for the local economy (WMEB, 1992).

In 1984 the West Midlands County Council established six principles on which they based their economic development policies (West Midlands County Council, 1984). These were:

1. Continuing the survival and strengthening of the traditional firms in the region by encouraging firms to improve business planning and take advantage of technological developments and invest into the future.

2. Increasing the input of investment funds into the West Midlands region by creating local funding bodies that would provide long-term development capital for local firms.

3. Encouraging accountability of all the firms that are supported by public funds. These firms would be expected to enter into planning and investment agreements aimed at ensuring good employment practices, future business planning and making sure that the investment concerned is not moved away from the West Midlands.

4. Investing in human skills by supporting a wide range of training initiatives to anticipate the skill needs of tomorrow and ensure that local people have the skills to take the jobs created by new investment.

5. Establishing co-operatives and community enterprises in order to help local people create their own jobs, since they recognised that within a community there are a series of energies and talents which could be brought together to create employment opportunities.

6. Setting up strategies that would focus on encouraging investment and providing training opportunities for those communities that were disadvantaged and had a poor standard of living.

The above principles were the base of the first strategy adopted by the city council was published in April 1985 by the City Council Planning Department (Spencer *et al.*, 1986). The main concentration of the strategy was to bring together the existing different initiatives and programmes, with the aim of strengthening and retaining indigenous companies and attracting inward investment. An Economic Development Unit (EDU) was then set up to co-ordinate the initiatives and programmes that were previously under the Planning and Environmental Services Department.

The economic strategy concentrated on promoting "basic industries with a high export content". These basic industries in Birmingham were mainly manufacturing firms, but the service sector also benefited through their interdependency with these firms. Furthermore, as a result of the firms being interconnected, it was anticipated that the programmes to promote exporting firms would in turn bring increased productivity in the other firms that depended on them for jobs. A mixed portfolio of initiatives aimed at strengthening and retaining indigenous companies and attracting inward investment was therefore adopted (Spencer *et al.*, 1986).

The strong linkages between the firms was highlighted by Sargant Florence's work in 1948. Equally, in the late 1980s Elliott and Marshall (1989) stated that the firms in the City were still dynamically interlinked within the production process, as the output of one producer would become the component for a further process or assembly by another. This interdependency of the firms was in a hierarchy of customer-supplier linkages focusing on a limited number of large firms. However, when the larger firms faced a market decline in the mid 1970s, resulting in overcapacity and falling profitability they began to rationalise and restructure their activities (Gaffikin and Nickson, 1984). As a result, the firms went in search of new markets and products', thus disrupting their links within the region's trading industries (Elliot and Marshall, 1989).

The City Council aimed to intervene by developing a closer relationship with the private sector, assisting it with training, premises, and development sites, and encouraging the forging of better links between major companies and their local components suppliers. Their objective was to improve the latter's R & D capabilities,

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quality control systems and to increase investment into new product lines (Elliot and Marshall, 1989).

The 1985 strategy was also concerned with the plight of the 116,000 residents who were registered as unemployed at that time (Martin, 1995). The City Council aimed to address this through locally based strategies and programmes, which brought together existing public and private initiatives (Birmingham City Council, 1985). Overall, the City Council's main priorities in the mid 1980s were to:

- Create a variety of industrial sites for all types of potential investment in the city.

- Establish a coordinated approach to economic initiatives across the city council, including a one stop shop within the EDU so that companies had easy access to sources of assistance.

- Close the gap between training needs and training provision.

- Develop high technology initiatives for the city (Birmingham City Council, 1985).

The City Council produced their second economic strategy for the City in 1989 (Birmingham City Council, 1989). The EDU had become a full department, the Economic Development Department (EDD). In their 1989 Economic Strategy the EDD outlined their objectives as to promote:

- Employment support, including training for unemployment and disadvantaged;

- Business investment and enterprise including financial support, consultancy, training to businesses, enterprise development, marketing and promotion to

lead to inward investment, diversification and expansion of existing and new businesses;

- The physical regeneration of key areas such as Heartlands and the Jewellery Quarter.

Another feature of Birmingham economic development policy at this time was in the looking towards the European Community for funding for economic regeneration. This lead to a shift from its traditional UK orientated outlook, to an increasingly international perspective - both in defining the city's economic problems and their solutions. Consequently, the City was able to secure funding from the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the European Investment Bank (EIB). The need to seek EU assistance arose from the limits imposed on the local authority's finances by Central Government and from the fact that in the early 1980s, it did not qualify for domestic regional policy assistance (Martin, 1995). It was only after November 1985 when the DTI had designated the City as an Assisted Region that they were able to secure finance from the ERDF.

The City Council, in their endeavour to stimulate economic growth in the City, placed emphasis on enhancing the image and influence of the city. The 1989 economic development strategy stated that they would boost the image of the city by:

- Publicising any major business success story.

- Improving the economic environment - particularly on major traffic routes and in the city centre.

- Ensuring that new buildings in prominent locations were attractively designed.

In selling the city, the Council backed a wide range of improvements to cultural facilities and the physical appearance of the city centre and a major public relations campaign was enacted through the local press, TV and radio, glossy promotional material and a series of public arts programmes. Major new initiatives to boost the quality of life offered by Birmingham and its image included cultural and sporting initiatives such as the City's bid to stage the 1992 Olympic Games and the construction of the National Indoor Arena. Another key environmental investment included the creation of the Centenary Square, improvement of the canal network and the installation of new statues (Martin, 1995).

The Council also became concerned with securing Birmingham's place as a leading European centre. The building of the International Convention Centre (ICC), that was part funded by EC assistance, offered an opportunity to attract more visitors into the city.

5.4 A critique of the strategies

During the late 80s and early 90s the EDD was doing its best to come up with strategies that would bring about a change in the economy of the City. The different economic strategies they implemented indicated their commitment to seeing growth in the City's economic development. This is evident even during the time of economic boom in the City, they were still involved with the businesses - putting in place strategies that it was hoped would help retain and expand existing industries. Although at that time there was no single department designated to focus on economic

development, each department was actively involved in providing different services to the businesses.

However, every strategy employed was focusing primarily on manufacturing firms. One of the aims of the 1985 Economic Strategy was to strengthen and retain indigenous companies and this was done through promoting basic industries with high export content. These indigenous and basic firms were those in manufacturing. These firms were so much a part of the City, that even though the industry was declining, local government was willing to inject more money to boost them; there seemed to be no way forward for the economy of the City apart from manufacturing firms.

Another major objective of the past economic strategy of the City was to attract inward investment. This was to be achieved through improving the infrastructure of the City, publicising the City as an industry location and providing financial support. This approach was successful between 1988 and 2000; the City attracted a positive net inflow of companies from the South East of England. However, overall more companies were lost than gained, such that it had a net loss of 283 companies and 3724 jobs through company re-locations during this period (BCCEDD, 2000a). This highlighted an important lesson for policy makers – namely that as they develop strategies to attract more business they must ensure that they are able to retain the existing business in order to get maximum benefit from the firms that have re-located to the City.

The EDD clearly had the desire to develop high technology firms and they had highlighted the need of this sector in their strategies. However, these firms were not the primary focus - and not much effort was put into ensuring a favourable environment for their growth compared with the manufacturing firms. It could be argued that the EDD did not have to focus on this sector because most of the high technology firms was directly entwined with the manufacturing industry. On the other hand, one would have expected the EDD to promote diversification from the declining industries, as their suppliers dependency on them would have an adverse effect on the growth of the service sector.

However, it had been noted that any problems in the local manufacturing sector are likely to harm the performance of the service sector, since a number of service sector companies are directly reliant on manufacturing for business, either as wholesalers or as providers of services that manufacturing has contracted out (BCCEDD, 2001a). This was evident in 2000 where there was a fall in local service sector employment, due to the closure of some of Rover's plants. Despite the fact that Birmingham was able to attract 16.7% more inward investment between 1991-1998, only 15% of the inward investments involved services, compared with 85% for manufacturing (BCCEDD, 2000a). This means that Birmingham benefited little in attracting service sector projects. This also suggests that the fortune of Birmingham's service sector is still not entirely independent from that of local manufacturing. Moreover, a less prosperous manufacturing sector injects less consumer spending power into the local economy as employment falls, overtime payments decline and workers' confidence falls. This has an indirect effect on the sales of service sector businesses that are indirectly involved with manufacturing.

The promotion of economic development in the City has gone through several stages. When local government initially started developing local economic initiatives there was no single committee or department which could be easily identified as playing the lead role in promoting initiatives. As a result, the strategies implemented were formed by the City Council without input from the business sector. Thus, the needs of the businesses were not adequately met by the policies in place. Although, from an early stage, the City Council had aimed at developing a closer relationship with the private sector by, among other things, encouraging the forging of better links between major companies and their local components suppliers, this was done with the realisation that Birmingham's economy always depended on inter-firm relationships.

5.5 Birmingham's cluster strategy

In the late 1990s the DTI (1999, 2001) and AWM (1999) emphasised the importance of business clusters as a key to regional and national economic development and as a tool to improve competitiveness. The cluster concept came from the observation that certain type of industrial growth have taken off in particular parts of the world, (AWM, 2004a), and it was to be achieved through promoting links between universities, other research institutes and businesses. This potential growth was considered to be feasible for Birmingham because of the presence of the EDD, and impressive world-class research advantage in its higher education institutes, firms and research establishments that could support and promote cluster initiatives.

In 1998, the EDD developed the Birmingham Economic Strategy (BES) with a set of policies and objectives which attempted to capture the broad range of issues and actions required to progress economic development in the City. This was the first of the City's economic strategies that recognised clusters as a tool to foster economic development. The Strategy was to be promoted and implemented by the Birmingham Economic Development Partnership (BEDP), which included the City Council, Birmingham Chamber of Commerce and Industry, and Birmingham and Solihull Training and Enterprise Council (BCCEDD,2001b). The City Council's Economic Development Department was seen as the main driver of services directed at the economic regeneration and development of the City.

The BES provided the framework for the Economic Development Programme (EDP), which was drawn to set out the City Council's plans for the economic development and regeneration of the City through the adopted cluster approach strategy. The 2001 EDP indicated how the City Council intended to respond to a number of existing and emerging policy frameworks such as the establishment of the West Midlands Regional Economic Strategy (WMRES) (1998), the Action Plans for the WMRES (2000), the City Council's Best Value and Performance Plan (2000), Urban White Paper (2000), Sustainable Development Strategy (DTI, 2000) and the Learning and Skills Plan and Strategy (2000). All these policies influenced the development of the BES (BCCEDD, 2001b).

One of the most significant changes compared with its predecessors was the vision of BES; which changed from one of strengthening and retaining indigenous companies, attracting inward investment and promoting basic industries with a high export

content to one of having "*A City with a strong and sustainable economy which offers all our citizens the opportunity to work and secure a prosperous future*" (BCCEDD, 2000b). An Action Plan was also drawn describing how the Vision was to be achieved. One of the key areas set out by the Action Plan was to improve business competitiveness and diversity. This was aimed at addressing the fact that Birmingham has a high proportion of businesses in the manufacturing sector and importance was attached to the need to further diversify the City's economic activities, particularly given the dual pressures stemming from globalisation and the launch of the single European currency (BCCEDD, 2000b). This competitiveness and diversity was seen as being made possible by the strengths of the business community, the diversity of the voluntary sector; the creativity of universities and colleges and the energies and aspirations of the citizens, building on the strong partnerships which have already been forged through the collective resources of the BEDP. Consequently, the development of a new cluster based framework for economic sector development became one of the key priorities of the EDP (BCCEDD, 2000b).

The BEDP adopted the 10 priority clusters that were identified in the WMRES for economic development policy, (AWM, 1999), and became a key player in the Cluster Opportunity Groups (COGs) that were formed for each cluster identified. These groups were business-led, their functions were to consider the issues affecting the sector, set strategic priorities and develop action plans to help improve overall competitiveness of the cluster (AWM,1999). The COGs also considered bids for funding the cluster and reported on progress to AWM.

In identifying the ten clusters, AWM used the Standard Industrial Classification (SIC) codes and defined them using the common technology or end product of a group of companies linked through customer and supply chains and associated training, finance and research. The clusters were classified into three main types:

- Established clusters; businesses that needed help in diversifying and modernising.

- Growing clusters; businesses that were quite well established, but had a need to see the clusters grow and consolidate.

- Embryonic clusters; businesses that were small at present, but have the potential to grow rapidly.

The ten proposed clusters under each type were:

Established Clusters

1. Transport Technologies: transferable technologies from automotive, engineering, engineering design and material management, rubber and plastics/polymers.

2. Building Technologies: transferable and developmental technologies and products from ceramics, engineering, engineering design and architecture, materials management and recycling.

3. Food and Drink.

4. Tourism and Leisure: linked to food and drink (hospitality) and creative industries.

5. High value consumer products: tableware, jewellery, glass, leather, that were all linked by the primacy of design.

Growing Clusters

6. Information and Communication Technology (ICT) – which had various sub elements including software and telecommunications.

7. Specialist business and professional services.

8. Environment Technologies, this cluster had been identified by DTI work.

Embryonic Clusters

9. Interactive Media for Education and Entertainment (IMEE), this cluster was linked to creative industries and ICT.

10. Medical Technologies (BCCEDD, 2000b).

5.6 Focusing on new media industry cluster

Of the ten priority clusters that were identified by AWM, the present study has focused on new media industry; firms that are within the ICT and the IMEE clusters. The reason that these firms are in different clusters is because, when the clusters were identified, AWM used the SIC codes (see Chapter 6 for discussion on identification of the new media industry). Nevertheless, these clusters were earmarked as those that would foster the desired economic growth in the City because they offer the prospect of opening up new market opportunities and allowing for more efficient production (BCCEDD, 2002b). According to AWM (2004b) this cluster was important because the output from firms within the sector accounts for a significant proportion of regional output and they support almost all sectors of the economy. Moreover, the pressure of globalisation is forcing the City to diversify its economic activities and this is especially true with the increasing spread of electronic commerce.

According to the Economic Development Programme 2000/2001 the competitiveness of the local economy depends not only on the mix of sectors but also in adopting the best practices and industry standards in the use of ICTs (BCCEDD, 2001b). The EDD believed that the use of ICT ensured that the city's economy had a sectoral composition that was capable of providing long-term prosperity and a high level of employment (BCCEDD, 2001b). Additionally, ICT is a growing factor in company competitiveness and survival as well as creating new types of markets in many sectors.

This sector became the main focus for BCCEDD because separate surveys carried out in Birmingham and nationally concerning the business utilisation of ICTs suggested that local businesses were falling behind those in other areas during 1997. This comes after it had been noted that the traditional industries, which would be part of the established clusters, were in decline and the focus was now on the service industries of which the ICT and IMEE clusters were a part. Furthermore, computer services being one of the fastest growing sectors of employment, the EDD would want Birmingham's economy to be fully involved in the provision of ICT services. AWM (1999) identified these clusters as ones with a great growth potential yet still at its initial stage of development. The BCCEDD, (2004) showed the ICT cluster as having the highest output growth in comparison with the other clusters (see Table 5.2).

Table 5.2 Key statistics of priority clusters in the West Midlands

Cluster	Employment in B'ham & Solihull 2001	% of all employment in Sub-region	Sub-region's % of cluster employment in West Midlands	Sub-regional Output growth 2002-15 (%)	Sub-regional Employment 2002-15 (%)
Building Technologies	40,700	7.0	20.1	45.2	-3.2
Food and Drink	10,100	1.7	17.3	-12.8	-29.1
Environmental Technologies	12,250	2.1	28.3	5.8	-15.0
High value Consumer Producers	7,050	1.2	14.7	12.8	-7.8
Tourism and Leisure	41,550	7.2	23.4	25.8	10.2
Specialist Business Services	29,150	5.0	35.6	77.6	39.1
Transport Technologies	41,300	7.1	30.2	1.1	-37.1
Medical Technologies	1,700	0.3	23.9	87.0	2.1
ICT	20,350	3.5	27.7	115.5	59.5
Education & Entertainment Media	4,200	0.7	38.7	N/A	N/A

Source: BCCEDD, (2004:32)

Innovation remained a crucial area of work for the EDD, particularly around the creative and design industries and ICT. The work was centred on the development of an ICT infrastructure support service from centres of expertise, networked into businesses and communities, with a particular focus on enabling access for excluded communities. The initiatives introduced to promote the new media industry cluster included:

1. The establishment of The Exchange (now called Interactions) In 1999/2000 within Aston Science Park to act as a focus for the work of the Department in the strategic area of supporting SMEs in developing into new markets, new technologies, new processes and new organisational forms. Interactions was

the forerunner to the Technology Innovation Centre within Millennium Point and is intended to serve as a focus for the City Council, Higher and Further Education to work with SMEs.

2. The identification in the Regional Economic Strategy of the need to grow new sectors to address potential gaps in the regional economy caused by the decline of existing industries. Within the framework of the Creative Industries Action Plan (BCCEDD, 2000b), a suite of projects has been developed to encourage this sector to grow, network and trade globally in order to strengthen its base in Birmingham.

3. The City Council in partnership with West Midlands Arts set up the Creative Advantage Fund with support from ERDF. The fund was held by Creative Advantage Fund Limited a subsidiary of Birmingham Venture Capital Limited and was specifically aimed at the creative industries sector. Some of the new media firms fall within the creative industries, and they benefited from the Fund.

4. The establishment of Design Space 2000 that was to provide specialist training support for a new media sector and create two sector specific business incubation centres for the design-led and new media industries. These link Further and Higher education with the private sector and the city. The incubation centre is the first in the Eastside area to create new media businesses linked to the existing business clusters in the area.

5. The City Council supported the building of the Millennium Point which aims to build enthusiasm for science and technology through education and entertainment.

6. The City Council supported the Technology Innovation Centre (TIC), which would provide employment opportunities for start-up companies in software industries. These companies work closely with the University of Central England, particularly in medical and related technology expertise. The TIC is a national centre of excellence for technology based development and innovation with a focus on lifelong learning, specialist technologies and business support.

7. An e-Business Club was established with the help and support of The Birmingham Chamber of Commerce and Business Link to educate and inform members about new media so that firms can adopt technology to achieve tangible business benefits.

8. The City Council was also working together with the universities and Higher Education institutions in Birmingham to bring about the growth of knowledge based industries.

5.7 Implementation of the cluster strategy

The City's policy makers were faced with the challenge of implementing the cluster strategy to regenerate the economy of the City. Though the difficulties faced by the City's policy makers are not unique to Birmingham they are still faced with the legacy of an outdated infrastructure and all other industrial baggage. Further, in promoting new growth sectors, they are faced with the mismatch that exists between labour market demand and supply. The redevelopment of the infrastructure of the City and the retraining of the workforce are all long-term projects, which the EDD has engaged in.

In evaluating the implementation of the strategy adopted by the City Council it is important that we consider the effects of having the cluster approach being passed down by the government through AWM. Upon the publication of the WMRES the EDD changed its policies to align themselves with what the government was expecting of them. However, clusters go beyond policies, they are about relationships; they rely heavily on linkages and connections among individuals and groups. Therefore, maintaining a good relationship, even the manner in which the cluster concept is introduced is important for effective development of clusters (Rosenfeld, 1997). Apart from such relationships it is important to evaluate whether the cluster approach is the best tool for Birmingham. It must not be a matter of adopting a policy that might not meet the development needs of the City, especially when previous strategies had revealed that strong links exist between the firms but the effects were not positive because they were linked to manufacturing firms.

Rosenfeld (1997) and Porter (2000) outlined the main issues that policy makers should consider in nurturing clusters and that form the theoretical framework of approaches to implementing clusters. They state that initiatives must be based upon sound research. This would give the policy makers an understanding on how businesses within a cluster interact and work together, the mechanisms by which information is passed on, the systems by which innovations are generated and how people and capital move through the system prior to developing the initiative.

In the case of Birmingham, the initiatives were formed before any detailed research was conducted. Only in June 2002 did the EDD receive a report on the feasibility of

Birmingham becoming a creative city; at the same time AWM issued a tender specification for the development of a cluster map and cluster strategy for the ICT cluster in the West Midlands. This work was commissioned in order to:

> *"identify the full extent of the ICT cluster and the relative strengths and weaknesses of this region in comparison with other ICT clusters in the UK and relevant locations overseas. This will involve formalising the strengths and weaknesses analysis within a Porter style "diamond" detailing the position of this region on each facet of the diamond model"*(AWM, 2001b:2).

If the City and the region are still to get a detailed picture of the cluster, one would need to question the effect of the existing strategies in place. Nevertheless, the present study has attempted to establish the appropriateness of the strategy for the new media industry.

5.8 Conclusions

In this chapter, the different strategies that have been adopted by the City Council to boost the economic activities of the City were discussed. Since 1978 the policy framework of Birmingham has included trying to promote the development of high technology firms. There were programmes to buy up and demolish old factories and prepare sites for redevelopment and to change the image of the city. It has also involved attempts to strengthen and retain indigenous companies, attracting inward investment and having locally based strategies and programmes that brought together existing public and private initiatives.

The EDD adopted the cluster approach that was known for promoting economic activities with the hope that Birmingham will benefit from its usage. Smith (1978) and Spencer *et al.* (1986) suggested that the City needed a policy that would promote a high growth rate of business formation and innovation. They argued that this would help the economy to avoid what was experienced in the 1970s when the rates of formation of new firms and industrial diversification was insufficient to compensate for the contraction and closure of indigenous firms and the wholesale loss of traditional industries. While it is too early to reach definitive judgements about the impact of the cluster approach, this study was designed to provide empirical evidence of the appropriateness of the approach as a tool for economic development in the City especially for new media firms.

The EDD commissioned studies aimed at identifying clusters and assessing their needs. This is an attempt by the EDD to provide guidance to policy makers as to what constitutes the defining qualities of the new media cluster and guidance on how to develop them, building upon the evidence of what works. Moreover, provide information that is beneficial to effective implementation of the strategy that depends on detailed knowledge of the local economy and a study on the new media sector.

AWM when identifying the major clusters for the region, separated the ICT sector from the interactive media for education and entertainment, this brought about the need for the study to give a definition of the new media industry which is fundamental for the EDD. In establishing the characteristics of the new media firms, assists in developing suitable policies to support their growth. Elliot and Marshall (1989) stated that a large part of the explanation for past failures lay in the simplistic and

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generalised approaches adopted rather than deficiencies in the underlying concepts. Therefore, the next chapter will attempt to provide information and understanding of the differences in the structure and culture of the new media firms as well as the complexities of relationships within and between them.

Chapter 6

The New Media Industry

6.1 Introduction

The previous chapter highlighted the need to define the new media industry; the purpose of this chapter is to provide this definition. It starts with a discussion regarding the importance and relevance of the industry in local and regional development, especially in the city of Birmingham. This will be followed by a review of the work of key contributors to the existing literature on the industry in an attempt to build a working definition.

6.2 Significance of the industry

Landry and Bianchini (1995) stated that cities would no longer be able to depend on manufacturing and old industries to survive; instead they will need to develop creative and innovative industries and services, such as software, design and culture as well as learning to apply creative solutions to all the needs of the city. Therefore, creativity became important because many of the world's cities have faced tough periods of transition as old industries are fast disappearing. With these new industries, value-added is created less through what was manufactured and more through the application of new knowledge to products, processes and services within the local economy. Notably, the factors that once shaped city development, such as transport,

rivers, and proximity of raw materials have become less relevant. Moreover, distribution can now be managed from out of the town centres and transport costs are now a smaller proportion of overall production costs.

Consequently, since the mid-1990s the new media industry has emerged as the exemplar of a growing sector. Gornostaeva and Cheshire (2004) observed that this industry appeared mainly in the largest metropolitan areas and tended to be tightly concentrated in the central quarters. As a result, the industry became a rapidly growing economic segment in many countries. Backlund and Sandberg (2002), noted that the industry's potential, particularly when it comes to job creation and economic development, has attracted significant political interest and is seen as a highly desirable form of economic activity. As a result, the creation and promotion of new media industries has become a significant focus for regional development strategies.

Similarly, Naylor (1999), pointed out that new market opportunities were opened by these industries in terms of geographical spread of activity and employment. There are also indirect benefits that make the new media industry attractive to cities:

- The new media industry could be useful for a locality in terms of image making and place marketing strategies, as they are commonly associated with positive attributes.

- Development agencies hope that the presence of new media industry spreads the uptake of the Internet throughout their wider business community, which would help to create a critical mass of users and stimulate the development of local online services (Naylor, 1999).

All this provides insight as to why national governments, regional economic development agencies and local authorities across the world began to see the new media industry as a "window of locational opportunity" (Naylor, 1999). Interestingly, Quah (2000) pointed out that economic growth and development had always been driven by knowledge and technical progress; therefore, policy makers are likely to be interested in the potential presented by this industry.

The British government is no exception in paying particular attention to the emergence of local economies based on new media industry clusters (Fingleton *et. al.* 2002). The growing economic importance of the new media industry motivated them to declare that knowledge is the most important driver sustaining competitive advantages and promoting economic growth (DTI, 1998). Subsequently, a number of British cities and regions have adopted strategies to support the growth of the new media industry clusters (Cornford, *et. al*, 2000a).

With Advantage West Midlands offering the prospects of regional development based on the unique conditions of West Midlands region, Birmingham City Council also identified its strengths that could be used to advance the new media industry cluster in the City. Promoting the new media firms after identifying Birmingham's strengths is important because it has been accepted that any attempts to equalize interregional differences and to pursue the same strategy in every region is likely to be unsuccessful (Brail, 1998; Braczyk *et. al.* (1999); Backlund and Sandberg, 2002). Backlund and Sandberg (2002) argued that in order to see the development and growth of a new media industry cluster, the strength of the city must be identified, in order to promote a mix of local and globally oriented firms and offer a variety of public support

strategies. They further highlighted the following steps that needed to be taken into account in policy development in order to see the maximum benefits regarding the new media industry cluster:

- Examine the specific regional problem that is to be solved, whether it is unemployment, industrial renewal, urban renewal or other main aims.

- Examine what type of new media industry could be relevant in the particular region, based upon pre-existing industrial base as well as types of customers and local labour market.

- Identify potential growth firms and their needs for external resources.

- Identify the potential new media workforce, as well as educational needs in the region; strategies that promote gender/ethnicity/age equality will enlarge the potential work force.

Using the guidelines provided by Backland and Sandberg (2002), as well as the BCCEDD (2000c) and BCCED (2002a), Table 6.1, was drawn to provide an assessment of the current status of Birmingham in facilitating the development of a new media industry cluster. The City Council has declared that it is determined to support the development and growth of the industry cluster. Chapter 5 listed the public support strategies available for the industry as identified by the BCCEDD (2000c). The industry cluster approach is being used as the vehicle to take the new media industry to the growth level that will bring the desired effects in the economy of the City.

Table 6.1: Birmingham's status in facilitating the development of a new media industry cluster

Requirement	Birmingham status
Identifying the region's problem	• Unemployment • Industry renewal
Local labour market	• High level technical skills and basic technical knowledge is needed
Type of new media industry relevant to Birmingham	• Densely populated metropolitan city and has the greatest advantage in having the new media to concentrate in cluster
Identifying potential growth	• Developing networks with educational institutions
Identifying need of external resources	• There is an excellent cable and telecommunications infrastructure supplemented applications, services and content industries • Cheap office space
Any potential new media workforce	• Birmingham is not a service oriented city
What is the level of educational need	• There is need for skills • The City has great universities

Source: Adapted from BCCEDD (2002a)

Schienstock *et al.*, (1999) suggested that the new media industry was a good example of the development of a new industrial cluster because:

- The development of the new media industry is very dependent on local demand.

- There is a wide range of firms involved in the new media industry, which makes establishing a new industrial cluster, a quite complex process depending on close cooperation between key actors.

- It had a considerable employment potential.

This creates an expectation on the new media industry to stimulate the economic growth of Birmingham in order to compensate for job losses in traditional industries.

6.3 Size of the new media industry

Some industries are distinguished by their size, however, the new media industry cannot even be identified by size. Braczyk *et al.* (1999) noted that there are two different, though inter-dependent of firms groups which predominate in the new media industry. On the one hand; there are large, typically globally oriented, corporations producing and publishing more standardised products and services and /or major solutions commissioned by, and adapted to, the needs of particular customers. On the other hand, there are numerous small enterprises that may specialise in different segments of new media production and / or focus more exclusively on local and regional markets. The present study ought to highlight the size of the new media industry in Birmingham.

6.4 Defining the new media industry

The new media industry is different from the traditional industries, such as automobiles and steel, because of changing technology and the continuing development of new products and applications that fuel its growth. Moreover, it is integrated with various industries which makes its boundaries extremely fluid (Scott, 1988; Sklar, 1985). Due to this, Scott (1999) highlights the fact that whenever one attempts to study the new media industry the first problem encountered is in identifying the essential features in terms of its sectoral structure and representative products. He states:

"This is a particularly difficult task because the boundaries of the industry (like many other industries in their nascent stages) are extremely fluid and its outputs changing constantly in form and substance." (Scott, 1999:30)

This problem is compounded by the rapid changes in technology and the new products that are brought into the market faster than ever before. According to Saxenian (1991), studying the new media industry is like dealing with product cycles that are too short because technology is changing too fast. The speed of technological and market change is such that researchers and policy makers, as well as the firms themselves, have to capture the accelerated pace of development. As a result, there are several partially overlapping concepts that are being utilised, such as new media, multimedia, interactive media and digital media. In turn these labels overlap with the wider and related concepts such as the communication industry, the information industry, and information and communication technology industry.

Further, academics seem to have found they cannot keep up with the pace of changes; hence academic accounts of new media are rather less common than the journalistic variety. Pratt (2000) argued that this is caused by the time lag between researching the idea, funding the application, researching activities and publication that can normally exceed 3 or 4 years. Additionally, it has been observed that there has not been much academic literature written on the new media industry because it is a relatively new field of academic interest since it only emerged in the mid-1990s (Braczyl *et al.*, 1999; Backland and Sandberg, 2002).

Coopers and Lybrand (1996) defined the industry by dividing the new media production into an on-line world and an off-line world. The work on the on-line world is characterised by divided perspectives, a sociological perspective that explores the formation of on-line identity and community and an economist's perspective that is interested in electronic commerce, the "weightless economy". The off-line group is characterised by those concerned with a range of physical locations, economic, social and cultural settings of new digital activity.

The Coopers and Lybrand study provides an important reference point; at the time of its first publication in 1996, it was one of the earliest reports to construct new media as an object of study. The report has been widely cited and accepted within academia (for instance, Lash *et. al*, 1998; Cornford *et. al*, 1999; Heydebrand, 1999; Pavlik, 1999). The definition of new media offered by the Coopers and Lybrand "New York New Media Survey" indicates the elasticity of the term; they defined the new media industry as:

> *"The new media industry combines elements of computing technology, telecommunications and content (information, entertainment, personal/group communications and transactions) to create products and services which can be used "interactively" by consumers and business users"* (Coopers and Lybrand, 1996:16).

The definition they provided did not describe the industry, but identified the output products of the industry. Hence, under the Coopers and Lybrand typology, new media is a very broad category that includes on-line and off-line delivery of products

and services such as publishing, design, advertising and training for a corporate clientele, together with games, reference and entertainment/education products for the consumer market. This would include multimedia, digital media or interactive media.

Backlund and Sandberg (2000) argued that the term "new media" was launched by the new media industry to distinguish itself as a kind of leading edge district from the traditional media industry; Pratt (2000) states that the term new media represents those firms involved in developing tools and practices that exploit the potential of the World Wide Web (www). However, not all products are delivered over the web, there are those delivered through CD-Rom and interactive and digital television services. Therefore, in the term new media, the "new" does not only mean in the sense that it employs new technologies, but also in the sense that new economy business practices are supposedly qualitatively different to what has gone before. Thus, Tracey *et. al* (2004) claims that the industry is a new kind of knowledge product that has replaced the long-established sources of competitive advantage that have dominated mainstream economic thought since the publication in 1776 of Adam Smith's "The wealth of Nations" - endowments of natural resources, concentrations of capital, the availability of labour and economies of scale.

Even though the definition of the new media industry may vary, it is possible to identify a core of interlinked products, services and firms that operate together as part of an internet value chain. Gornostaeva and Cheshire (2004) traced the core products over the past century, they claim that media has been successively transformed by the vertical integration of the 1920s and flexible specialisation in the 1980s as well as technical changes that have not just revolutionised the existing industry but created

the new media industry. They noted that technical innovation and flexible specialisation were the chief forces that reshaped the industry into its present distinctive cluster.

Nevertheless, the core characteristics of this industry are the production of multi-media content for CD-ROM and the Internet. A complete media production network includes hardware and software developers and consultants, as well as service providers - including training providers, owners of portals, e-commerce sites and electronic publishing. This would include all multi-media systems - whether on-line, on disc, or related to the development of older broadcast or recording technologies associated with text, sound and images. Some of the firms specialise in one area, while others carry out several, or start with one activity to generate cash flow while developing another (New Media Knowledge, 1999; Pratt, 2000), but they all fit within the definition of the new media industry, whose different elements are illustrated in Figure 6.1.

According to Backlund and Sandberg (2002) there is a strong link that has been identified between the new media industry, the ICT industry and the cultural industry. This is particularly visible in the promotion of a "trendy" occupational identity that is closely related to a youthful life-style. There is also a strong link to the ICT industry and to management and ICT consulting. Cornford *et al.,* (2000b) noted that some of the firms involved in producing new media titles had roots in established sectors, chiefly in publishing, design, software and the broadcast media, and that many of the companies exploiting these markets were new entrepreneurs.

Figure 6.1: Product elements of the new media industry

Source: Pratt (1999:6)

On the basis of an analysis of studies done in the West Midlands (see Burfitt *et al.* 2000; 2001a; 2001b; Collinge, 2003) it is apparent that firms within the new media industry are classified under the ICT cluster or media cluster using the Standard Industry Classification (SIC) code system to define them. These studies acknowledged that using SIC codes to define the new media industry does not take into account the structural changes to the economy that have arisen from developments arising out of new technology (Burfitt, *et al.*, 2001a). AWM (2003) defined the ICT cluster and the media cluster as two separate clusters and identified the sectors in each cluster as shown in Table 6.2.

Table 6.2: Sectors identification for each cluster

Name of cluster	Sectors
ICT Cluster	• Electronics • Computer hardware • Telecommunications • Computer services • Computer consultancy and supply • Data processing • Other computer related activities • Computer services
Screen and New Media Cluster	• Film • Radio • New media • Interactive software games

Source: Adapted from the AWM (2003)

Even so, AWM had difficulty in drawing the boundary between the ICT cluster, which has various sub-elements, including software and telecommunications, which can be part of the Interactive Media for Education and Entertainment cluster. For this reason, AWM changed the definition of these clusters several times. For instance, the Interactive Media for Education and Entertainment cluster was changed to the Screen and New Media cluster which is currently called the Media cluster in order to incorporate developments arising from new technology (AWM, 1999; AWM, 2001a; AWM, 2002a).

Since the new media industry does not represent a sector in its own right, but is a cross-sectoral productive and service sector, a problem presents itself in coming up with clear cut sector boundaries to guide the definition. This problem is compounded by the emergence of new sectors and rapid changes in the industry. Some commentators have therefore suggested that the focus should change from trying to

define the industry to defining the special qualities of the industry. For instance, William *et al.* (1988) suggest the following qualities:

- Interactivity, the exchange of communicators' roles in an exchange;

- The quality of personalised messages as against mass-oriented ones and;

- The ability to exchange messages at times convenient to the individual users of a communication system.

Nevertheless, following the literature discussed above, for the purpose of the present study, the new media industry will be referring to both the ICT and the Media Clusters identified by AWM (2003) because of the strong link and the overlap of sectors when using SIC codes (Backlund and Sandberg, 2002; AWM, 2003). The following UK Standard Industrial Classification (SIC) Codes were therefore identified to refer to the new media industry; SIC 2214, 2231, 2232, 2233, 3210, 3220, 3230, 7210, 7220, 7221, 7222, 7230, 7240 7250, 7260, 9211, 9212, 9213, 9220. Table 6.3 gives the descriptions of the sectors that are classified under each SIC Code, which cover all the sectors that are identified as part of new media. The researcher acknowledges that, because of the evolving nature of the new media industry, some of the sectors would not neatly coincide with the existing classifications of industries.

Table 6.3: Description of the SIC codes in new media industry cluster

SIC Code	Description of the SIC codes
2214	Publishing of sound recordings
2225	Other activities to printing
2231	Reproduction of sound recording
2232	Reproduction of video recording
2233	Reproduction of computer media
3210	Manufacture of electronic components
3220	Manufacture TV transmitters, telephony etc.
3230	Manufacture TV and radio, sound or video, etc.
7210	Hardware consultancy
7220	Software consultancy and supply
7221	Publishing of software
7222	Other software consultancy and supply
7230	Data processing
7240	Data base activities
7250	Maintenance office and computing machinery
7260	Other computer related activities
9211	Motion picture and video production
9212	Motion picture and video distribution
9213	Motion picture projection
9220	Radio and television activities

Source: Adapted from the UK SIC codes (2003).

6.5 Conclusions

In light of what has been discussed about the new media industry, it appears that this is a unique industry. It has brought new forms of economic activities which are different from traditional industries because of changing technology and the continuing development of new products and applications that fuel its growth. The newness and rapid pace of change in the industry means that it is hard to define exactly what constitutes new media with precision and there has not been much academic literature written on the industry. Nevertheless, this chapter has provided a basic understanding of the new media industry and built a working definition.

Chapter 7

Industry cluster theory applied to the new media industry

7.1 Introduction

It has been observed that the new media industry tends to be concentrated in geographical clusters. Production is mainly located in densely populated metropolitan regions with service-oriented economies, often in university towns, and related to cities with IT and telecom industries (Brail, 1998; Coopers and Lybrand, 1998 and Braczyk, *et al.*, 1999). Notably, the main sort of cooperative linkages within these clusters are those related to knowledge exchange. While sharing productive activities remains potentially important, it appears that the generation and maintenance of information flows is particularly relevant for new media clusters. In this sense, in addition to relationships between firms, the role of other institutions such as universities and research centres assumes a crucial importance. In this chapter particular focus is placed on four characteristics of the industry cluster theory, location, collaboration, Higher Education Institutions (HEI) and employment and career.

7.2 Location and the new media industry

In Chapter 2 we established that the industry cluster theory originates from the traditional location theory and the notion of agglomeration benefits. The industry

cluster theory states that firms cluster in a particular geographical location to benefit, through lower costs of production - especially transport costs, by operating in proximity to other firms (see Marshall, 1890; Alden and Morgan, 1979; Krugman, 1991; Bergman and Feser, 1999; Glaeser and Kohlhase, 2004). Based on Marshall (1890) the theory stated three reasons why firms would continue to cluster within the same area; these relate to the cost savings that result from:

1. The development of a local pool of specialised labour.

2. The increased local provision of inputs specific to an industry.

3. The flow of information and ideas between proximate firms (Gordon and McCann, 2000).

Swann and Prevezer (1996) noted another factor that is relevant for the new media industry is that clustering can bring common infrastructure benefits such as access to major telecommunications hubs/networks. Gordon and McCann (2000) observed that what links each source of economic benefits is the fact that this accrues to firms within the local area, primarily because of geographical proximity. Thus, none of the sources or results of these benefits is internal to a particular firm, but each is external to all the firms. So the industry cluster theory puts emphasis on geographical concentration (Rosenfeld, 1997; Porter, 1998) because, it is suggested, geographical proximity of the firms will encourage formation of networks between the firms and enhance the value creating benefits arising from interaction.

However, when it comes to new media firms, Pratt (2000) noted that economic commentators were quick to add that the role of geography in shaping the location of these new economic activities is at best limited or at worst non-existent. This has led

to a debate about the geographical location of the new media firms. There is one body of literature based on the "weightless economy" that has been developed (see Quah, 1996; Coyle, 1998; Caincross, 1998). This is also referred to as "dematerialised economics" by writers who argue that the role of physical location associated with transport of raw materials to the producer and the goods to market is no longer relevant. They suggest that producers will be free to locate where they want, thus, cities will decline as centres of economic activity and be replaced by dispersed teleworkers (Quah, 1996). It is on this foundation that the notion of the "death" or the end of geography as a location factor in relation to new media has been built.

These writers further claim that the locational needs of the new media industry are transformed as firms will no longer need to concentrate within territorially based clusters to benefit from agglomeration economies, as physical access to these economies (based on proximity) can be supplanted by the ability to communicate and transfer products over the wire. This is based on the nature of the new media industry itself, which brings the possibilities of virtually cost-free reproduction and distribution of e-goods such as software. Consequently, this ability of ICTs to overcome the friction of distance allows for a far greater geographical spread of activity and employment in the new media industry than has been the case with previous knowledge or information intensive growth industries (The Economist, 1995).

Nevertheless, Hillner and Weiners (1998) stated that, in spite of the arguments that have been presented for the weightless economy, none has been able to sustain the popular argument that geography, or specifically place and distance, no longer

matters. Notably, there are transactions that can not be achieved solely by new technology (e-mail, webcasting, video links, etc.), such that there is still the need for physical interaction for learning, innovating, contracting and employment as well as in socialising, eating, relaxing. This form and practice of such untraded transactions is important for the industry, especially the need for face-to-face communication of a formal and informal, planned, chance and serendipitous nature. Proximity becomes important as interaction matters; occasional face-to-face contact is invaluable for brain storming and for sorting out specific bottlenecks that firms experience in the course of pursuing incremental improvements (Romijn and Albu, 2002).

Pinch and Henry (1999) and Keeble and Nachum (2001) highlighted the importance of knowledge spillovers when it comes to the new media industry and they suggested that collective learning is the reason why the industry is clustering. They argue that the new media industry would identify the crucial role of knowledge spillover in the development of the cluster and discover specific collective learning processes that enhance the cluster. Gornostaeva and Cheshire (2004) established that, new media firms are likely to cluster because of the nature of their final products; they need to interact with the labour market; link with external supply of intermediate inputs; establish contracts and sub-contracts arrangements; interact with customers; network; collaborate and compete with firms and organisations other than customers and suppliers; and develop through collective learning and creativity.

In the light of the arguments presented on the benefits of geographical proximity for these firms the present study will provide empirical evidence on:

- How the new media firms in Birmingham selected their location.

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- Whether geographical proximity is important for these firms.

- The extent to which new media firms really cluster and, if so,

- Identify the reasons for clustering.

7.3 Collaboration and the new media industry

Rosenfeld (1997) emphasised the importance of collaboration where clusters are concerned, claiming that social interaction and firm cooperation determine the dynamic nature of the cluster. Tacit knowledge flow and untraded interdependencies are also key features to industry cluster theory. To facilitate the flow of information, networks, collaboration and interconnection between the firms is crucial. This is especially true for the new media industry because it is knowledge-based and firms need tacit knowledge flow and untraded interdependencies for the production and marketing of their products (Storper, 1997). Curran *et al.* (1995) observed that the degree of interaction between firms can be characterised in a continuum that is presented in Figure 7.1.

Figure 7.1: Continuum of firm's participation in networks

Compulsory	⟶						Voluntary
Purchases of resources	Sales to customers	Government e.g. Inland Revenue	Banks Accountants Solicitors	Marketing activities	Advice seeking	Membership of Chambers of Commerce Trade Associations etc.	Partnerships with other businesses
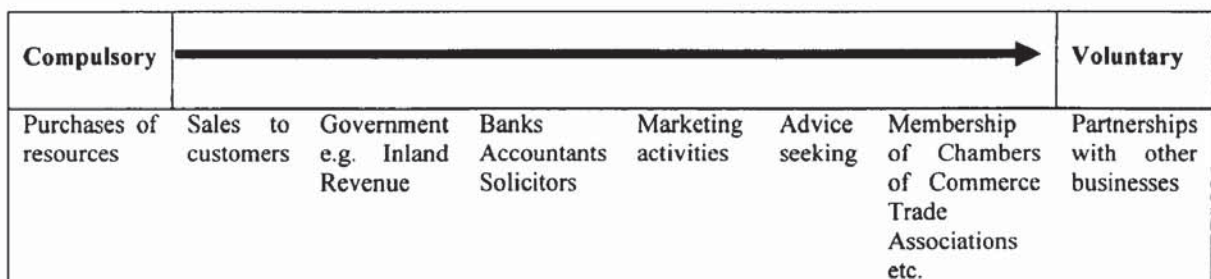
Source: Curran *et al.* (1995:6)

The continuum shows that it is possible that there could be little or no interaction between firms. Curran *et al.* (1995) pointed out that there is not necessarily any

natural progression along this continuum, nor should there be any presumption that interaction between co-locating firms will be voluntaristic in nature, lying on the right hand side of the continuum. Indeed, they stated that even where it may seem compulsory for firms to interact; it may not be the case, particularly for smaller firms, for whom networking may present a significant cost in terms of time.

Nevertheless, Hakansson (1987) pointed out that:

> *"Relationships are one of the most valuable resources that a company possesses"* (1987:10).

Therefore, the informal links present in a local environment must be taken into account because they increase productivity or technical efficiency and serve as information channels as well as increasing control or power. Braczyk *et al.* (1999) noted that, for any new media industry cluster to be successful there is need for greater strategic efforts in networking and centralized co-ordination of the network. This is in line with the Saxenian (1991) study that provided evidence on how the computer systems firms in Silicon Valley collaborated with their key suppliers to define and manufacture new systems. She noted a reduction in product development times and institutionalisation of their capacity to learn from one another. She also drew the following conclusions from her observations:

- Inter-firm networks help to account for the continued dynamism of Silicon Valley.

- There is a clear trend for the firms to prefer local suppliers in spite of their reliance on global markets and distant suppliers.

- They build trust-based relationships with the suppliers, which flourish with proximity.

- The region's vitality is enhanced as inter-firm collaboration breeds complementary innovation and cross-fertilization among networks of autonomous, but interdependent, producers.

In light of Saxenian (1991) and other writers Table 7.1 lists the crucial elements in creating successful collaboration suggested by the industry cluster theory for new media industry.

Table7.1: Elements of successful collaboration suggested by industry cluster theory

Elements	Description
Informal linkages - key for selecting firm and recruiting employees. They also create firms' inter-dependency that is, indebtedness and reciprocity.	• Personal contacts • Referral by colleagues • Referrals by previous and current customers • Relevant publicity form the media • Word of mouth
Meeting places - for learning, innovating, contracting, socialising, eating and relaxing.	• Pubs • Clubs • Hiring fairs
Trust - is an important factor in the nature and degree of networking	• Loyalty is crucial • Allows creativity to flourish within their working environment
Trade associations	• Business and pleasure are mixed with the exchange of information • Crude market place for ideas and business options • They provide a community support and labour recruitment fairs.

Source: Adapted from Saxenian, (1991) Smith *et al.*, (1991); Pratt, (2000); Gornostaeva and Cheshire, (2004).

According to Granovetter, (1973) for firms to collaborate will involve networking, large amounts of time, emotional intensity, intimacy (mutual confiding) and reciprocal services. Smith *et al.* (1991) noted that geographical proximity is the

engine driving these linkages by facilitating face-to-face contacts and fostering a sense of community that encourages people to share ideas. Romijn and Albu (2002) noted that, through targeted interventions aimed at sparking new ideas, strong networking and collaborations would exist between competitors, suppliers, customers and universities.

In spite of collaboration being important in industry cluster theory, it has been criticised for having firms being tied up in very close network relations causing them to be conservative and restrictive (Granavetter, 1973; Grabher, 1993). Furthermore, companies oriented towards software development tend not to collaborate because of the risk of imitation (Pratt, 2000).

The research reported here sought to show whether collaboration existed between the new media firms in Birmingham. It also sought to illuminate the extent to which informal linkages, meeting places, trade associations and trust play a role in promoting interaction between the firms in the new media industry.

7.4 Higher Education Institutions and the new media industry

According to Porter (1998) clusters would include government and other institutions providing specialised training, education, information, research and technical support. In the new media industry an unusual combination of technical, cultural, creative and commercial skills is required. Amongst workers there is need of both those with detailed knowledge and advanced skills in one area, and those who master different

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combinations of skills. Therefore, skills and education has emerged as one of the main questions about the industry (Sandberg, 1999); for example:

- Which skills are required?

- How should learning be organised to meet these needs?

- What roles may different actors play?

On one hand, Gornostaeva and Cheshire (2004) argue that personal abilities, but not educational qualifications, are important for employability in the industry. Their rationale is that the fundamental feature of the new media industries is the need for constant innovation and creativity. These innovative capabilities are the lifeblood of their activities and are derived from the creative capabilities of individual people who are not necessarily degree holders.

On the other hand, Batt *et al.* (2000) stated that formal learning programs have not kept pace with skill needs in this fast changing industry. As a result, skill acquisition in the industry has been an individual's responsibility. This is because the interactive nature of computer tools allows new media workers to learn new skills at their own pace and within their own learning style. Therefore, it is argued that new media workers are largely self-taught and they invest a significant amount of time learning and upgrading their skills.

Sandberg (1999) brings light to the argument of whether formal education is important in the industry. He points out the fact that a lot of the activities within new media firms become routine or even obsolete rapidly and this has led to polarisation between less educated workers performing routine work and the highly educated ones

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being in charge of state-of-the-art research, development and production. Nevertheless, he maintains that the educational level of workers in the new media industry is, in general, high - with a high degree of employees having academic degrees.

However, Backlund and Sandberg (2002) state that the traditional university structure is not always suited to the demands of the new media sector. On the contrary, the universities may provide prominent educational programmes that have the ability to attract skilled teachers and equipment, and give training to potential new media producers as well as to consumers. This is important since the industry needs employees that will keep up with the industry's development, as well as being competent to remain competitive.

The present study has sought to establish if there are any relationships that exist between the new media industry in Birmingham and the Higher Education Institutions (HEI) in terms of providing skills and technical knowledge. This was intended to highlight whether the HEIs form an integral part of the new media industry cluster, as might be expected according to the industry cluster theory.

7.5 The labour market in the new media industry

The industry cluster concept also includes industries which might share a common market for their end products, use technology or labour force skills or require similar natural resources (See Chapter 3). Geroski and Knight (1991) stated that clusters are special assets or skills that create competitive advantage for a firm and those that

enable it to produce better-designed products more efficiently. The industry cluster theory claims that geographical proximity of the firms provides a basis for common labour markets.

Given what has already been discussed above about the nature of the new media industry, it is important to explore whether the labour market operates as the industry cluster theory predicted. Many studies have highlighted a series of characteristics of the new digital industry workforce which are shown in Table 7.2.

Table 7.2: Characteristics of the new media industry labour market

Attributes	Details
Flexibility – most work is done by moving from project to project; providing specialised inputs into the creation of products such as films, advertisements and web page designs.	• Freelancers • Self-employed people • Consultants • Independent contactors
Social networks – these are central for job search and employment security	• Friends and colleagues are preferred above any other source for jobs • Personal network are important to get jobs, learn new skills and compare salaries
Word of mouth	• Crucial for skills acquired informally on the job

Source: Adapted from Sklar, (1985); Coopers and Lybrand, (1997); Sandberg, (1999); Batt, *et al.*, (2000); Pratt, (2000); Backlund and Sandberg, (2002).

These key characteristics indicate that the new media industry does not use the conventional method when recruiting employees, yet production within the industry is an intensively human process. The production process in the industry involves a huge amount of investment to sustain the employment of huge teams of designers and managers to create and continually update the software (Batt *et al.*, 2000). On top of

this there is a huge sales force, advertising and a growing cohort of help staff to be maintained if a product is to be trusted and viable. All this is achieved by having many new media firms form a project-based enterprise, where firms and freelancers come together temporarily to work on a particular project and once the project is complete the firms disband.

Therefore, there is seldom structure and hierarchy in the industry because of the informality and the mixing of different skills and expertise to get a product completed (Pratt 2000), which is an incentive for firms to cluster. It would be significant to establish the extent to which the firms interviewed for this study follow the pattern discussed above, especially with this industry being perceived to have a great potential in job creation and economic development.

7.6 Conclusions

The industry cluster theory is used as a tool to create an environment that would stimulate the rate of growth of the new media industry. Industries differ in preconditions and potentials in some aspects they may be complementary each other and /or competitive, and they would not necessarily respond to industry cluster policies as anticipated by the theory. The thesis will assess the extent to which the new media industry in Birmingham conforms to the key features of the industry cluster theory. Chapter 9 reviews the empirical findings.

Chapter 8

Research Methodology

8.1 Introduction

This chapter discusses the research strategies that have been used to answer the research questions.

Firstly, a brief review of the research question is outlined. The intent is to highlight the reasons for the adopted philosophical parameters and to justify the research framework. The analysis of the research process identifies the areas in which data was collected in order to answer the study questions and describes of the steps taken in conducting the study and the methods used to collect the data and discusses the nature of the sample and sampling procedures adopted and tape recording procedures followed when conducting the interviews. Finally, an explanation of the analytical routine employed in the analysis of data for this study is given.

8.2 Research questions reviewed

In the previous chapters we established that the West Midlands region has undergone a dramatic change in its economy. Being a region that was primarily focused on traditional industrial firms, diversification was key to the economic strategy that was used by the Regional Development Agency – Advantage West Midlands (AWM) to

promote growth in the economic development of the region. Since the government had recommended the cluster policy approach as a tool for regional development (DTI, 1998), the Birmingham City Council Economic Development Department (BCCEDD) took the challenge to use the cluster policy approach to promote other industries in an attempt to revive the economy of The City, known for its strong industrial heritage.

However, the cluster approach is not without critiques, as outlined in Chapter 3. Thus, the researcher sought to find an answer to the question:

Is the industry cluster policy succeeding in promoting the new media cluster in Birmingham?

It was anticipated that the following questions would assist in highlighting whether industry cluster theory is succeeding in promoting the new media cluster and whether the cluster approach strategy is an appropriate tool for Birmingham local development policy for the new media firms:

- What exactly is the new media industry cluster?
- To what extent does the theory on geographical location of firms still apply in new media firms?
- Is there any collaboration between the new media firms in Birmingham?
- Do new media firms have relationships with other trade bodies and public organisations?
- What are the effects of Birmingham's historical business background on the new media industry?

8.3 Philosophical parameters

The researcher had to adopt a paradigm for the methodology to use in order to answer the research questions and obtaining a better understanding of the new media cluster in Birmingham. Kuhn (1970) argued that all research is conducted according to philosophical paradigms. These paradigms form a boundary of *"what should be studied, how research should be done and how results should be interpreted"* (Bryman, 1988:4). Thus, examining the philosophical parameters that are relevant to the study provides a picture of the interrelated assumptions made when conducting the study (Kuhn, 1970).

Hussey and Hussey (1997) identified what they claimed to be the two main paradigms, the positivistic and the phenomenological paradigms. They argue that these paradigms provide the best way of defining a research framework because of the features that are covered by each paradigm. The authors use positivistic rather than quantitative and the phenomenological rather than qualitative to refer to the paradigms which are rather common. Their reason for not using quantitative or qualitative is that it is possible for a positivistic paradigm to produce qualitative data and vice versa. So to be more accommodating they use terms that will even out the paradigms. Table 8.1 shows these main features of the two main paradigms.

Bryman (2001) observed that many writers on methodology issues find it helpful to distinguish between qualitative and quantitative research. For the purposes of this research the researcher does not enter into arguments on the different paradigms, but

only discusses the paradigms that were considered relevant and appropriate to the study, along with the methodology adopted. Careful attention was taken to ensure that there were no contradictions or deficiencies in the methodology adopted, by taking into account the important and significant practical issues applicable to the study (Bryman, 2001). The following factors influenced the choice of method of research:

- The research objectives;

- Methodologies used in previous studies

- Suitability of the methods to address the research objectives;

- Ability to obtain rich data and yield accurate results; and

- The feasibility of the methods given the context, cost and time constraints (Bryman, 1988, 2001).

Table 8.1: Features of the two main paradigms

Positivistic Paradigm	Phenomenological Paradigm
Tends to produce quantitative data	Tends to produce qualitative data
Uses large samples	Uses small samples
Concerned with hypothesis testing	Concerned with generating theories
Data is highly specific and precise	Data is rich and subjective
The location is artificial	The location is natural
Reliability is high	Reliability is low
Validity is low	Validity is high
Generalises from sample to population	Generalises from one setting to another

Source: Adapted from Hussey and Hussey (1997:54)

8.4 A review of methodologies used in previous studies

The starting point in developing a paradigm for this study was to review the methodologies used in previous studies on clusters, new media firms and industry cluster approaches in local and regional economic development. The review set out a path on methodologies adopted by previous studies and it was followed in this study in order to be in harmony with previous studies; thus making comparability of studies easy. Tables 8.2, 8.3 and 8.4 show a selection of the research methods adopted by other studies of clusters and new media firms. Table 8.2 shows a selection of studies on clusters; while Table 8.3 looks at research on new media firms and regional policy and Table 8.4 presents the methods used in a selection of research studies conducted in Birmingham and West Midlands on cluster and sectors which are part of the new media industries.

Table 8.2 indicates that Porter did the major study on clusters in 1990, which was followed by a number of other studies in 2000. It was not until 2001 that a nationwide study on clusters was conducted in the UK. This followed the DTI 1999 White Paper on Competitive Advantage which was the first time the UK Government showed an explicit interest in using the cluster theories as regional development tools. Most of these studies used quantitative methods to collect data and then employed qualitative methods to test preliminary findings. The most notable exceptions were Keeble and Nachum's (2000) study that used qualitative case study methods.

Table 8.2: Research methods adopted by a selection of studies focusing on clusters

Author(s)	Purpose of study	Methodology & Justification
Porter (1990)	Prepare cluster charts	• The United Nations International Trade Statistics Year book was the basic source for data used • SITC was used to classify industries • Primarily employed quantitative analysis • 'Qualitative impressions' (1990:743) used given scarcity of data and where detailed analysis was not possible
Sennett (2000)	To identify clusters of innovative activity	• The input method of R&D expenditure used by Hingel (1992) was adopted because the cities are characterised by high concentrations of R&D expenditure • Alternative methods were employed the output approach and the subject/object approaches • Study was based on secondary data only
Feser and Bergman (2000)	Suggest means of using available information on national inter industry linkages to identify potential clusters in sub-national areas Create template clusters to help detect gaps and specialisation in extended product chains Provide the first step in more comprehensive examination of local cluster patterns	• Measures of direct and indirect linkages computed from inter industry trade information for each sector were created as variables • Used data from US input-output accounts released by the Burea of Economic Analysis
Gordon and McCann (2000)	Explore the relation between concentration and different forms of linkages.	• Evidence based on patterns of concentration and interaction in the London region; that is, Greater London and the surrounding Outer Metropolitan Area.
Keeble and Nachum (2000)	To provide richer information and more detailed analysis of both inter-firm ties and global influences on firm competitiveness.	• Used qualitative case study methods
DTI (2001c) Trends Business Research	To "draw up a detailed systematic inventory of existing clusters across all sectors of the UK" (2001:12)	• Data sources were mainly the IDBR, D&B company data set and the NOMIS employment database • Local Authority District data examined to see if any sub-regional clusters emerged and establish location and nature of regional and national clusters precisely. • Held regional discussions to test preliminary findings of the data analysis.

Source: Author's review 2003

Table 8.3 indicates some of the studies conducted on some of the sectors which fall within the new media industries category. The Saxenian (1994) study has been used extensively as a reference study [see, for example, Sennett (2000); Feser and Bergman (2000); Gordon and McCann (2000); Keeble and Nachum (2000); Raines (2001);

Taylor and Raines (2001); Romijn amd Albu (2002)]. This study used face to face in-depth interviews with the executives and managers to provide information that the author argued would not otherwise have been gathered using quantitative research methods. The use of SIC codes in defining what Saxenian called the "new computer systems firms" indicates the limitation presented by using SIC codes in identifying the relevant firms.

Table 8.3: Research methods adopted by studies focusing on new media firms

Author(s)	Purpose of study	Methodology & Justification
Saxenian (1994)	To analyse the origins and dynamics of production networks in Silicon Valley from the perspective of the region's computer systems firms. To illustrate how inter-firm networks help account for the sustained technology dynamism of the regional economy.	• In depth interviews with executives and managers • A number of SIC codes were included in defining the new computer systems firms
Raines (2001)	The study aims to examine how the cluster concept has been interrupted in a number of European cluster based policies.	• Comparative study. • Its in-depth case studies of cluster policy in seven regions in Europe.
Taylor and Raines (2001)	To examine the differences and similarities of cluster building in two regions. To explore some of the practical implications of cluster building.	• A desk research based on reports and findings of previous studies. • It is in a comparative nature between the two regions.
Romijn and Albu (2002)	Explores how the innovative performance of small high-tech firms relates to their external networking activities. Determine whether geographical proximity in their network relations matters.	• Quality accreditation status used to measure pursuit of innovation • Intensity of interaction measured by means of Likert score • Proximity effect measured in the sense of less than one hour travelling distance • Quantitative data

Source: Author's review 2003

Table 8.4 indicates that prior to the present study there had not been a study that concentrated on new media firms; the studies conducted were either concentrating on the whole creative industry grouping (Era, 2002) or on a specific sector within it.

Table 8.4: Research methods adopted by studies on clusters and new media firms in Birmingham and West Midlands

Author(s)	Purpose of study	Methodology & Justification
Burfitt, Collinge, Gibney and Srbljanin (2000)	To provide a better understanding of how the spread of e-commerce is affecting businesses and in particular the demand for business premised.	• The database containing 1500 West Midlands firms from four (Automotive, Retail and wholesale, Financial services and Business services) targeted sectors identified by two SIC codes. • Database was purchased from the "Business Database"
Burfitt, Collinge, and Srbljanin (2001a)	To contribute to the understanding of Birmingham and Solihull ICT industries. To facilitate the delivery of business support services to these sectors. To understand the significance, characteristics and origins of ICT firms in the Birmingham and Solihull area.	• The definition of the population and sample for the study was focused upon the adoption of emerging computing, networking and communication technologies, rather than be limited unduly by existing SIC categories.
Era (2002)	Commissioned by Birmingham City Council Economic department to identify and map the creative industries in Birmingham	• They interviewed the leading firms who the recommended other firms to be interviewed.
SQW (2003)	Commissioned by AWM to provide a mapping and analysis of the ICT cluster	• ICT is defined as hardware plus software • Because the boundary between ICT and new media is blurred, the study was inclusive rather than exclusive in the mapping work undertaken to date.
Collinge (2003)	Examined the nature and functioning of the interactive media cluster in the West Midlands, and in particular of the relationship to this cluster of higher education establishments across the region	• Annual Inquiry statistics were used because of absence of data tailored to the specific structure. • Secondary data sources and literature was used.

Source: Author's review 2003

8.5 Methodology path followed in this study

The researcher noted that when assessing the industry cluster approach as a tool for local economic development for the new media industry in Birmingham, the use of

structured research methods was necessary in order to ensure replicability, to enable the testing of relationships between variables and provide information that is rich and detailed. Therefore, in order to strengthen the outcomes of this study, the researcher used research methods which had been used in previous studies but also developed on them.

8.5.1 How this study is similar to previous studies

The following procedures were adopted as in the previous studies:

- The SIC codes were used to classify industries used by most studies despite their limitations.

- A database providing a listing of new media firms was purchased from Birmingham Chamber of Commerce and Industry (BCCI) for the study.

- In identifying the new media industry, the study combined ICT with media firms as in SQW's (2003) study.

- A qualitative case study method was also used to provide richer information as in Keeble and Nachum's (2001) study.

8.5.2 How this study is different from previous studies

The following aspects differentiate the present research from the previous studies methods:

a) **Case Study** – The present study has focused on Birmingham not the West Midlands as in the other studies. The case study is not a methodological choice but a choice of what was studied (Stake, 2000). The research entailed a

detailed and intensive analysis of the new media industry cluster in Birmingham in order to provide the best insight into what is happening in the industry. As a result, as a researcher obtained in-depth knowledge of the industry and understanding of their characteristics that might have been missed by large scale studies (Allison, 1993). Studying Birmingham is significant because of its historical economy (see Chapter 5).

b) **Evaluation Research** – this research method was used to assess the existing procedures of the cluster economic development policy in Birmingham. The research method also helped in focusing on whether the policy was helping to curb or alleviate the problems faced by the City Council and the new media industry cluster. Gaps were identified and suggestions on how to bridge these gaps were sought. This is also the first study to attempt to explore the 'effectiveness' of the cluster strategy in Birmingham with regards to the new media industry cluster. The study was intended to enhance understanding of the cluster policy as well as to identify the particular needs and characteristics of the new media firms. Particularly, as it has been suggested that policy initiatives were established on incomplete information, and despite the popularity of clusters, its basic concepts and policy implications remain poorly understood (Botham and Downes, 1999).

c) **Combining research methods** - For the purposes of this study the research methods were not chosen on the basis of a traditional paradigmatic stance, but were used together to satisfy the demands of evaluation research in the most efficacious manner possible. The benefits of combining the methods included:

1. To enable confirmation or corroboration of each other via triangulation;

2. To elaborate or develop the analysis by providing richer details and

3. To initiate new lines of thinking through attention to surprises or paradoxes, turning ideas around providing fresh insight (Punch, 1998).

The use of the different methods also helped to correct the inevitable biases that would be present in each method. With only one method it is impossible to separate the bias of the method from the underlying quality and quantity that one is trying to measure.

8.6 Data required

The methodology used provided the data required to answer the research questions and meet the aims of the study. The data required for the study provides information and adequate evidence on the success of the initiatives and relevancy of the cluster theory in promoting the new media industry cluster. Table 8.5 was drawn as a guide to indicate the data required and the methods that were used to acquire the data. According to Filstead (1979) it establishes the criteria for the appropriate "tools" methodologies, instruments and types and forms of data collection to use in answering the research questions.

The main tool that was used to collect data was semi-structured interviews, as indicated in Table 8.5.

Table 8.5: Data required and methods used in the present sudy

CONCEPT	INDICATORS	VARIABLES	INSTRUMENT
Cluster Approach Strategy	Awareness	Firms knowledge Action taken	Closed ended question Open ended question
	Usage	Number of clients Services taken per year Characteristics of clients Popular program	Semi structured interview with director Scheme reports Consist both open and closed ended questions
	Acceptance	Attitude	Open ended question
	Accessibility	Enquiry line Internet access Office location	Observation
	Appropriateness	Types of services Specific targets	Semi structured interview with director Scheme reports Consist both open and closed ended questions
	Responsiveness	Growth rate Needs met	Policy reports Open ended question
Cluster Theory	Employment	Number of employees	Closed ended question
	Location	Proximity to customers Proximity to suppliers Present location key factors Preferred location	Closed ended question Open ended question
	Competition	Intensity	Closed ended question
	Market	% of local sales % of local purchases Sector/Target market	Closed ended question Open ended question
	Inter dependency	Interaction frequency Method established Transaction content	Closed ended question Closed ended question
	Ownership	Number of owners	Closed ended question
	Higher education institution	Level of involvement Recruitment Experience requirement	Open ended question
	Connection with local trade bodies	Involvement Benefits Disadvantages	Closed ended question Open ended question
	Age	Number of years in business	Closed ended question

Source: Author's review 2003

The schedule of questions for the semi-structured interviews was prepared in such a way that it could be self-administered when firms could not offer an interview. Conducting a qualitative survey was considered the best method for this research because the research question necessitated that the information should come directly from the parties concerned. The information required involved finding out about their

ideas, feelings, plans, beliefs and educational background and such information can be best obtained through interview questionnaires. A survey is also known to be a good method when evaluating the effectiveness of programs.

The open-ended questions used provided valuable qualitative information in order to understand the values of the new media firms when choosing their location, building relationships and their perception of the image of Birmingham. Glaser and Strauss (1967), argue that the information obtained through such qualitative paradigms enhances the ability of the researcher to understand and, perhaps ultimately, devise an explanation, which the research eventually develops.

The open-ended questions were exploratory as they sought to ascertain how people get along, what meanings they assign to their actions and what their main concerns are within those settings (Schutt, 1996). Since the main focus of this research was uncovering insights and ideas by exploring in detail issues/subjects about which we have very little, a priori knowledge; these questions are appropriate for clarifying the motives, behaviour and attitudes of the new media firms since there is limited knowledge in this subject area (See Chapters 6 and 7). The existing theory on clusters was used to understand and explain what is happening between the new media firms in Birmingham.

On the other hand, the closed questions provided quantitative information regarding the operational definition of the new media industry. Bryman (1988) suggested that quantitative paradigms permit the researcher to be distant from the subject because there is minimal interference between the researcher and the subject. This method

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was applied in the present study, for example, when analysing the distribution of sales and suppliers.

The closed questions were also appropriate in providing basis for an assessment of the existing procedures of the cluster programmes. Thus, some of the questions paid special attention to whether particular policies and programmes help to curb or alleviate a problem and the participation of the new media firms in policy initiatives. The BSAs were invited to comment on the perceptions of the firms; in doing this, gaps were identified and suggestions on how to bridge these gaps were sought.

Using a combination of open and closed ended questions was considered to provide the best way of tackling an evaluation problem and resulted in the use of a combination of qualitative and quantitative methods in the analysis (Stecher and Davis, 1987).

8.7 Research methods adopted

The research methods adopted formed as a plan or framework that was used to help guide the collection, analysis and interpretation of data to enable the answering of the research questions (Churchill, 1991). The adopted methodology for the study contained the following elements:

- An analysis of reports
- An analysis of the theoretical structure of the cluster approach
- Pilot testing
- Review of lessons learned from the pilot test and changes made

- Compilation of the database

- Semi-structured interviews with directors or senior managers from the Business Support Agencies that have provided cluster programmes in Birmingham.

- A survey completed using face-to-face and telephone interviews and questionnaires targeted at digital media firms in Birmingham.

- A second round of semi-structured interviews with directors or senior managers from the Business Support Agencies that provide cluster programmes in Birmingham.

8.7.1 An analysis of reports

Documentary data such as proposals, magazines, journals, annual reports, policy documents, evaluation reports on economic development strategies and books were collected, reviewed and analysed for this research. A review of the secondary information sources was conducted to identify information gaps. Some of the information provided by the documents was used as the basis of the questions asked during the interviews.

Literature on traditional location theory, agglomeration theory leading to industrial cluster theory was critically analysed. The review of the literature was conducted to identify information gaps (see Chapter 2). However, this review revealed that there is not much literature on the new media firms because this is a relatively new field of academic interest since these firms only emerged in the mid 1990s (see Chapter 6 section 6.3). This highlighted the need for primary research.

There have been a few consulting reports that have touched on the clusters in the West Midlands (Burfitt *et al.*, 2001a, 2001b; Era, 2002; Collinge, 2003; AWM, 2004), but while these have provided very useful insights, they do not directly address the issues which this present study was concerned with.

Reports and policy documents on Business Support Agencies (BSA), were used as a point of reference and for benchmarking when assessing the effectiveness of the initiatives. This review highlighted the differences between the official policy and the day-to-day practices of the BSAs, thus providing the researcher with information on issues that are not easily analysed by other methods (Bryman, 1989).

The analysis of the documents and reports stands as one of the important tools for triangulating. Arguably, the information from the documents and reports is free from bias because at the time of their preparation there was little or no reactivity on the reports towards the research since the documents and reports were produced for a different purpose (Bailey, 1982). However, the documents and reports do not give a full account of the subject being studied, hence, the information in the reports is limited to the purpose they were initially produced for.

Bailey (1982) highlights the fact that an absence of a standard format for presenting reports makes it difficult to make comparisons between them. This could be because some information may only be found in one document. This could be further aggravated by the inaccessibility of some of the documents, for example, where the reports contain sensitive materials. Nevertheless, Yin (1990) gave a warning on the

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use of documentary data; that is, it must be used to confirm and increase evidence from other sources, rather than being seen as a pure account of facts. He recommends documentary data for corroborating information from other sources, so that in the event what the information is contradictory, it can be verified through further investigations.

In line with Yin;s advice, in this study the researcher used the reports on the cluster programmes to verify whether the information provided by the directors or senior managers was in line with what is stated on the reports. The researcher had to identify the causes of any inconsistency identified. A detailed desk review was undertaken of Central and Local Government reports to highlight the expectations of the government. Reports from independent bodies were analysed to get more information on the digital media firms in terms of their size in order to justify the level of attention given to this cluster.

8.7.2 An analysis of the theoretical structure of the cluster approach

An analysis of the theoretical structure of the cluster approach was carried out prior to testing expectations through empirical observation. After analysing the literature the researcher identified the following points as the important aspects of cluster theory in this context; these were: location of new media firms, collaboration between the new media firms, the role of higher education institutions, the labour market, firms' relationships with Business Support Agencies and the relevance of the image of the city in fostering their development.

The researcher laid down further rules for making observations and determining when an instance of the concept had empirically occurred. In creating the rules for making these observations the researcher was making a clear definition of what it was she was going to observe. Indicators or measures were created which represented empirically observable instances or occurrences of the concepts under investigation. So, the abstract concept was linked to something that was observable and whose variation was measurable.

By using the same indicators of a concept, and by standardising the recording of the results of any observation, it was hoped to obtain reliable measures (Gill and Johnson, 1997). This enabled the construction of clear and specific instructions about what and how to observe. Gill and Johnson (1997), call this the process of operationalisation, it enables the testing of hypotheses and theories by confronting them with the empirical data which was collected.

8.7.3 Pilot Test

A pilot study was conducted to check for any potential problems, such as ambiguity in the terminology used; format and sequence of questions used; coherence in the overall structure of the questionnaire. Semi-structured questions were used for these interviews (see Appendix 1). Pilot interviews were conducted with 10 new media firms to judge the clarity of questions, their ability to address the research objectives, appropriateness of the method, and to test the ability to analyse the responses to questions. As Oppenheim (1992) emphasised:

"Pilot work is an essential part of any interview schedule/questionnaire development and involves testing all aspects of the survey, adapting and redeveloping. A substantial amount of time is spent in constructing and refining a questionnaire". (Oppenheim 1992:47)

The pilot survey demonstrated that the questions used in the semi-structured interviews worked well and provided the information needed to fulfil the objectives of the research.

8.7.4 Review of lessons learnt in the pilot test and changes made

The main changes that were made following the pilot test were:

- The wording of some of the questions was refined.

- The sequence of questions was adjusted to produce a more natural flow to the interviews.

- The quality of the questions was enhanced by reformatting the list of to make them more focused and direct.

- Questions were also made clearer in case some firms would prefer to complete a questionnaire.

- The researcher was able to identify potential problems with usage of specific research techniques. Instead of cold calling the firms to ask for interviews the researcher decided to send an initial introductory letter (Appendix 2). This was followed by a telephone call to the firms to prompt a response. Firms who claimed they had not received the letter were then faxed or e-mailed a copy.

- The pilot test indicated that not all new media firms were listed in the yellow pages; therefore this source was not a true reflection of the firms actually in Birmingham. So, a list of all registered new media firms was bought from the Birmingham Chamber of Commerce and Industry, since they had a wider database.

- The pilot study was also very useful in highlighting the need to focus on new media firms only since the creative industry category was too broad.

All the above observations are in line with what Moser and Kalton, (1985) who identified the main benefits of piloting as:

1. To test the adequacy of the sampling frame, especially if the researcher is not so familiar with it. If this is the case it has to be evaluated for effectiveness, up-to-datedness, adequacy, accuracy and for convenience.

2. To identify potential problems with regard to special attributes that might be added by the respondents to be able to provide reliable data; and to identify non-response problems if any.

3. To assess the suitability of the method of data collection

4. To check the adequacy of the questionnaire with regard to the instruments and general briefing; coding; wording; format; sequence; clarity; technical jargon, and other ambiguities; and some special behavioural attributes likely to be exhibited as a result problems such as strains or discomfort in answering the questions are revealed.

8.7.5 Compiling the database

When conducting the pilot study, the focus was on creative industries; the researcher compiled a database of all the companies within the creative industries. The sectors on the creative industry were chosen on the basis of the Business Cluster Report (Era, 2002). These sectors were screen-based media, visual arts design, performance arts, music, heritage and leisure, software industries, publishing industries and the crafts industry. Through the yellow pages web site, a list of companies in Birmingham was drawn within each of these sectors. Each company was called and asked to recommend other businesses within their sector. A database was formed out of the list obtained by this "snowballing" technique that consisted a total of 515 firms. Table 8.6 shows the number of firms identified in each industry sector.

Table 8.6: Data base distribution by industry used for pilot study

Name of industry sector	Number of Firms
Screen Based Media	131
Visual Arts Design	166
Performance Arts	21
Music	78
Heritage and Leisure	35
Software Industries	51
Publishing Industries	19
Crafts Industry	14
Total	515

Source: Author's Pilot Testing Survey 2002

Out of the 515 firms, the researcher made contact by telephone with thirty-two of the firms chosen at random. Their response is shown on Table 8.7. A total of ten interviews were completed for the pilot study.

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Table 8.7: Pilot study response on calls made

Response	Number of firms
Agreed on face to face interview	3
Agreed on immediate telephone interview	7
Agreed on a later interview	1
Did not return call	7
Postponed until after summer period	5
Interrupted calls and not available	3
No answer	2
Number not recognised	1
Not interested	3
Total calls made	**32**

Source: Author's Pilot Testing Survey 2002

When conducting the pilot study, it became clear that not all relevant firms were listed in the yellow pages; therefore it was not a true reflection of the firms actually in Birmingham. So, when conducting the survey, a list of all registered firms was bought from the Birmingham Chamber of Commerce and Industry, since they have a wider database. The pilot study was also very useful in focusing on new media firms only; the need to focus on a single industry became evident, as the creative industry category was broad. The researcher observed that in order to boost the response rate an introductory letter needed to be sent before the firms were contacted. Although, it certainly did not resolve all the problems associated with surveys, it led to significant improvements, thus enhancing the quality of the study (Moser and Kalton, 1985).

8.7.6 Semi-structured interviews with Business Support Agencies (BSAs) in local economic strategy development

Cohen and Manion (1980) stated that research is the most important tool for advancing knowledge since it had been established that research in this manner has not been conducted before. Interviews BSAs were used to provide a more detailed briefing and contextual review of the operation of the different BSA initiatives. However, the interviews were semi-structured, with face-to-face verbal interchange employed to furnish the researcher with information on their perceptions, meanings and definitions of situations and constructions of reality about implementing the initiatives. During the interviews the researcher had first to engage in informal conversation with the interviewee to empower each party to be on the same footing during the interview; this enabled greater openness and insight, a greater range of responses and therefore richer data. In addition, it helped to uncover previously neglected or misunderstood experiences.

The interviews were semi-structured interviews in order to be able to obtain the same information from each interview. Patton (1990) states that this type of interviews facilitates data analysis as it allows the researcher to identify more quickly the similarities and differences in the interviewees' answers to the same question. A schedule of the questions asked is provided in Appendix 3. The first round of interviews were designed to identify the BSA targeting the new media industry cluster and to assess the relevancy of the policies to the City's new media industry cluster.

8.7.7 Semi-structured interviews with firms in Birmingham

A survey was conducted on the new media firms in Birmingham. It involved obtaining information from a representative sample of the population of the new media firms in Birmingham. To ensure that quality data would be obtained, the researcher carefully planned what to measure; the format of the questionnaire; wording of the questions; the sequence of questions and layout of the questionnaire and who to interview. A copy of the questionnaire is provided in Appendix 4.

8.7.8 The second interviews with Business Support Agencies

The second round of interviews with the Business Support Agencies was conducted after the interview with the firms were completed. This was done mainly to establish the effective ways of assessing growth and development of the new media firms as a result of the cluster economic development initiatives. The second interviews provided an opportunity to verify the new media firms' claims and attempt to identify effective and efficient ways of assisting growth and development of the new media firms using the cluster approach. A copy of the questionnaire used in these second round of interviews is provided in Appendix 5.

8.8 Sampling frame and sample selection

Prior to commencing this research, careful selection of the population sample was done as a pre-requisite for gathering reliable information to answer the research questions (Sapsford, 1999). A systematic review of alternative sampling frames was

carried out and the decision taken to use the Birmingham Chamber of Commerce and Industry (BCCI) database to select the main random sample of firms. The data acquired from BCCI of new media firms was based on the SIC codes using the definition adopted for the study (see Chapter 6).

The data from the BCCI was the best option available for the researcher, since it was cost effective and time saving. The study on the West Midlands carried out by Burfitt *et al.* (2000) also purchased their database, but their database was purchased from the "Business Database". When providing the data, BCCI split it into two parts because not all the headings from the SIC codes could be found on one particular source. The one part was from the Marketing Creative Handbook Database and the other was from the Kelly's Database. Table 8.8 shows the composition of the database acquired.

Table 8.8: Composition of the database acquired

Database source	Database heading used	Number of Firms
Marketing Creative Handbook Database	• Advertising agencies media independent • Audio production • Desktop publishing • Internet service providers • Web designers • E-Commerce • Photography digital/imaging • PR consultants • Video film product	266
Kellys Database	• Computer software/consultants • Training E-learning • Communication equipment • Computer hardware/consultants	83
Total		**349**

Source: BCCI invoice to researcher 20 December 2002

For 148 out of the 349 firms the information was incomplete, in terms of their address and telephone number, as a result they were not contacted at all. Table 8.9 exhibits the general response of the 201 firms that were contacted. An introductory letter (Appendix 1) was sent out informing them of the purpose of the study and requesting their assistance by giving an interview. To encourage responses the owners/managers were called a few days after the letter had been sent out. This helped to find out if they had received the letter and whether they were available for an interview.

Table 8.9: General response on letters sent

Response	Number of firms
Letter not sent because information incomplete	**148**
Outcomes of firms that were contacted:	
Addressee has gone away	7
Not known to this address	2
The company does not specialise in new media	2
Company no longer in business	3
It is not the company policy to take part in surveys	2
No time to spare	3
Phone not working	27
Relocated outside Birmingham	4
Left messages no response	93
E-mailed questionnaire	7
Posted questionnaire	20
Telephone interviews	10
Face to face interviews	21
Total	**349**

Source: Author's Survey 2003

Out of the 201 firms that were contacted the researcher was able to interview 36 firms. Ten were telephone interviews and twenty-one were face-to-face interviews. A self-administered questionnaire (see Appendix 4) was sent to those firms who could not offer an interview. A total of five further firms responded by answering the

questionnaire. The questionnaire consisted mainly of open-ended questions to allow the respondent to express their views, ideas and perceptions about the scheme. The questionnaire was designed to provide knowledge of motives, behaviour, attitudes and perceptions that are complex and differ with individuals.

The questions on the self completion questionnaire were the same as those used when conducting the interviews. To encourage the firms to complete the questionnaire and return them, a self-addressed stamped envelope was enclosed. Each questionnaire was checked thoroughly before being analysed. This was done to ensure completeness and total coverage of key questions. If queries were identified with a need to clarify information, the researcher called the firm to gather more information, or to obtain an explanation where necessary.

Ten firms agreed to offer telephone interviews. These interviews were quicker to administer and far cheaper, since travel was not necessary. The remoteness of the researcher removed a potential source of bias as the researcher's characteristics cannot be seen. Face-to face interviews were conducted with twenty-one firms. All the interviews were semi-structured using the series of questions in the interview schedule (Appendix 4).

8.9 Tape recording

The interviews were tape-recorded so as to avoid being disrupted due to having to write detailed notes based on the responses. The concentration and participation level required was high since both parties were focused on the interview, in order to ensure

the interviews provided accurate and complete data when analysed. A micro-cassette recorder was used during the interviews, which allowed the researcher to conduct her personal evaluation and also comparison between interviews privately. Beney and Hughes (1970) argue that the use of a tape recorder highlights any bias or distortion of information that might have been brought about by the researcher, it also allowed the researcher to keep a more accurate account of the interviews (Yin, 1990). Moreover, the attention of the researcher was focused on the interviewee without being preoccupied with taking notes (Schwartz and Jacobs, 1979).

This tool being used to assist in conducting interviews is not without limitations. Schwartz and Jacobs (1979) mention some of the disadvantages that the researcher noted as well. The researcher observed that once the tape recorder was switched off at the end of the formal interview, some interviewees would often share more information. This suggested that the interviewee was intimidated by the recording and thus biased or incomplete information was perhaps obtained.

Since the interviews were recorded, the researcher used semi-structured interview questions to avoid getting a lot of information that was not needed. Much attention was paid during the interview to ensure the level of concentration was high in order not to rely on listening to the interview recording on a later date as Schwartz and Jacobs (1979) warns.

Nonetheless, such recordings may not provide a full picture, for it is possible that some words may have specific meanings in the context of the notion being studied. According the Schwartz and Jacobs (1979), what is said in an interview is full of

meaning beyond the sound of the words, because of this, they recommend that the researcher clarifies the meanings after interview by recording what appeared as being relevant and why. However, they point out that people's memories and their constructions of what was said during an interaction can alter radically with time.

8.10 Data analysis

This piece of research was primarily qualitative in nature, some numerical data was collected and used in the analysis. These different data forms complement each other and provide mutual verification of ideas.

The data from the interviews and questionnaire survey of the new media firms was analysed by summarising the responses made. The information obtained from the interviews was transcribed and related to the theoretical issues that were being tested. These were based on the research questions.

The data from the interviews with BSAs was fragmented into units as small as possible in order to find out common codes regarding the emergence of the cluster concept and their perception on how they had impacted on the new media industry.

The key findings from the results of the study were essential input in understanding the usage of the cluster approach strategy in local economic development. It also provided empirical evidence to owners/managers of the digital media firms of the benefits derived from participating in the cluster initiative and ideas on how best they can overcome constraints or barriers in firms clustering. From the results of the study,

recommendations were made to policy makers how to develop and promote industry clusters for economic development when focusing on digital media firms.

8.11 Conclusions

The methodology adopted by the researcher incorporated elements from other prominent cluster research methodologies outlined in Table 8.2, 8.3 and 8.4. This allowed the combination of qualitative and quantitative methods, which enabled the researcher to answer the research questions and meet the objectives of this research. Incorporating methods used in previous cluster studies makes this research comparable with other studies whilst at the same time meeting the prime objectives of the study.

Chapter 9

The views of Business Support Agencies in Birmingham

9.1 Introduction

This chapter summarises the key findings of the interviews with nineteen BSA directors and/or senior officers previously identified in Chapter 5.

It starts off by analysing the current cluster policy framework in Birmingham and the importance of the new media industry. When presenting the analysis of the survey, a particular focus placed was on the emergence of the cluster concept as well as the establishment of the BSAs who provide the range of current cluster programmes supporting the new media industry. In assessing the effectiveness of the cluster programmes, the perceptions of the BSAs of the impacts they have on the new media firms is also analysed and their views on the key issues for the new media firms are summarised. The final section presents a summary of key findings.

9.2 Analysing the current cluster policy framework

There is a wide range of institutions intervening to support the new media industry in Birmingham. Their programmes include business advice, support for training, premises provision and support for specialist institutions. Though there is no specific policy on new media, there are indications that the BCCEDD will provide some support to the industry. The BCCEDD started a range of capital projects – including

several covering the physical environment - in order to create the right conditions for clusters to flourish.

These initiatives included the establishment of the Eastside Millennium Point, expansion of the Aston Science Park; supporting Birmingham Research Park; the Design Space 2000; development in the South Birmingham College as well as expansion of several incubator sites, for example, the Custard Factory and The Big Peg (BCCED, 2001b). All these are intended to become the major flagships for Birmingham, bringing together education, technology and leisure, to bring economic growth through the cluster approach.

The BCCEDD (2000c) stated that the BCCED was aiming to diversify the City's economic base to high growth, high value added sectors to take advantage of the opportunities in the environmental, technology and communications sectors of the world economy. This was an attempt to improve business competitiveness and diversity, as well as inter-dependence between firms and other institutions. AWM, BCCEDD and a range of other bodies - including regeneration partnerships, business support organisations and higher education institutions - have formulated the industry cluster public policies currently impacting the new media industry in Birmingham. For example, the BCCEDD Birmingham Economic Development Partnership (BEDP) encourages innovation and diversification of the economy by taking steps aimed at strengthening the collaboration between industry and the Universities of Birmingham, Aston and Central England.

9.3 Importance of the new media industry

There is wide spread recognition that the creative industries are a significant engine for economic growth and regeneration in England (West Midlands Screen Media, 2003). The Department for Culture, Media and Sport (1998) suggested that the creative industry in England generates revenues of Pounds 60bn per year to the national economy and employs more than 1.4m people. In Birmingham, Era (2002) concluded that creative industries in Birmingham were seen as a potentially key growth sector for the success of the City's economy. They claimed that the firms and self-employed individuals in Birmingham needed specific and just in time support and learning. As a result, a number of strategic partnership programmes [which for the purpose of this research are called Business Support Agencies (BSAs)] had been established (see Chapter 5). Programmes that were already in existence were restructured and their goals and priorities redefined to support, encourage and deliver services that would meet the needs of this industry cluster.

The creative industries are characterised by a diverse range of sectors, of which the new media industry is a part. Backlund and Sandberg (2002) classified the new media industries as the most rapidly growing economic segment within the creative industries. Era Ltd (2002) identified the new media industry as one of the leading edge clusters in Birmingham. Certainly, the BCCEDD was determined to take full advantage of this emerging fast growing sector as a potential vehicle to drive the economic and employment growth in the future (Birmingham Economic Review, 2001).

9.4 The significance of the interviews with Business Support Agencies

With the new media industries having been identified as the key growth sectors for the success of the City's economy, interviews were conducted with nineteen directors and/or senior officers from the BSAs which were offering industry cluster programmes/initiatives in Birmingham. Appendix 6 shows the directors and/or senior officers of BSAs that were interviewed. The purpose of these interviews was to establish perceptions on how the cluster programmes emerged and their impact on the sector over the period they had been implemented.

Since the new media industry is relatively new (Backlund and Sandberg, 2002; Quah, 2001; Pratt, 2000) and the cluster strategy is a tool that has recently been adopted relatively recently for local economic development (DTI, 1998, AWM, 1999) the findings from the interviews were intended to provide an insight into current practice. In particular, the current state of knowledge and understanding of the role of the BSAs in the new media industry cluster promotion; their influence in determining cluster development; the limits that exist in promoting this particular industry cluster and implications for future policy.

9.5 Survey analysis

This section presents the findings which emerged from the interviews with the nineteen directors and/or senior officers of BSAs which were involved in cluster programmes/initiatives in Birmingham. The findings are presented in the following manner:

1. The emergence of cluster policies

   - Emergence of the cluster concept

   - Formation of the BSAs

   - Influential bodies in the emergence of the cluster programmes

2. The objectives of the cluster programmes

3. Implementation of the cluster programmes

   - Changes within the BCCEDD

   - Changes in other BSAs

   - Views of the BSAs on the changes made

4. Issues on funding the cluster programmes

5. Identifying and defining the new media industry cluster

6. Modification of BSAs operations and/or cluster programmes

7. Assessment of the cluster programmes

   - BSAs' perception of firms' experiences

   - Performance measures and evaluation

8. Barriers encountered when implementing the cluster programmes

9. Future prospects

9.6 The emergence of the cluster policies

One of the objectives of the study was to ascertain how the cluster concept came about in Birmingham in order for the BSAs to pursue it.

9.6.1 Emergence of the cluster concept

The BSAs were asked how the cluster concept came about in their organisations. Table 9.1 show the comments of the BSAs.

Table 9:1: Emergence of the cluster concept

Number of BSAs who made the comment	Comment
1	*"Government like Porter's idea, it was adopted and it became a strategy and we built the Agenda for Action"*
1	*"Possible through the RDA"*
3	*"AWM suggested that we become one unit so that we can bid for AWM funds"*
3	*"Inherited from AWM"*
2	*"When government was promoting working together"*
3	*"When bidding for funding"*
2	*"Hearing concern from government"*
1	*"I have not herd of it until AWM"*
3	*"I believe it was brought in by AWM"*
2	*"DTI's 1999 White Paper"*

Source: Author's Survey 2003

The comments of the BSAs shown in Table 9.1 seem to suggest that the cluster idea came to the forefront after the establishment of AWM in 1999. They pointed out that before AWM they had not heard of the concept. This would suggest that the cluster initiative programme were not offered before.

9.6.2 Formation of the BSAs

The study revealed (see Table 9.2) that 10 of the BSAs interviewed were formed after 1999 offering cluster programmes. This suggests that the agencies were not in

existence before the emergence of the cluster concept. Nine of the BSAs interviewed were already established by 1999.

Table 9.2: Formation of the BSAs

When BSA was formed	Number to firms
BSAs formed after 1999 – these are agencies which were formed in part to offer cluster programmes.	10
BSAs formed before 1999 – these agencies had to be reorganised to offer cluster programmes because they were already established.	9
Total	**19**

Source: Author's Survey 2003

The 9 BSAs which revealed that they were already in existence by 1999, mentioned that after the cluster concept had emerged they carried out major reorganizations in order to offer cluster-based programmes. These agencies were questioned further about the reorganisation that took place. Table 9.3 shows the type of restructuring which occurred at these agencies.

Table 9.3: Restructuring of agencies

Type of restructuring	Number of BSAs
Change of name	5
Change of location, to be in proximity with other agencies or moving into prestigious locations	6
Change of staff, bringing in more skilled employees	2
Change of functions focusing on new media firms	4

Source: Author's Survey 2003

Five directors and/or senior officers interviewed disclosed that their agency experienced a change of name after 1999. Six directors and/or senior officers interviewed revealed a change of location. There was also change of staff in two agencies to bring in more skilled employees who had knowledge on the new media firms. Four directors and/or senior officers interviewed revealed that their function changed and they began to focus on the new media firms. A detailed analysis on the changes and implementation of the cluster programmes by BSAs is given in section 9.8.

9.6.3 Influential policies in the emergence of cluster programmes

The BSAs were offering several cluster development programmes. Table 9.4 indicates the policies that the BSAs said were influential in the formation of the cluster development programmes.

Table 9:4: Influential policies

Policies	No. of BSA
1998 White Paper "Our Competitive Future: Building the Knowledge Driven Economy"	9
1999 Creating Advantage: The West Midlands Economic Strategy	16
2001 Advantage West Midlands: Agenda for Action	19
2001 Action Plan Birmingham Economic Programme	10
2001 White Paper "Enterprise skill and innovation: Opportunity for all in a world of change"	5
Other	4

Source: Author's Survey 2003

The findings suggest that the 1999 AWMERS was the most influential policy in the development of the cluster programmes.

9.7 The objectives of the cluster programmes

The BSAs were asked how they were different from the other BSAs. These were their comments:

- *"We are offering help to those who want to start up IT companies."*
- *"We concentrate on funding youth's films."*
- *"We provide e-learning training"*
- *"We work on script development and reading"*
- *"We concentrate on e-learning and e-commerce"*
- *"We supply information on project"*
- *"Identify needs of firms"*
- *"Market education on e-business issues"*
- *"We are a knowledge training centre"*
- *"We provide a platform for firms to meet and network"*

The responses of the BSAs seem to suggest that their source of uniqueness was generally in their objectives, because they defined their uniqueness on the services they are offering.

Table 9.5 indicates a summary of their responses when asked how their objectives were established.

Table 9:5: Establishment of objectives

Establishment of their objective	Number of BSA
"It's the manager's recommendations"	8
"Previous experience of the manager"	9
"Opinions of the members of the COG during discussions"	6
"Depends on the profession of the members of the COG"	8
"When analysing our budget"	5
"Drawing up our business plan"	8
"Preparing for bids"	8
"After assessing the needs of the firms"	6

Source: Author's Survey 2003

The responses in Table 9.5 indicate that for most BSAs their objectives are set based on previous experiences. It seems like the main responsibility for setting of the objectives of the BSAs seems to lies with the senior manager. As a result the objectives set are likely to be subject to personal character and previous experience of the manager. The findings also suggest that objectives are set to meet the bidding criteria for funding. One BSA remarked:

> *"We are not clear as to how we are to set the objectives that would meet the needs of the new media industry cluster; so long as our funding is subject to the key priorities set by the COG."*

An interesting observation was made in one COG, where there were differences in opinion between the members on what should be its priorities. The involvement of members from different backgrounds indicated differences in priorities and possibility of conflict of interest. For instance, a manager from the Learning and Skills Council would consider providing training the key priority objective that must be funded in the cluster. On the other hand, the West Midlands Information Technology Association may feel the priority must be loans to firms. Depending on the priorities stated by the COG, the funding could be used either for training or loans.

9.8 Implementation of the cluster programmes

The BCCEDD is one of the main bodies that are promoting the cluster programmes. This is evident in their local economic policies that are aimed at improving local business performance through producing a new cluster base framework for economic sector development (BCCEDD, 2001b). The Economic Development Department was now making reference to clusters and was pursuing them as an important strand of their economic policy.

9.8.1 Changes made within the BCCEDD to implement the cluster programmes

The BCCEDD had to make a lot of changes when adopting the cluster approach for their local economic development strategy. Table 9.6 indicates the changes that were observed.

Table 9:6: Changes at BCCEDD

Changes	Examples
Change of job titles	Established a position for a manager for creative industries.
Moving offices	The Business support section moving from the Alpha Tower to the Birmingham Chamber of Commerce building.
Renaming section within the department	The naming of one of their section "Interactions".
Creation of a "one stop shop" for business support	Having several sections at Birmingham Chamber of Commerce building.
Revising strategies, priorities and consolidating support	Business Link was now responsible for business support instead of the Economic Department.

Source: Author's Survey 2003

9.8.2 Changes made by other Business Support Agencies

The nine BSAs' directors and/or senior officers interviewed whose organisations were already in existence before the AWM (1999) was published were asked how they incorporated the changes that they had to go through in order to offer cluster development programmes. The BSAs named the following changes they made to incorporate the cluster programmes:

- *"We are now focusing on the e-business sector."*

- *"We have changed the way we classify groups of firms. We now refer to them as clusters instead of sectors."*

- *"Our objectives are now geared towards addressing a cluster's needs in a collective manner rather than individual firms' needs."*

- *"AWM is now involved in our strategic planning and we are accountable to them."*

- *"We have moved to occupy an "up market building" referring to the Millennium Point which was different from the traditional offices."*

Table 9.7 gives more details of the changes made by some of the BSAs to incorporate the cluster programmes.

Table 9.7: Changes made by the BSAs

Name of BSA	Before 1999	After 1999
Interactions	Part of the economic development department of the BCC. They had an on going relationship with UCE Business School. It has undergone a change of name it was initially called "The Exchange" before being called "Interactions".	Now called the Interactions. The main concentration is to promote networks between IT firms, promote the use of IT in every firms. It has moved offices from the BCCI to Aston Science Park now at Millennium Point. The move was so that the agency may be in proximity with the new media firms.
The Learning and Skills Council	It was known as the Training and Education Council, which was focused on providing work with colleges and employers.	Changed in 2000 to promote IT skills and ensuring that HE Institutions are equipped to provide the training needed.
WMITA	WMD focused on ITC and media firms. Its name changed to WMITA	Focus on IT companies and providing an opportunity for IT businesses to grow, improve and influence. It was formed from various IT groups who were formed privately so that they can bid for AWM funds as an association.
University of the New Age	Was a department at UCE.	Moved to the Millennium Point
Business Public Unit	Was located within the main building of the University of Aston.	Moved premises to Aston Science Park.
Business Support Growth – Creative Industry	Business Support Growth was providing support for business in general.	They now concentrated on creative industries. They moved offices from the Alpha Tower where the BCCED is housed to the Birmingham Chamber of Commerce offices. They are now operating under the heading of Business Link whose focus is on regional agenda.

Source: Author's Survey 2003

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9.8.3 Views of the BSAs on the changes made

The BSAs interviewed seem to have mixed feeling about the changes. These were some of the comments they made:

- *"We used to do what we already knew, but since AWM was established we had to change our focus."*
- *"All we seem to do now is what is commanded by AWM."*
- *"It does not matter what the firms' needs are as long as we operate under the guidelines of AWM that will guarantee funding for us".*
- *"We feel that there had been a lot of duplication of objectives in formulating the "new" programmes."*
- *"We still do the same thing. The only thing that changed is our name so that we too can be seen to be adopting the cluster policy".*
- *"Not much, just mere change of name and office."*
- *"The government liked Porter's idea and now it has become a strategy and now we are expected to adhere."*

Despite these misgivings, every BSA welcomed the funding available from AWM. The next section looks at the issues on funding the BSAs.

9.9 The issues on funding the cluster programmes

The BSAs were asked to voice their experience with the funding of the cluster programmes from AWM. These were their remarks:

- *"Funding for the cluster programmes is the main reason for the agency to adopt a cluster strategy."*

- *"We made adjustments in our strategies in order to meet the new funding criteria, which were geared towards clusters."*

- *"The way AWM is funding the programmes it is clear that they intend to alter funding priorities to some level."*

- *"Since we have been receiving funds from AWM we are given precise budget and monitored project actions."*

- *"The services we are offering are now limited because we can not guarantee funding from AWM."*

- *"The process of submitting a request for funding and it being approved takes approximately 6-9 months."*

- *"The funding decision process is cumbersome and lengthy."*

- *"We are concerned about because one of AWM criteria when providing funding is to give priority to cluster programmes geared towards the entire West Midlands' region. This implies that the funds provided by AWM are spread thinly across the region."*

The findings of the research seem to suggest that the BSAs are not entirely satisfied with the manner in which AWM funds the cluster programmes.

9.10 Identifying and defining the new media industry cluster

The researcher had observed that AWM had not given a working definition of new media industry cluster. The BSAs were asked how they defined the new media industry. Table 9.8 shows some of the definitions given.

Table 9.8: BSAs definitions of new media industry

Name of BSA	Definition
The West Midlands Technology Fund	Broadcast based firms Web designers New forms of information technology firms
The Business Support Section of the BCCED	Firms dealing with hardware and software Computer networks Computer games Re-creative software Digital management
AWM	Web products TV production Internet
West Midlands Digital	Web design companies Graphics design Publishers Digital arts for example photography
Screen West Midlands	Their boundary was set by their objective

Source: Author's Survey 2003

The findings of this present study suggest that the BSAs identified and defined the businesses that were to be part of the new industry cluster by themselves since there was no guidance from the 1999 AWMES which the BSAs were using for reference in terms of cluster programmes.

The findings also revealed that, when drawing the boundary to define which firms fell into the cluster, the background of the managers of the BSAs had an influence. Three BSAs revealed that whenever there had been a change of the BSAs' manager or

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AWM, the list of businesses they considered as part of the new media industry cluster had been altered.

9.11 Modification of BSAs' operations and cluster programmes

At the time of conducting the present research, most of the BSA, had adopted the cluster approach for a period ranging from six months to two years. The researcher observed that none of the BSAs had fully developed operational tools for implementing the cluster programmes. They were still at a trial and error stage, establishing what suits themselves and the industry; moreover they were still experiencing teething problems.

Table 9.9 indicates the main reasons given for adjustments in the BSAs' operations and policies. Three of the BSAs interviewed said that the cluster policy priorities were being reviewed to be more sensitively able to meet the needs of the industry. Five of the BSAs had observed that the adjustments in the operation of the agency were intended to put them in a better competitive position operating effectively and efficiently. Eleven BSAs said they had to change their policy because their bid would not be recommended for funding by the COG which acted as the selection committee.

Table 9:9: Reasons for adjustments in operations and policies

Reason for adjustment	Number of BSAs
To make the programmes more sensitive to the needs of firms	3
To make operation of the programme suit the BSA in order to operate effectively and efficiently	5
To meet any requirements which need to be met in order to be recommended for funding	11

Source: Author's Survey, 2003

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Consequently, the changes that happened in their operations were made when they realised the limitation on funds. This was reflected in the number of BSAs who had made adjustments to their operations and policies in order to qualify for the funds available from AWM. In response to the operational changes one BSA manager said:

> "The cluster policy is a way of rationalising resources and targeting certain sectors".

9.12 Assessment of cluster programmes

The BSAs were asked how they perceive the impact they have had on the firms and the measures used to assess their impacts. The aim was to assess the impact on the firms in the short life span of implementing the cluster programmes as well as identifying the main benefits of the cluster programmes for the firms.

9.12.1 BSAs' perception of firms' experiences

Every BSA that has been set up aims at seeing businesses lead the way and succeed in the global market place as they group together; this they attempt to do by ensuring that businesses have the support services they require. The BSAs were asked what they perceived to have been the firm's experience about the cluster policy programmes they had provided. In their responses they stated that:

(a) "The cluster programmes provided a central focus and place where activities aimed at supporting all the firms come together."

(b) "Firms from different backgrounds, skills, specialities and experiences started to recognise how they become an added advantage to one another, and as a

result, it created an atmosphere that allowed a strong cluster to be developed."

(c) *"We provided greater opportunities for the firms to network, thus giving every firm a business opportunity and information vital to their development and growth."*

(d) *"Some firms were able to bid together or have one firm take a lead in major projects and the others support. This provided more chances of networking with like-minded potential clients. As firms bid together they open themselves to a broader range of market opportunities and financial assistance."*

(e) *"Some firms have been able to come up with new ideas and develop new talents that enabled them to find new markets. Thus revealing that there are opportunities of new markets and having a broad market base for the industry."*

(f) *"The cluster programmes also provided a clear understanding of the market place and market needs."*

The above observations of the BSAs suggest that the firms were generally believed to have benefited from the intervention, because the firms were able to come together to share information as well as engage in the same business projects, thus opening themselves to a wider market opportunities. At the same time, the BSAs acknowledged that some firms' expectations may have not been met because they might have misunderstood the functions of the BSA. In general, firms have different motives and objectives such that trying to find commonalities between them is a key challenge.

9.12.2 Performance measures and evaluation

Table 9.10 indicates the list of measures that the BSAs have used to assess their performance and impact on the firms.

Table 9:10: Key measures of performance

Name of BSA	Key measures used
Interactions	• Number of projects they funded • Performance of the project • Number of firms they assisted • Number of jobs secured • Number of businesses attracted into the City
Business Support Growth – Creative Industries	• Number of firms assisted • Number of services taken up • Number of businesses attracted into the City
E-Business Link	• Number of seminars hosted • Number of firms that attend their seminars • Number of jobs created
West Midlands Information Technology Association	• Amount of funding received • Number of firms assisted • Number of joint projects
Business Partnership Unit	• Research funding obtained • Number of spin-out companies • Number of joint projects • Number of firms assisted • Number of academics assisted
Education and Training Channel	• Number of registered students • Number of video based support materials produced
Screen West Midlands	• Amount of funding received • Number of short films they sponsored • Number of script writers they had funded • Training provided for script writers

Source: Author's Survey, 2003

Based on the findings shown in Table 9.10 it would appear that there is no common measure of performance across the BSAs because each project they are involved with may have a different measure that can be used. For example, some BSAs may use the number of films made, some training output, business plans, number of members, number of applications received, number of meetings or workshops held and the

number of new companies established or advised. These are all measures of intermediate output rather than impacts.

9.13 Barriers encountered when implementing cluster programmes

The BSAs were asked what barriers they faced when implementing the cluster programmes. Table 9.11 shows the barriers and their comments.

Table 9:11: Barriers encountered

Barriers	Comments
Financial constraints	• *"There is no liberty because we can not guarantee funding."* • *"We would have been able to do much more if we were assured of funding at an early stage."* • *"Funding has become more limited."* • *"Funding bodies were now focusing on RDAs."*
Constant changes	• *"The policies are constantly changing."* • *"Priorities and objectives of strategies are being introduced."* • *"We seem not to be able to catch up with the changes."* • *"There seem to be an introduction of new regeneration strategies."* • *"It is like at all times catching up on what strategies have been introduced by AWM and amending our bid".*
The number of representatives involved in the BSAs	• *"Conflict of interest between the members."* • *"There is a lot of compromise."* • *"Some members could be slow."* • *"This slows down decision making and the speed of providing services."* • *"It takes longer to get things organised because the group has to grant approval."*
No research reference	• *"No one to refer to concerning the clusters."* • *"Not too sure of what we are doing because we do not know clusters."* • *"No clear boundary of clusters."*

Source: Author's Survey, 2003

9.14 Future prospects

The BSAs were asked how they saw their future prospects in the light of what had been discussed in the interview. They indicated that the following things were on their agenda to do (see Table 9:12):

Table 9:12: Future prospects

Comments	Key point
"We are working towards being self-sufficient and self-sustaining." *"We are still looking for opportunities for self-sufficiency."* *"We are searching for ways of generating revenues to sustain ourselves."*	Being self sufficient
"We will start charging for services provided." *"Charging for the services provided would help in the generating income."* *"Minimising financial constraints is possible if we were to charge for services."* *"Charging for services is the way forward, but firms are not willing to pay fees."* *"Firms are ready to spend on support which they could not be directly traced to their revenue."* *"Where seminars are offered at a fee the attendance tends to be low."*	Charging for the services they provide
"We hope to build an environment where there would be linkages among its members." *"We want to create an awareness of other industry players on the opportunities available in clustering."* *"We will want to have all the information that may be required by the firms on the cluster."* *"Assist in making the implementation of cluster programmes easier."*	Creating an environment that would be conducive to cluster development

Source: Author's Survey, 2003

9.15 Summary of key findings of the survey on BSAs

9.15.1 The emergence of cluster policies

- The findings suggested that the AWMERS (1999) report led to the formation of the cluster development programmes. The cluster concept emerged after the establishment of the AWM in 1999, which was set up in response to the Government's 1998 Competitive White Paper "Building the knowledge Driven Economy". Before then, there was no mention of clusters in the economic development policy strategy that had been adopted by the City since the 1970s. This would suggest that Birmingham's cluster are policy stimulated because the cluster concept emerged after the cluster economic policies were established.

- The primary reason for the formation of the cluster programmes was to meet government's expectations.

- The aims of the AWMERS (1999) that prompted the cluster development programmes, were to develop a high technology business cluster in the region; invest in ICT to promote business networking and the growth of e-business, and to improve business links and support sectors that were seen as providing the greatest opportunity to create jobs across the region.

- The BCCEDD's Economic Development Programme (2000/2001) was the first economic strategy that made mention of clusters. The strategy stated that they aimed to improve local business performance through producing supporting clusters for economic sector development. The Economic

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Department was now making reference to clusters and was pursuing it as one of their economic policies.

- The emergence of the cluster concept was responsible for the birth of most of the BSAs that are currently offering cluster programmes.

- There was no mention of any study that might have been used as a reference point for developing the new media industry cluster.

9.15.2 Implementation of the cluster programmes

- Many BSAs that were in existence before the formation of AWM underwent changes including: change of name, change in office location and change in businesses they focus on. This was interpreted by many of the BSAs as a mere repackaging of existing policy to call them cluster programmes.

- The findings suggest a duplication of functions between the BSAs. The reason for this was said to have due to a lack of consultation between BCCEDD, BSAs and AWM before AWM's Economic Development Strategy (1999) on clusters was developed. Consequently, previous pitfalls encountered in establishing business support programmes were repeated instead of avoided.

9.15.3 Issues on funding the cluster programmes

- Funding was another major factor in influencing BSAs to adopt a cluster strategy. Despite the fact that the primary objective of all the BSAs was to secure business growth, which it was envisaged would lead to economic

growth for the local economy; the study revealed that the move to consider firms in terms of clusters and to target policy through cluster programmes has been influenced mainly by the funding the BSAs were to receive. The BSAs admitted that they had to make adjustments in their strategies in order to meet the new funding criteria, which seemed to be geared towards clusters.

- Funding of the cluster programmes is the major concern for the BSAs. Obtaining funding for the cluster programmes proved to be cumbersome and lengthy. This led to some BSAs limiting their services and made planning for their activities difficult because they could not guarantee funding for all their projects and it was hard to determine resource levels where project funding had not been awarded.

9.15.4 The objectives of the cluster programmes

- The findings suggest that the backgrounds of members of the Cluster Opportunity Group (COG) have determined priorities for a cluster and, in turn, projects that could be recommended for funding.

- Personal characteristics of the manager had an influence on setting the objectives of the BSAs. They would set objectives for the agency in such a way that they would be in line with the priorities of the cluster that have been set by COG - putting the agency in a position to be recommended for funding. The BSA manager must be influential to have inside information about the setting of priorities of the cluster by the COG and to also influence the policy

environment. Thus, an influential manager could influence the setting of the priorities of the COG to suit the objectives of their agency or vice versa.

- The findings indicate the possibility of a conflict of interest and/or some interest being not adequately represented within a COG. Since there are many different actors involved in developing the cluster priorities, not all have the same interest, each with separate purposes, intentions and desired outcomes.

- It was observed that the HE Institutions were not adequately represented in the membership of COG. This has implications for the contribution of the HE Institutions in setting and developing the priorities of the cluster.

9.15.5 Identifying and defining the new media industry cluster

- The BSAs defined the new media industry by the services they offer, which combines the ICT and the media cluster that the AWERS (1999) had separated.

- The objectives of the BSA act as the definition boundary of the cluster because, when setting their objectives, they identified the firms that fell under the new media industry categories.

9.15.6 Assessment of the cluster programmes

- The observations of the BSAs are that the firms had generally benefited from the intervention. They claimed that the firms were able to come together to

share information as well as engage in the same business projects opening themselves to a wider market opportunities. At the same time, the BSAs acknowledged that some firms' expectations may have not been met because they might have misunderstood the functions of the BSAs. In general, firms have different motives and objectives such that trying to find commonalities between them is a key challenge.

- There is no common measure of performance across the BSAs because each programme they are involved with may have a different measure that can be used. BSAs have therefore tended to adopt a measure that will assess their performance based on their set of objectives at minimum cost.

9.15.7 Barriers encountered when implementing the cluster programmes

- The major barriers faced by the BSAs when implementing the cluster programmes have been financial constraints; constant changes, reviews and the introduction of new regeneration strategies. The different actors involved in developing cluster priorities were making it difficult to agree on common ground. There was also a lack of cluster based research on Birmingham to use for reference before establishing any of the cluster programmes.

9.15.8 Future prospects

- The BSAs are putting in place plans to charging for the services they provide so that they can be self-sufficient and be able to sustain the programmes they provide. They were also creating an environment that would be conducive to

cluster development, making the implementation of cluster programmes easier.

9.16 Conclusions

The findings from the interviews with BSAs provided evidence on the importance of regional and local government intervention in promoting the development of clusters as described in the literature. It is apparent that, while some of the characteristics of the case study conform to propositions made in literature, others diverge. In many respects, the findings demonstrate the diversity and complexity of the task of promoting the development of new media clusters because of their evolving and continual state of development.

The AWM's business clusters' economic strategy formed the basis for the objectives of the BSAs. AWM's Economic Strategy (2003) aimed to set an appropriate framework to guide the actions of the BSAs to be able to contribute to the economic development and regeneration of Birmingham and the entire West Midlands region. At the time of writing, it was still at its early stage and, as such, it is difficult to make statements about its success as it continues to evolve and change and it will take years before everything is established. As one of the BSAs observed, *"cluster development is a complex process"*.

The findings do, however, demonstrate the need for intervention in ensuring that firms within clusters are motivated and encouraged to develop. The different programmes offered by the BSAs create an environment to make contacts and collaborate. It

environment also assists the firms in coming together to form virtual companies that sometimes only exist for the lifetime of the project. Further, the environment created promotes development of skills for the firms' competitiveness. The benefits that it is believed can be achieved by the firms if they were to participate, value and take advantage of the programmes offered have been highlighted by this research. Though the BSAs offer these programmes it is still the firms' responsibility to take full advantage of them. The next chapter presents the findings on the views of the firms.

Chapter 10

A profile of the behaviour of new media firms in Birmingham

10.1 Introduction

This chapter presents the results of the interviews with firms in the light of the preceding discussions on industry cluster theory (Chapter 3), the characteristics of new media firms (Chapter 6) and using the industry cluster theory as a regional development policy in promoting new media firms (Chapters 4 and 5). This should reveal the clustering features present in the new media industry in Birmingham. It sets the scene by examining the current employment structure within the new media firms in Birmingham as well as the economic forecasts on employment within them to 2010.

The chapter draws on a detailed survey of a sample of 36 new media firms based in Birmingham, completed so as to explore the claim that the industry cluster theory could be the key aspect of local and regional economic development and policy in terms of its potential contribution to sustain economic growth, employment and wealth creation in mature regional economies (see Chapter 3). The survey aimed to test the validity of the theoretical claims of the industry cluster theory in relation to the new media industry that has unique characteristics discussed in Chapter 6 and 7 in a city that has industrial baggage.

The aim is to highlight the characteristics and features of the new media industry in Birmingham and thus unveil the extent and significance of localised inter-company trading, to bring understanding on the dynamics of the relationships between and within the new media industry, as well as with other organisations and public institutions. In addition the chapter seeks to provide basic understanding of the new media industry and to discuss some of the opportunities and challenges this industry presents for economic development. The chapter concludes by highlighting the key findings from the survey.

10.2 The new media industry in Birmingham

Birmingham has recently seen expansion and redevelopment that has created an infrastructure for sustainable diversification into activities that brought external sources of income into the local economy (BEIC, 2004). The new media industry is one of the economic activities that the City has identified as having the potential to bring economic growth and sustainable diversification away from the traditional manufacturing activities that were in decline. The City, for so long, was faced with the problem of the majority of its assets being tied in manufacturing with low investment levels and an inability to diversify quickly enough into fast-growth economic activities (Spencer et al., 1986). Consequently, the City found itself locked into manufacturing economic activities with mature or declining markets.

There seems to exist a pattern in relation to how the new media industry locates in Great Britain, that has been identified by the studies of Begg and Cameron (1987);

Fingleton (1992), (1994); and Begg and Hodson (2001). They claimed that these firms are likely to choose:

- Small towns in the South East and East Anglia with good transport facilities and proximity to London, even more so closer to Heathrow airport.

- A region that has a positive image, where other high-tech firms have located avoiding old industrial areas.

- A region with highly qualified employees.

However, the more recent work by Begg and Hodson (2001) and Fingleton *et al.* (2002) showed that new media firms are more likely to be found in larger cities, which are likely to have a high proportion of highly qualified employees. These findings place Birmingham as one of the cities that has the potential to have a vibrant new media industry cluster - especially because it is a large metropolitan city.

Many reports have stated that the new media industry is at its embryonic and growth stage in Birmingham and the economic forecasts show much of the economic growth of the City will be a result of this industry (AWM, 1999; BEIC, 2002; BCCEDD, 2002b and SQW, 2003). The Economic Indicators for Birmingham (BCCEDD, 2004) show the changes in employment levels in Birmingham within manufacturing companies and service sector companies (see Tables 10.1 and 10.2). These Tables indicate growth within the service sector companies whilst there is a notable decline within the manufacturing companies, hence, the service sector is seen as the main driver of employment growth (Birmingham City Council, 2002). Table 10.2 indicates a growth of 13% in the service sector from 1997 to 2002 in the number of employers with under 11 workers and this sector includes the new media industry.

Table 10.1: Manufacturing companies and employment in Birmingham

	1997	1998	1999	2000	2001	2002
Number of Employers	4,490	4,555	4,055	3,991	3,823	3,716
Total Employment in Manufacturing	106,115	106,994	100,013	84,065	82,024	81,274
Employers with over 500 workers	21	21	19	14	13	12
Employers with under 11 workers	3,202	3,219	2,794	2,898	2,751	2,629

Source: Annual Business Inquiry in BEIC (May, 2004)

Table 10.2: Service Sector Companies and Employment in Birmingham

	1997	1998	1999	2000	2001	2002
Number of Employers	20,243	22,178	22,307	22,778	22,641	22,874
Total Employment in Marketable service	227,394	242,366	241.593	250,976	253,146	285,774
Employers with over 500 workers	32	34	40	41	39	44
Employers with under 11 workers	17,000	18,609	18,868	19,266	19,002	19,226

Source: Annual Business Inquiry in BEIC (May, 2004)

In December 2004 the BEIC was asked for the employment levels in Birmingham of the sectors that form the new media industry cluster, these sectors were identified using the SIC codes as explained in Chapter 6 Section 6.4. The BEIC provided two sets of statistical information on employee analysis in the new media cluster industry in Birmingham; the first set is from the Annual Business Inquiry data from 1998-2003 and the second set is from the Annual Employment Survey from 1991-1997 that are shown in Table 10.3.

Table 10.3: Statistical Information of Employee Analysis in Birmingham by industry sector

SIC CODE	Industry Sector	Annual Business Inquiry Data 1998-2003						Annual Employment Survey 1993-1997				
		2003	2002	2001	2000	1999	1998	1997	1996	1995	1993	1991
2214	Publishing of sound recordings	12	12	51	19	18	14	14	13	11	10	35
2225	Ancillary operations related to printing	247	503	699	609	635	322	240	204	160	136	68
2231	Reproduction of sound recording	13	23	15	15	22	14	9	3	3	1	0
2232	Reproduction of video recording	0	0	0	0	1	5	4	3	2	3	0
2233	Reproduction of computer media	47	44	52	25	51	2	3	21	1	0	0
3210	Manufacture of electronic valve & tubes & other electronic components	110	200	167	226	343	204	230	185	366	270	929
3220	Manufacture of television & radio transmitters & apparatus for line telephony & line telegraphy	161	192	158	174	195	153	173	130	114	659	21
3230	Manufacture of television & radio receivers, sound or video recording or reproducing apparatus & associated goods	170	162	225	244	273	27	69	68	139	81	361
7210	Hardware consultancy	200	251	208	217	172	148	148	57	25	9	47
7220	Software consultancy & supply	+	+	+	+	+	+	3711	3447	3363	2589	4424
7221	Publishing of software	232	*	*	*	*	*					
7222	Other software consultancy & supply	4928	*	*	*	*	*					
7230	Data processing	275	369	599	1596	1066	745	325	429	130	854	106
7240	Data base activities	83	85	50	35	15	8	33	19	35	23	0
7250	Maintenance & repair of office, accounting & computing machinery	161	260	275	428	428	1060	629	290	521	119	777
7260	Other computer related activities	979	1070	1050	1986	1656	1591	1073	687	862	38	352
9211	Motion picture & video production	116	89	84	99	73	63	73	82	79	40	84
9212	Motion picture & video distribution	17	18	24	22	18	26	27	142	21	58	108
9213	Motion picture projection	412	459	349	256	158	146	135	131	224	225	64
9220	Radio & television activities	1617	1607	1511	1565	1664	1522	1742	1975	1956	1482	1725
	Total	9780						8639	7886	8012	6597	9100

Key:
- * These figures are not available as it was not possible to convert the source data (based on the 192 SIC) into the 2003 Standard Industry Classification.
- + These figures are not available because industry sector was revised and then changed to SID codes 7221 and 7222.

Source: BEIC – ABI December 2004

The Annual Employment Survey of 1991-1997 indicates a relatively continuous steady growth in hardware consultancy, other computer related activities,

reproduction of sound recording and of video recording. The other sectors vary each year, but, as a whole, most of the sectors showed growth. The Annual Business Inquiry data of 1998-2003 indicated growth on the following sectors: reproduction of computer media, hardware consultancy, motion picture and video production, motion picture projection and radio and television activities. Although some figures are not available, the total number of employees in the industry cluster indicated growth.

Table 10.3 also reveals that in 1991 the employee levels were high for almost all the sectors, such that the 2003 level of employment far near the 1991 employee level. This is specially true for the following sectors: publishing of sound recordings; manufacture of electronic valves etc.; manufacture of TV/radio receivers etc.; maintenance and repair of office, accounting and computing machinery; other computer related activities and motion picture and video distribution. The high levels of employees in 1991 may have been as a result of the wave of investment that poured into new media firms in the late 1990s, creating the dot com bubble which accounted for an increasing proportion of all firms in the 1990s (Curran and Blackburn, 1994).

The BEIC (2000), provided an overview of the output and employment forecast derived from the BEIC's Local Economic Forecasting Model (LEFM) predicting that the annual rate of employment growth in Birmingham will accelerate over the 2000 and 2010 period. The economic forecast of employment change by sector in Birmingham from 2000 to 2010 is shown in Table 10.4, which ranks sectors by the absolute contribution that the LEFM forecasts that they will make to employment change within Birmingham between 2000 and 2010. It has been noted from Table 10.4 that, despite the relatively small size of the computer services sector, it still

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makes the second largest contribution to employment increase due to its very fast rate of growth. All sectors making a positive contribution to Birmingham's overall employment growth are forecast to be in services. In contrast, total manufacturing employment is forecast to fall by 16% between 2000 and 2010 with the loss of 15,000 jobs.

Table 10.4: Employment change by sector in Birmingham: 2000 to 2010

Sector	2000	2010	Change
Professional services	35,000	54,700	19,700
Computer services	8,400	14,300	5,900
Other business services	38,400	43,000	4,600
Retailing	40,500	44,700	4,200
Health/Social	48,200	50,600	2,400
Transport	15,000	17,200	2,200
Banking and finance	15,000	17,100	2,100
Education	39,600	41,700	2,100
Hotel and catering	24,700	26,100	1,400
Insurance	6,900	7,700	800
Wholesaling	31,800	32,300	500
Other services	22,900	23,100	200
Pharmaceuticals	300	300	0
Electronics	700	700	0
Other types of manufacturing	6,800	6,800	0
Paper, printing and publishing	7.100	7,000	-100
Wood and wood products	1,300	1,200	-100
Mineral products	2,000	1,900	-100
Chemicals	2,300	2,000	-300
Instrument engineering	3,400	3,100	-300
Other transport equipment	1,900	1,600	-300
Energy and water	2,400	1,900	-500
Rubber and plastics	6,800	6,200	-600
Textiles and clothing	2,900	2,100	-800
Aerospace	1,300	500	-800
Electrical engineering	5,100	4,200	-900
Food and drink	6,100	5,100	-1,000
Construction	32,600	31,500	-1,100
Basic Metals	4,000	2,400	-1,600
Public administration and defence	24,200	22,200	-2,000
Mechanical Engineering	9,400	7,000	-2,400
Communication	10,800	8,400	-2,400
Metal goods	15,900	13,100	-2,800
Motor vehicles and parts	16,300	13,300	-3,000
Total	**491,800**	**516,500**	**24,700**

Source: BEIC Cambridge Econometrics (2000)

This economic forecast has been confirmed by the AWM ICT Report (2004a) which established that the sub-region has particular strengths in computing activities and telecommunications and that these are concentrated in Birmingham City Centre. Major companies located in the sub-region include Oracle, IBM, Fujitsu and BT. About 20,300 people are employed in the cluster in the sub-region, an increase of 16,000 since 1995. The report also indicates growth in the industry and argued that it has long-term prospects. This is in harmony with the survey conducted by Era (2002) on behalf of the BCC, which suggested that the new media firms in Birmingham have a potential to develop a cluster that can offer strong competition against Cambridge and South East.

10.3 Background of the firms interviewed

This section is designed to provide a profile of the basic structure of the 36 firms in the sample in terms of their age, employment structure, ownership details and location.

10.3.1 Age of the firms

Table 10.5 shows the ages of the firms interviewed. This is based on the year each firm was established.

Table 10.5: Age of the firm

Age of the firms	Number of firms
0 – 5 yrs	14
6 – 10 yrs	6
11- 15 yrs	2
16 – 20 yrs	7
21 and above	7
Total	**36**

Source: Author's Survey, 2003.

The survey indicates that a majority of the firms are still young, which suggests that the development of new media in Birmingham is very recent. The study also suggests that there has been a substantial increase in the rate of firm formation because out of the 36 firms 14 have been established the last 5 years.

10.3.2 Number of employees

Most of the firms have few employees as shown in Table 10.6. Although, these firms have their major input as labour they tend not to employ a high number of people.

Table 10.6: Number of employees

Number of Employees	Number of Firms
1 – 2	12
3 – 5	7
6 – 10	4
11 – 20	3
21 – 50	4
51 and above	6
Total	**36**

Source: Author's Survey, 2003.

The present study shows that most of the firms are micro firms, employing less than ten employees, which means that any increase in employees in the sector is as a result of opening more businesses, rather than turning into large firms. Thus, the number of employees is not a good indicator of the size of the business because, even if they have a few employees, the capital value of the business can be high.

10.3.3 Type of ownership

There were no sole traders in the firms interviewed and most of the firms are private companies, as shown in Table 10.7.

Table 10.7: Type of ownership

Type of Ownership	Number of Firms
Sole Trader	0
Partnership	4
Private Company	29
Public Company	0
Franchise	0
Subsidiary	3
Total	36

Source: Author's Survey, 2003.

10.3.4 Location of firms

Most of the firms interviewed were located in the city centre. The next most common location was the Jewellery Quarter. No firms were interviewed from the East Side area because, at the time of conducting the interviews, it was still under construction.

Table 10.8: Location of firms

Location	Number of firms
City Centre	11
Aston Science Park	4
Jewellery Quarter	8
Custard Factory	5
Other	8
Total	**36**

Source: Author's Survey, 2003

10.3.5 Business activities

Table 10.9 shows the main areas of business for the interviewed firms. The findings indicate that most firms are mainly in software consultancy and supply; reproduction of computer media and other computer related activities.

Table 10.9: Business activities of firms interviewed

SIC Code	Description of the SIC codes	Number of Firms
2214	Publishing of sound recordings	4
2225	Other activities to printing	3
2231	Reproduction of sound recording	1
2232	Reproduction of video recording	1
2233	Reproduction of computer media	11
3210	Manufacture of electronic components	3
3220	Manufacture TV transmitters, telephony etc.	1
3230	Manufacture TV and radio, sound or video, etc.	3
7210	Hardware consultancy	3
7220	Software consultancy and supply	15
7230	Data processing	2
7240	Data base activities	4
7250	Maintenance office and computing machinery	6
7260	Other computer related activities	10
9211	Motion picture and video production	6
9212	Motion picture and video distribution	3
9213	Motion picture projection	3
9220	Radio and television activities	4

Source: Author's Survey, 2003.

10.4 The location of new media activity

The firms were asked which factors they considered when choosing their present location. In asking this, the researcher was testing the hypothesis that firms are most likely to locate in areas that would bring benefits in the form of external economies. The response of the firms is presented in the following three sections: location preferences, geographical proximity and local inter-trading.

10.4.1 Location preferences

The firms were asked here, which factors they considered when choosing their location. The results in the present study showed (see Table 10.10) that 26% of the firms interviewed chose their location on the basis that they were born and bred in Birmingham. They believed that Birmingham was the place to be, but this was without considering what other cities could offer. 23% of the firms stated that they chose their location because of its proximity to the city centre. 11% indicated that they chose the location after considering the cost of rent and rates; another 11% considered the infrastructure available and 11% chose their location so that they *"could be where everybody is"* according to one of the directors interviewed; only 4% of the firms indicated that the main reason was they wanted to be close to their customers. 14% of the interviewed firms indicated they had no particular reason for choosing their location.

Table 10.10: Location Preferences

Percentage (%)	Reason for choosing the location	Summary
26	Born and bred in Birmingham.	Personal reasons.
23	The location is close to the city centre.	Economic benefits of the location.
11	Property rent and rates reasonable.	
11	Considered the infrastructure, mainly the motorway.	
11	The wanted to be where everybody is.	
4	Close to customers	
14	They had no particular reason for choosing the location	No reason.
100	**Total**	

Source: Author's Survey 2003

Effectively, 60% of the firms chose their location based on what they saw as the economic benefits of the location. This study indicates that the new media firms preferred the location because of its proximity to the city centre, access to transport, the motorway, infrastructure, communication links, reasonable rent, pubs and a good quality life.

A follow up question was put forward to the firms to find out what they considered as the main advantages of their present location, the objective being to get the firms to spell out what they consider as the "economic benefits" to them see Table 10.11.

Table 10.11 Advantages of present location

Main advantage of present location	Meaning	Percentage % of firms
Convenient and accessible	Access to the city centre, motorway network, traffic, customers, parking and public transport.	57
Socialising	Having pubs and restaurants nearby.	23
Minimising cost	Reasonable rent and cost of living.	17
Science Park	To be among other firms	11

Source: Author's Survey 2003

The survey indicated that 57% of the firms considered their location to be "convenient" and "accessible". The "convenience" and "accessibility" the firms were referring to was generally access to the city centre, motorway network, traffic, customers being able to locate them, parking and access to public transport. 23% of the firms stated that having pubs and restaurants where they can take their clients and even to socialise with other business people was the main advantage of their location. While 17% mentioned minimisation of costs as the main advantage and only 11% considered the advantage of being by a science or research park. The results indicate that recreation and social aspects of the environment are important features influencing where the firms locate.

Considering that 26% of the firms interviewed indicated that their main reasons for choosing their location current was because they were born and bred in Birmingham, all the firms were asked if they would move to another city. Only one firm said they would leave Birmingham, otherwise the other firms stated that Birmingham provided a better social lifestyle at reasonable cost; therefore they would not relocate to another city.

Nevertheless, most indicated they would change location within the city, moving to bigger premises as they expect to expand. Some indicated they would move closer to the motorway. There was an exception where one firm did not like their present location because the research park in which they were located had restrictions defining the activities that could be operated by the firms; as a result they found themselves restricted in their operations.

10.4.2 Geographical proximity

The present study was interested in finding the perceptions of the firms with regards to closeness or proximity to their customers and suppliers. This is a critical issue for the new media firms because the nature of their business activities is such that they do not necessarily have to leave their desk to conduct business; such that the firms may not necessarily be in close to each other in terms of geographical proximity.

Table 10.12: Geographical proximity to customers and suppliers

Question	Yes	No
Is proximity to customers important?	46%	54%
Is proximity to suppliers important?	14%	86%

Source: Author's survey 2003

Table 10.12 shows the responses of the firms when asked if proximity to customers and suppliers was important to them. The responses of the firms indicated that there is no perceived need for many of them to locate close to their customers, while only 14% felt it was crucial for them to locate near their suppliers. When questioned, many firms explained that they communicate and send their finished product

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electronically. They stated that it is only when doing business for the first time with a firm that they need to meet face-to-face, otherwise there is generally no need for them to meet. The few times they need to meet, the costs associated with meeting are minimal, which indicates that if there are any costs saved as a result of close proximity, they are practically irrelevant.

When questioned further if they had any preferences with regards to the type of firms that are around them, the responses indicated weak clustering tendencies (see Table 10.13 below):

Table 10.13: Firm's preference of the type of firms around them

Type of firms they prefer around them	Number of firms
Firms is new media industry	6
Around customers	5
Mix of different industries	4
Where the firms do not use any heavy duty vehicles	4
Where there is no competition	1
Does not matter what type of firms are around them	16
Total firms interviewed	**36**

Source: Author's Survey, 2003

Sixteen out of the thirty-six firms indicated that it did not matter what type of firms were around them; and only six of the interviewed firms indicated they wanted to be around other new media firms; one firm stated that they would not locate where they would face competition.

When questioned further about competition in their location, their rsponse is indicated in Table 10.14.

Table 10:14: Competition in their location

No. of firms	Perceived competition in their location	Survival strategy
11	Tight competition	• *"Concentrate on niche market."* • *"We are expects on what we do."* • *"Concentrate on our big customers."* • *"We keep focus."* • *"It is not good for our business."*
15	Average competition	• *"I ignore it."* • *"It does not bother us."*
10	Minimum competition	• *"I do not like competition."*

Source: Author's Survey 2003

Eleven of the firms interviewed stated that there was tight competition in the market. Asked how they managed, they stated that their survival strategy was to focus on a niche market within the new media. This allows them to specialise and be experts on that business activity. For example, one firm interviewed indicated that they target charity organisations as their customers, whilst another firm stated that they concentrated on public bodies and another offered a specialised service to different types of customers. Having said that, most of the firms indicated they do not like competition and they did not see it as helping in innovation as claimed by the industry cluster theory. Most of the firms indicated they generally preferred a location that provides them with potential local customers and with the infrastructure they need, rather than competition.

10.4.3 Local inter-trading

This section provides information on the nature and location of markets served by the firms in the sample group. The firms were asked to estimate their sales and supplies

percentage from Birmingham, West Midlands, the rest of UK and the rest of the world. The extent to which the new media firms have customers or suppliers within Birmingham would indicate the current position of the local market; as well as the extent to which the new media firms in Birmingham have wider national and international linkages.

10.4.4 Utilizing local customers

The results of the survey indicated that, on average, 41% of the sales of firms originate from within Birmingham. The minimum proportion of local sales was 3% and half of the firms interviewed indicated that they sold 20% of the products within the locality (Table 10.15). However, sales in UK on average were 42%, which are a percent higher than the local sales. Even though the nature of the new media firm allows them to trade anywhere, as they are not bound by geographical location, the results of the survey indicate a very low percentage of sales 11% in average in the rest of the world. The results suggest that the new media industry have a chance to penetrate and expand their national and international market.

Table 10.15: Sales Distribution

	Birmingham %	West Midlands %	United Kingdom %	Rest of the world %
Minimum	3	4	5	1
Maximum	100	90	90	30
Average	41	26	42	11
Median	33	15	40	6
Mode	20	10	20	1

Source: Author's Survey, 2003.

Table 10.13 also demonstrate that on average 11% of their sales are exported buth the mode is only 1%. This illustrate that a great majority of the firms do not export their products or services. This is perhaps not surprising given their youth and their small size.

10.4.5 Use of local suppliers

Looking at the suppliers' distribution, as shown on Table 10.16 on average 63% of the firms' suppliers are from Birmingham. There seems to be a high level of dependency on the local market for supplies. Because its products are often virtual, new media requires few material inputs in the production process. IT equipment, basic office supplies (furniture, stationery and food and drink for staff) are the main ones; cost quality and reliable delivery are far more important than having local suppliers. However, new media firms' key input is labour and hiring often takes place on a word of mouth basis, which suggests that networks and access to specialist labour are important.

Table 10.16: Suppliers' distribution

	Birmingham %	West Midlands %	United Kingdom %	Rest of the world%
Minimum	4	3	5	1
Maximum	100	100	100	70
Average	63	41	54	24
Median	90	32	60	20
Mode	100	100	60	20

Source: Author's Survey, 2003.

10.5 Collaboration between the new media firms

To establish whether there are any relationships and networks that exist between the firms in the industry, the firms were asked if they had established links with firms in their locality (see Table 10.17).

Table 10.17: Links with other firms in their locality

No. of firms	Established links with firms locally	Comments on the reasons for the link	Establishing the relationships
32	Yes	• Exchange of technology • Exchange goods • Exchange services • Increase productivity	• Referrals • Word of mouth • Previous jobs • Informal networks
4	No	• No time • We do our own thing • We try things for ourselves	• Internet • Through trade associations

Source: Author's Survey 2003

The results from the interviewed firms indicate that 32 out of the 36 firms have already established links with other firms in their locality. Most firms indicated that the relationships they had were for the purpose of exchanging of goods, technology or services. The responses suggest that for any relationship established, the firms' main target was to increase productivity as well as to increase the chances that they will be recommended to other businesses. This is perhaps not surprising given the high percentage of local sales distribution of 41% on average and 63% of supplies from locally based firms.

Since exchange of ideas, information and know how were not the main reasons why the firms indicated they had developed relationships; the firms were asked how they keep up to date - given the frequent changes in technology. Most firms said "we just try things out" meaning that they at all times try to be innovative. But there were also a large number of firms that kept abreast through their interaction with their customers and suppliers. This indicates that information is exchanged between parties in already existing relationships.

The survey indicated that 66% of the firms had established their business links through referrals, dependent on a word of mouth promotion based on jobs previously done. There were also links established through relationships they had from previously working together, these amounted to 28%, this indicates an element of spill over. The remaining 6% was shared equally between firms that stated that they established their relationships through the internet and the others through trade associations. Overall, the results of the survey indicated that links between the firms had been established through historical interaction, mainly through referrals and colleagues from previous employment.

10.5.1 Trust

There is a lot of trust needed in developing relationships for these firms to work together. Though there are initiatives to promote co-operation there is no evidence of those links being established among or between the firms interviewed. The survey indicated only 3% of the firms established contacts through trade associations. This shows that each firm tends to operate as a relatively independent unit with flexibility

in a competitive market environment. To develop trust, the firms, as well as the Business Support Agencies (BSAs), need to be able to learn about each other's motives, character, performance and socio-cultural background in order to be able to evaluate each other's reputation capital and overall trust worthiness. Of course, frequent face-to-face contacts are more easily arranged where the parties are in proximity and may enhance such a process.

10.5.2 Informal linkages

Most of the firms interviewed indicated that the relationships between firms were mostly informal links. These links allow the businesses to access information and advice and they are also essential in the firm's innovation process. The survey also indicated that, though they are not formalised, there are social codes of conduct that establish an element of trust.

While the firms would enjoy informal collaboration with each other to exchange information, the survey suggests that there is little formal collaboration, yet they are vital for the business growth and survival in the market. Only 9% of the firms interviewed indicated they have ever been involved in joint projects with another company. The other 91% were asked why they do not engage in formal collaboration, that is, joint projects or hire freelancers, they answered:

- *"The other firm are likely to "steal our ideas"".*
- *"There is a possibility that we "lose future jobs" as the other firm gets to know our customer."*

- *"They cannot guarantee the quality of work that could be produced by the other firms, thus, they may not produce work as they expect."*

10.6 The role of higher education institutions

The firms that were interviewed in the present study were asked if they had any relationships with any HEI, such as acquiring information, in project partnership or recruiting students (Table 10.18).

Table 10.18: Firms' relationship with Higher Education Institutions

Type of relationship	Number of firms
Formal arrangement providing internships for students	2
Occasional contacts	9
No contacts	25
Total	**36**

Source: Author's survey, 2003

The results from the survey indicate that only a few firms actually make use of the facilities provided by HEIs for developing ideas for new products and opportunities for customers. The firms who had occasional contacts with HEIs stated that any links with a HEI were purely based on informal friendships built during their university days, since most of the directors of the firms were university graduates.

10.7 The labour market

Turning to the recruitment structure that exists within the industry, eight of the interviewed firms stated that they had a recruitment procedure they followed and they recruited from HEI. Twenty-eight of the firms interviewed stated that they had no

formal structure and they did not recruit from HEI. They explained that their recruitment of labour was purely based on referral, who knows who. This supports the notion that social networks are central to job search and employment security in the new media industry. Though the skills required within the industry are specialised; the result of the survey did not reveal any of lack of skilled labour. This was because whenever the firms were recruiting, they used personal networks, such as contacting their friends and, based on those referrals, they filled any position.

10.8 Firms' perception of the City's cluster policy initiatives

Many commentators have placed an emphasis on the importance of cluster policies to support cluster development. This section looks at the firms perceptions' to the cluster policies.

10.8.1 Membership of trade associations

Membership with the BCCI is perceived to be prestigious as well as advantageous to the firms because it offers access to the business directory and there is an opportunity to advertise and network. The members also enjoy the privilege of getting business advice, assistance and grants. The study revealed that 28% of the firms were members of the BCCI, 11% had pulled out their membership and 37% who are not members. The firms that were not members of the BCCI, were asked their reasons for not joining. These were their reasons:

- *"There was no evidence of the benefits of being a member."*
- *"This is all a waste of time."*

- *"I do not have the time to attend the meetings."*

- *"I am not interested."*

10.8.2 Involvement in cluster programmes

Following on, the firms were asked about the BSAs who were offering cluster programmes to promote them. Of the firms interviewed, 29% indicated that they had been involved with the different BSAs which promote clusters. However, 71% revealed they were not involved with any of the programmes offered by the BSAs. Asked to give a reason for not being involved they argued that:

- *"I am not aware of the programmes."*

- *"I have no time to attend any of their meetings as they are run at times when I would be generating income."*

- *"From past experience government programmes are not effective."*

- *"Being a firm with only a few employees there is no time for any member of staff to participate."*

- *"We do not need the services that are offered by the programmes."*

- *"The time spent in the activities of the programmes without any returns is crucial."*

10.8.3 Firms' views on cluster programmes

On the whole, the results of the survey revealed that most firms had reservations about these initiatives because of past experiences. Some indicated that they believed that:

- *"These were just promises and talk of government as usual, they would not perform nor deliver."*

- *"There is no need for firms to be in one location."*

- *"I do not see firms working together with the kind of competition we face."*

- *"I am not convinced that any of the programmes is viable."*

- *"I have a negative attitude towards such programmes and I do not think they are beneficial."*

The firms that said they were not aware of the programmes were given an explanation of their purpose and were then asked what they thought about them. Most indicated they were willing to try being involved with any of the programmes. However, they were still has concerns. One firms commented:

"There is a lot of red tape in financial assistance."

Those who were familiar with the cluster programmes, when asked if they had any concerns about the programs indicated that they felt:

- *"The programmes are ineffective."*

- *"It's the same people every time in each of the meetings."*

- *"There are no business opportunities."*

For example, the E-Business club was formed to encourage new media firms to participate in clusters, firms are discouraged from selling their services during their events. As a result, some businesses do not attend their events, as there is no gain for them in terms of getting business.

10.9 The historical heritage and image of the city

The firms were asked about their views about the historical heritage and image of the city. These were their responses:

- *"The history of the city has a negative influence on the local economic performance of the new media firms."*

- *"Birmingham is known as an industrial City rather than as a knowledge base."*

- *"New media firms are not easily inclined to locate in Birmingham because they are sceptical in investment in the City."*

- *"Birmingham has only steel workers because of its physical and social legacy of prior industries".*

- *"My concern is whether the cluster programmes that were being introduced would be able to sustain the development and growth of the cluster over a longer term."*

- *"There is an opportunity for the firms to forge relationships, since opportunities in the new media industry are created mostly, through referrals."*

- *"Growth and development of the cluster we need more firms investing in the City and not moving to other cities."*

- *"Close proximity to each other would foster some of the conditions for social interaction and active collaboration."*

- *"Keeping Birmingham clean."*

- *"More parking and less traffic in the City."*

- *"The need to change the image of the City by having more exciting areas like Broad Street, Mail Box and Brindley Place."*

In spite of the history of the City, the results of the survey suggested that the firms will continue to stay in Birmingham because it provides a reasonable and affordable location. Overall, the finding suggests that new media firms can operate from any location because there seemed to be nothing essentially important about location.

10.10 Key findings

The following is the summary of the main findings of the survey conducted with 36 new media firms in Birmingham:

10.10.1 The firms' preferences

- New digital firms, when choosing location, are mainly concerned with convenience and accessibility. The convenience is defined in terms of being close to home, ample parking space, having enough restaurants and pubs for business entertainment and networking. The accessibility is defined in terms of closeness to the city centre, easily allocated by customers, accessibility to public transport, closeness to the motorway and where they would not be nor their customers be tied down in traffic.

- The firms had no particular preference as to the type of firms that should be around them; though they acknowledge the benefits that are brought by being located around other firms rather than working at home. However, they do not consider close proximity to either their customers or their suppliers as being of

any advantages. Thus, costs saved on close proximity are irrelevant because of the types of products they are offering.

- All firms acknowledge the tight competition that exists in the market. As a result, they have developed survival techniques, which are focusing on a niche market and having specialised customers. The survey indicated that the new media firms did not perceive competition as tool to foster innovation.

- The survey indicated that some of the firms have been able to establish links with firms within their locality, but there is no evidence of trade between the firms. Most of the links have been established through historical interaction, that is, through personal referrals and previous work associations.

- For those firms that had links, the prime purpose for any relationships is to exchange goods, technology or services. Most of the firms did not have relationships based on having joint projects because of lack of trust, fear of stealing of ideas and customers and having no guarantee on the quality of work that will be produced. Thus there is a lot of trust needed in developing relationships for these firms to work together.

- Only a few companies have access to facilities, particularly universities, for developing ideas for new products and opportunities for customers; such that each firm operates as an independent unit with flexibility in the competitive market environment.

- Whenever the firms are recruiting they will contact their friends and will employ people based on referrals; information is exchanged between firms who already have existing relationships.

- Recreation has been important in drawing firms together.

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- Birmingham still provides a better social lifestyle at reasonable cost. Most firms are concerned with minimising costs.

10.10.2 The firms' perception of cluster initiatives

- When the public sector provides accommodation for new media companies to facilitate collaboration, the view is that this does not always work. The view is that the media firms are at an early stage of development and they remain suspicious of collaborating with firms in the same sector.

- In encouraging development of new local high technology firms the science parks have provided suitable accommodation to local media firms. However, there remains a concern that in the event of growth and diversification new media firms may not be able to remain on the science park where the expansion does not fit within the parameters set out by the science park, thus setting restrictions on the activities of the firms.

- The past performances of previous initiatives have a bearing on the perceptions of and involvement in the current initiatives. Most of the new media firms resent involving themselves with any initiatives. As a result, most firms are not aware of the benefits available to them.

- Most initiatives aim at providing a platform to develop links between the firms. But only a small percentage of new media firms linked up through trade associations.

- A significant number of companies identified the timing of events for companies during office hours as being inconvenient, particularly for small firms of one to two businessmen.

- The training and seminar events organised for the firms are not valued by them because they feel it is the same people that come in every meeting, the level of training is low and there are no business opportunities at the events.

- A large number of the new media firms indicated that they saw Birmingham as having a negative image in relation to the new media sector, which restricted business opportunities and has prompted some new media firms to move to London.

10.11 Conclusions

Birmingham has a small but dynamic new media industry cluster that is exhibiting considerable growth potential (Burfitt *et al.*, 2001a; BEIC, 2004). Using Hart's (2000) typology of clusters, the Birminghaam's new media cluster can be defined as a proximity cluster because the firms are near to each other. In spite of this, the results of the survey indicated that the new media firms do not have a continuing and systematic linkage between them; and activities between them are not coordinated by any BSA. The industry cluster theory suggests socialisation and relationships between firms lead to the formation of trusting ties that serve as the basis or glue that pulls businesses together. This was not evident in the firms in Birmingham.

The background information of the interviewed firms indicated that the characteristics of the industry are similar to those of many SMEs in general with a small number of employees and owned privately. The majority of the firms in the survey were very young, suggesting that there have been a lot of start-ups recently, reflecting a shift from changing from the traditional manufacturing industries to service industries.

The findings from the survey highlight the dynamics of relationships between the new media firms and other organisations and public institutions. Key policy implications drawn from the results of the survey are summarised in Chapter 12.

Chapter 11

Discussions of key findings

11.1 Introduction

The focus of this thesis has been on ascertaining whether the industry cluster policy had succeeded in promoting the new media cluster in Birmingham. There are a number of conclusions and points for discussion that had been drawn out of the analysis in Chapters 9 and 10. This chapter deals with these issues by attempting to answer the research questions.

11.2 Is the industry cluster policy succeeding in promoting the new media cluster in Birmingham?

According to Raines (2001) the proliferation of cluster policies in recent years demonstrates that there is much in the cluster concept that lends itself well to regional economic development. In Chapter 4 we established that the cluster concept represents one of the most common policy approaches in recent years. However, in an attempt to answer the question we will deal with it in 3 parts, first the emergence of the industry cluster policy; second the implementation of the industry cluster policy and third promoting new media firms.

11.2.1 Emergence of industry cluster policy

The findings suggested that the cluster idea came to the forefront after the development of the AWM Economic Regional Strategy (AWMERS) in 1999, which means before then the cluster initiative programme was not offered. A review of the literature in Chapter 5 of the economic strategies that had been adopted by the BCCEDD since the early 1970s revealed that there was no mention of the clusters then. This was further confirmed by the BCCEDD (2001b), which revealed that the formation of AWM in 1999 had an influence on the strategies and policies adopted by the City Council in developing programmes that would improve business competitiveness and diversity as part of their cluster policy.

The findings of the survey seem not to conform to the industry cluster theory which states that cluster programmes must be formed to reinforce and build on established and emerging clusters, rather than to attempt to create an entirely new cluster (Porter, 1998; Enright, 2000). It would seem that the primary reason for the formation of the cluster programmes was to meet government's expectations.

The industry cluster theory also suggests that research should be conducted prior to establishing cluster programmes. It argues that such research provides information on the nature and existence of the cluster to justify cluster development efforts. However, the survey results suggest that there was no research conducted before establishing any of cluster programmes in Birmingham. Instead DTI (1998) and AWM (1999) were the key influences in the emergence of the cluster programmes.

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11.2.2 Implementation of the industry cluster policy

The industry cluster policy towards the new media firms is not likely to succeed because the some of the BSAs providing the cluster programmes seemed to had merely re-packaged existing development approaches and measures under the fashionable new "brand" of clustering rather than significantly shifting policy design and delivery [see Raines (2001); Lagendijk and Charles (1999); Harrison, (1992)]. This is evident in the services offered by the BSAs being essentially the same as before the industry cluster approach was introduced; the only change documented is the change of name.

This finding confirmed what Martin and Sunley (2001) said about the cluster concept, that it was being seen as a fashionable way of thinking about the national economy – what Harrison (1992) describes as "old wine in a new bottle". For some BSAs the main changes simply involved changing office location. Harrison (1992) warned against offering little more than an existing policy encouraging networking among businesses but with a new cluster label since that is simply "repackaging of existing policies". Taylor and Raines (2001) also emphasized that policy makers must ensure that changes in policy to incorporate cluster policies do not consist of little more than the promotion of business cooperation, in which the ideas of Porter and others have been lashed into existing policies. However, the findings of this research suggested that the changes that the BSAs went through were, in the main, mere changes of names and offices, in effect repackaging the existing policies. Thus, there would not be much expectation on them to succeed in promoting the new media firms.

11.2.3 Promoting new media firms

The researcher noted that AWMERS' main reason for focusing on new media firms was because they were seen as key components of the knowledge driven economy which was set out in the Government's DTI 1998 White Paper "Building the Knowledge Driven Economy" (DTI, 1998). This does not conform to Porter (1998) and Enright (2000), suggestion that for a cluster policy to be effective it must be built on local differences and sources of uniqueness - where possible, turning weaknesses into strengths, not imitating what is already present in other locations. According to den Hertog (2001), cluster analyses revealed that every region has a unique cluster blend. Every region has its own selection of clusters and specialisations with different characteristics and roles in the economy. Thus, even before implementing the industry cluster policy the policy makers needed to establish whether the new media cluster existed in order to establish policies that are unique to Birmingham.

Since the industry cluster policy had been producer driven, the policy makers are under pressure to find the new media cluster in Birmingham to justify the establishment of the cluster strategy policies. The policies adopted are redefined to fit within AWM policies - especially to ensure they qualify for obtaining funding. Therefore, the industry cluster policies were not likely to succeed in promoting the new media firms because they might not meet the needs or wants of the firms.

11.3 What is the new media industry cluster?

The findings of the study revealed that the new media industry has been identified as an industry that provides new forms of economic activities. The new media industry cluster is broad and could only be defined by the output products. The results of the study seem to suggest that there was no policy document on research study that formed as a basis for defining the industry cluster. Thus, the SIC codes were used to identify the sectors that are part of the new media industry. The following are the main characteristics of the cluster:

- The industry is constantly changing, as technology changes, and new products are brought into the market

- The industry seems to have the typical characteristics of SMEs.

11.4 Does the theory on the geographical location of firms still apply in new media firms?

AWM (2003) stated that one of its priorities was to establish new business incubation facilities to support the specialist start-up needs of businesses operating in priority clusters. The incubation centres are seen as helping to promote clusters because of the geographical proximity of the firms in them making it possible for inter-dependency, networking, interacting and exchanging information. The Aston Business Park, the Birmingham Research Park and the Custard Factory are seen as the main incubation centres for new media firms in Birmingham.

These incubation centres have set objectives and priorities in offering their premises to firms. Though the incubation centres are established to encourage firms to set up in suitable premises filled with firms in related businesses, there is still a concern from the firms that in the event of growth and diversification they may not fit within the parameters set by the centres. The results of the study suggest that the new media firms were not concerned about geographical proximity to other firms in the industry when choosing their location. The benefits stated by the theory on geographical location of firms seem to be irrelevant to the new media industry.

The BSAs experience to date however, suggests that firms move into incubation centres to take advantage of the office facilities available. As a result, they tend to get comfortable in the incubation centres, they do not want to move on to allow new firms to incubate and changes of tenancy are only common when the rent is increased. Whilst the incubation centres assist in providing premises for the firms to get off the ground, any restrictions are most likely to disrupt their growth. The BSAs view was that the firms must plan ahead for any expansion.

11.5 Is there any collaboration between the new media firms in Birmingham?

The basis of clusters is to have a grouping of firms that are not only geographically close to each other but do business together. Collaboration between the firms becomes the key element of developing a cluster (See Chapter 3). One of the key objectives of the BSA was to encourage collaboration to facilitate clustering between the new media firms. This was done through providing office accommodation so that

the firms could be in close proximity to, for example, Millennium Point, the Custard Factory, Science Parks and The Peg. They also hosted seminars and dinners for the firms to help them network which would eventually lead to collaboration. However, the study revealed that new media firms were generally not keen to collaborate because they felt their ideas would be subject to being copied (see Chapter 10).

The BSAs were asked for their views regarding the firm's perceptions of their cluster strategy. The most common response was that clustering is about relationship building. The responses revealed that they perceived one of their roles in clustering is to be creating an environment that would make it possible for firms to collaborate by developing relationships and facilitate business together. Of course, there is a condition that they felt needed to be in place before any relationship can be initiated; that is trust. Thus, there is immediate acknowledgment that it takes time to build relationships. One BSA representative who was interviewed expressed the view that:

"There is an inherent distrust of people who do media".

The BSAs pointed out that the firms are often wary of each other and there is always a level of suspicion. The mistrust in prominent with new media because it is a knowledge-based economy which Quah (2000) calls the "weightless economy" (see Chapter 6).

The research showed that the BSAs have, on occasions, pooled resources to facilitate collaboration between the firms so that they can embark on joint projects. For example, the West Midlands Information Technology Association (WMITA) gathers information on the speciality of its members and advertises them. At the same time, they look for business opportunities for them and whenever something comes up they

inform their members and encourage them to collaborate - especially when competing for big projects. The view was that this helps the firms to work with other firms they had never been in contact with because they have confidence in the BSA. After the initial project it is felt it then becomes easier for subsequent projects, since they would have cultivated a relationship and a reputation.

All the BSAs highlighted the fact that, the firms need to talk to one another in order to gain new business opportunities. Firms operating in the new media industry are characterised by having a few employees, this suggests that the amount of work they do is limited and so are the skills in each firm. For this reason, the firms need to collaborate - especially at the innovation stage of a product. One BSA said:

> *"A firm with a good idea must develop by bouncing the idea off others even if all they need is practical advice and guidance."*

The results of the study suggest that there is little collaboration between the new media firms and the current cluster programmes offered by the BSAs have not had any impact on this. However, several BSAs suggested that projects led by academic institutions could help solve the problems encountered in assisting firms to collaborate. They argued that the academic institutions would be able to bring together the wide range of background experience from the firms and give practical training, thus helping them focus on their ideas and the innovation needed for new markets. This has the potential to attract and grow high value added businesses; which in turn could help in building trust between the firms. Keeping in mind that such trust cannot be built overnight, the firms must be willing to invest time in order to develop good relationships.

11.6 Do new media firms have relationships with other trade bodies and public organisations?

The literature suggest that trade associations are most likely to facilitate the formation and development of clusters. The results of the study revealed the following findings:

11.6.1 Building relationships with BSAs

The results of the survey revealed that most firms were generally not members of the public organisations established to promote industry clusters. As a result, the firms were not generally involved in the cluster programmes offered. The findings suggested that the firms were not making any efforts in building relationships with the BSAs because from past experiences they had not benefited from the programmes offered and they believed they did not need some of the services offered.

11.6.2 Timing of events

A significant number of firms interviewed expressed concerns about the timing of events offered by the BSAs. They pointed out that the events, which may vary from training seminars, business conferences to networking meals, were usually during office hours and that they could not spare the time, since a majority of them were businesses of one to two staff. This would in turn affect the attendance of the firms at these events. This was especially problematic since one of the measures of the BSAs "success" was based on the number of firms that attend their events.

When asked about the timing of the events they host, the BSAs generally acknowledged that getting a time convenient to all parties concerned was a challenge. Indeed experience suggested that there will never be a single time which is convenient to all the firms. One BSA had observed that there was a high drop out rate of 90% whenever they hosted a free event, whilst the dropout rate was only 33% when a charge was made.

On the whole the BSAs revealed that they had to offer their events at different times, some in early morning hours, afternoon and late afternoon so that they can cater for the different needs of firms. The time they chose depended upon their target group. They also pointed out that it was the firms' responsibility to invest in their business by attending the training seminars. One BSA said:

> *"The firms need to take the training seminars as investments, which is good value for zero capital input. Moreover, they need to consider the hours spent in attending workshops as networking opportunities which are key to the business growth."*

11.6.3 Training events

Skills development is one of the major objectives of AWM as it is seen to provide the skills needed to support the development of the cluster; improve on the basic skills and help firms to become competitive. However, several of the firms interviewed claimed that the training offered was at a lower level than their capabilities and there were no business opportunities at the events.

The BSAs were asked to comment on the training they provide for the firms. All the BSAs interviewed acknowledged a need for more attention in identifying the training needs in order to provide the right level of training required. They proposed to build a portfolio or training schedule of all potential needs. Firms could then choose which ones they want to enrol in. There was general agreement that it was important for them to start by finding out what the firms wanted in order to make the training valuable.

By identifying the firms' needs, the BSAs would then be able to provide specialist tailored training. Nevertheless, from the BSAs perspective it is still the responsibility of the firm to ensure that they have the relevant skills to be competitive - especially where the industry is constantly changing. The interviews with the firms suggested that the BSAs need to also provide training that will focus on the development of their revenue rather than their personnel because the firms are understandably more concerned with increasing their revenue. Therefore, any training event which offers the prospects of helping to achieve their anticipated profits they were likely to attend.

The BSAs generally emphasised that firms must take responsibility in improving their performance and competitiveness through attending training seminars. However, their experience suggests that firms think short-term in terms of immediate revenue opportunities rather than working together for common benefits.

11.7 What are the effects of Birmingham's historical business background on the new media industry?

A large proportion of the new media firms interviewed stated that Birmingham had a negative image that restricted business opportunities, forcing some firms to relocate or to consider relocating. One of the major priority actions proposed in the BCCED (2002) was to improve the cultural image of the city by investing in the city's infrastructure and environment to make it attractive for relocation, development and growth of the new media industry cluster.

Every BSA interviewed agreed that the image of Birmingham and the close proximity to London put Birmingham at a disadvantage. As a result, the City has to fight for recognition in competition with cities like London and Manchester. A key question is, therefore, can Birmingham build up its image and survive the competition?

The City is trying hard to change its image, with the opening of the Bullring Shopping Mall its profile is better than what it was, for the mall is described as "Europe's biggest shopping mall" (Era, 2002). The creation of the Millennium Point, the Hub, Brindley Place and the Eastside developments also offer real potential to generate a new scale of cultural activity in new media industries. Birmingham's bid to become the European Capital of Culture in 2008 also presents a unique opportunity to improve the way the city is perceived, nationally and internationally.

The overall infrastructure of Birmingham is changing. Though branding takes a long time there is some physical evidence of the change in the City. The BSAs also

recommended that the firms need not focus on the domestic demand only but must also go for national and international markets in order to take advantage of other business opportunities. This, with time, will build the desired image and development in the City as it has a great potential.

11.8 Conclusions

Based on the findings of the survey, the industry cluster policies in Birmingham seem not to have positively affected the firms in the new media industry. Nevertheless, these early years of the cluster programmes should be seen as providing lessons for policy makers' efforts to establish better cluster programmes in the future. The main lessons that emerged from the survey are further discussed in next chapter.

Chapter 12

Conclusions and recommendations

12.1 Introduction

The research undertaken has sought to provide understanding of the application of the industry cluster policies in relation to the new media industry in Birmingham. The investigation of the case study now complete, this chapter brings together the key findings from all the chapters to conclude the thesis.

Firstly, summary of the whole thesis with reference to the research questions, methodology and the literature review is presented, followed by the highlights of the main issues drawn from the research. The principal research contributions of the study are also summarised, followed by a critical review of the research in light of its limitations and then the reliability and validity of this study. Finally, the lessons from the study are summarised then, recommendations to policy makers and future researchers are summarised.

12.2 Summary of the thesis

The study revealed that the development of clusters as a model for regional economic development in England is still in its early stage of development. In the late 90's a growing emphasis was placed on clusters as a new direction for local and regional

development policy by the government as detailed in the DTI 1998 White Paper "Our Competitive Future: Building the knowledge driven economy". The establishment of the Regional Development Agencies has been a central tenet of their development, being the main vehicle for promoting growth. As government pursued the cluster theory approach for economic development, there was the emergence of the new media industry. Promoting this industry became the main significant focus for regional development strategy using the cluster approach. Birmingham was no exception in their desire to promote the new media industries as a catalyst to the desired economic growth in the city, and diversification away from manufacturing industries that were on the decline.

The study was conducted in Birmingham because of its interest in facilitating this transition in its economic activities. The City's infrastructure was changing, together with its economic activities moving towards electronic-commerce. Previously, the City was faced with the problems of an outdated infrastructure and industrial baggage from the manufacturing industries that were closing down. Thus, the study provides evidence on the extent to which the industry cluster approach can assist in the City's transformation to a knowledge-based economy.

The aims of the study were to:

- Contribute to the existing body of knowledge by investigating and scrutinizing the cluster theory approach as a tool for local economic development.
- Contribute to current knowledge of the Birmingham new media industry cluster.
- Increase understanding of the new media industry.

- Highlight some of the opportunities and challenges this industry presents for economic development.

- Explore the relevancy of industrial cluster theory to promoting economic growth through new media firms.

- Explore whether the new media firms' characteristics and features are in line with the "predictable causes of cluster development".

- Explore the effects of local competition and the city's overall environment in bringing the new media cluster participants together.

- Unveil the dynamics of relationships between and within the new media industry as well as with other organisations and public institutions especially higher education institutions.

- Ascertain how the cluster concept came about in Birmingham.

- Increase understanding of the importance of policy intervention in promoting the cluster and implications for policy makers.

In achieving these aims, the study sought to answer the key research question:

Is the industry cluster policy succeeding in promoting the new media cluster in Birmingham?

In answering the research question the following questions were used:

1. What exactly is the new media industry cluster?

2. To what extent does the theory on geography location of firms still apply in the new media industry?

3. Is there any collaboration between the new media firms in Birmingham?

4. Do new media firms have relationships with other trade bodies and public organisations?

5. What are the effects of Birmingham's historical business background on the new media business industry?

When conducting the research, the theoretical background of the literature review focused on the location theory, regional development policy and new media industry. In discussing the industry cluster theoretical framework, it has been noted that it is not a new concept but its formation and development expanded upon traditional industry location theory (Krugman, 1991; Bergman and Feser, 1999). This location theory has been evolving in economics for a long time because of the way in which economic activity has come to be spread over space (McCrone, 1969). As long ago as late 19th century Marshall (1890) suggested that the pools of common factors of production such as land, labour, capital, energy, sewage system and transportation cause firms to cluster in order to minimise their costs in serving demand.

The industry cluster theory approach also emphasised the competitive advantage of a city over another because they form the conceptual framework to relate to the patterns of trade and production and to analyse the basis for a city's specialisation of production. Thus, the industry cluster theory approach was seen as a potential tool to regain control over the economic activities of the city. Nevertheless, realising this potential depends on the infrastructure of the market and the location that firms operate in (Geroski and Knight, 1991). The theory suggests that geographical proximity and collaboration between firms are fundamental for effective operation of

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the industry cluster approach and it has been argued that some increasing returns would simply not occur if firms were dispersed.

The industry cluster theory approach was tested on the new media firms in Birmingham, which was significant because these firms operate in a fast changing environment and the transportation costs are a much smaller part of production, such that firms can operate anywhere convenient to them. In gaining understanding of the industry cluster approach as a tool for regional development, especially within the new media industry, the first hurdle the researcher faced was that the industry cluster theory as presented by previous writers is vague, elastic and difficult to identify (Martin and Sunley, 2001). So, several themes were identified as boundaries of what industry clusters are. These are relationships between firms vertically (buyer/supplier), or horizontally (common customers, technology, channels, etc.); geographical proximity of the firms, and social interactions to facilitate information exchange with trust and shared vision.

The researcher acknowledged the varying methods that can be used to identify clusters. One of the common approaches has been based on quantitative techniques, including location quotients and input-output (I-O) analyses (see Porter, 1990; Bergman *et al.* 1996; Rosenfeld, 1997). However, such quantitative analysis does not address the issue of whether relationships really exist between the individual firms (see Doeringer and Terkla, 1995; Jacobs and DeMan, 1996; Rosenfeld, 1996, 1997). For this study the researcher concured with the general consensus which states that, in order to truly identify clusters, it is necessary to conduct a qualitative analysis in addition to such quantitative analysis. Once clusters had been identified they could be

classified as policy stimulated or market driven and they could be cohesive clusters, new industrial districts, innovative milieu and/or proximity clusters.

The second hurdle was that there has not been much literature written on the new media industry because it is a relatively new field of academic interest and as such, it is continually developing (Braczyl, et al., 1999; Backland and Sandberg, 2002). As a result, there is no clear definition of what new media industries are. So the researcher identified key features of the new media industry.

Although regional development policies are perceived as an important tool for economic development, (McCorne, 1968; Sternberg, 1991; Hoover and Giarratani, 1999, Gordin and McCann, 1999; Lagendijk and Charles, 1999), there was still a need for evidence on the extent to which the industry cluster approach can be used as an effective policy tool. This was especially true since it was highlighted that policy makers are desperate for a vehicle that would bring growth to their local economy. As a result, the late 90's had seen the emergence of a new kind of regional policy, the regional cluster policy. Nevertheless, most commentators noted the deep historical roots of the cluster approach and have described it as a significant paradigm shift in regional development policy (see Feser, 1998 and Lagendijk, 1999).

Notably, the British government had pursued national sectoral strategies during the 1970s, but during the 1980s central government moved away from such initiatives with the dismantling of sectorial teams within DTI and a shift in R&D programmes. From 1999 onwards the British government has concentrated on regional development through RDAs pursuing regional cluster policy. The industry cluster

approach differed from other traditional economic development policy that had been adopted before in that it focused on developing a strategy that would encourage an efficient allocation of limited resources, providing a tool for industry recruitment and encouraging diversification of the industry base (Doeringer and Terkla, 1995).

The study highlighted the fact that a number of governments in the OECD countries actively pursue cluster based policy as a means to foster economic development (also see Lagendijk, 1999; OECD, 1999). It has been argued (see Lagendijk and Charles, 1999; Henton et al. 1997; Rosenfeld, 1997) that the industry cluster policy provide intermediate markets in regional markets as firms are likely to suffer from informational failures; breaks business isolation; facilitates co-ordination of modernisation and investment strategies between related firms; improve interaction between elements of the regional institutional system by offering a platform for discourse on business development as well as long-term economic development of a region. It has been argued that the benefits of using the regional cluster policy are best demonstrated in the cases of Emila-Romagna, Beden-Württemberg and Silicon Valley which most governments refer to when pursuing the cluster strategy (Sternberg, 1996; Cooke, 1996; DiGiovanna,1996; Fingleton, et al., 2000; Hospers and Beugelsdijk, 2002;). Though the experiences of the above cases cannot necessarily be replicated, there are lessons that can be drawn by policy makers.

In the case of Birmingham, dramatic changes that the city had undergone in its economy were pointed out, which came about as the long established businesses in the city faced significant challenges brought about by a decline in its maturing manufacturing markets. The city's historical industrial heritage became its major

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weakness to its prosperity because of its dependency on a narrow band of long established metal-based engineering industries, such as foundries, machine tools and automotive products.

In response to the rising level of unemployment, the City Council built up an Economic Development Department, embarked on strategies to promote the regeneration of the local economy by encouraging investment, stimulating the growth of co-operative investment and providing important skill training. Notably, the initial strategies adopted by the City Council focused on manufacturing firms, even though the industry was declining, the local government was injecting more money to boost them and there seemed to be no way forward for the economy of the city apart from manufacturing firms. Though the City Council had the desire to develop new media industries, not much effort was put into ensuring a favourable environment for their growth, maybe because most of the service sector was directly entwined in the manufacturing industry.

Since 2001, the City Council has adopted a cluster strategy approach as their tool for achieving local economic growth. The new media industry cluster was one of their main industry focuses because the EDD believed that the cluster was capable of providing long-term prosperity and a high level of employment (BCCEDD, 2001b). Their belief in the industry is evident from the number of initiatives that were set up to promote the firms within it.

The methodology employed for this research was in line with the methodologies used in other studies on clusters, new media firms and the industry cluster approach in

local and regional economic development. The approach adopted included an analysis of reports, semi-structured interviews with directors or senior managers from BSAs and survey of firms. This approach enabled all the aspects of the cluster to be thoroughly investigated.

12.3 Main issues drawn from this research

The study revealed that the establishment of RDAs coincided with the adoption of the cluster policy approach, and the RDAs were required to promote the development of business clusters. There were great expectations of the potential benefits of the RDAs using the cluster policy approach to produce results in terms of economic regeneration with new businesses starting, promoting growth and maintaining existing businesses in the regions. The adoption of the cluster policy approach as a tool for regional development seemed to have come at a time when the government was willing to try anything that was available in the market that would help stimulate the economy through regional development. As a result, when the cluster approach was recommended, it was adopted without prior research.

A review on the historical development of regional policy in Britain showed that the policies that were adopted were initially focused on labour mobility, and then they changed to firms mobility. Now the adoption of the cluster policy approach is looking at networking and forming of relationships between firms and other organisations to be the ones to foster regional development. The relationships between complementary and inter-dependent firms are seen as key to economic growth, which is contrary to the traditions of regional science and economic

geography, which have often treated inter-relationships as outcomes of location decisions. Since clusters are about relationships relying heavily on linkages and connections, maintaining good relationship is important for effective development of clusters.

Chapter 5 of the thesis critically analysed the previous economic strategies adopted by Birmingham City Council. The analysis revealed that in the previous economic strategies there was minimum involvement of the local government authorities, it was mainly central government that was forming and implementing the policies. The different policies that had been tried by the government seem not to have achieved the desired outcome in terms of economic growth, and there was no clear reason for the failure of these policies, except the assumptions that their life span had expired and there was a change in government. However, strict control of finances by central government seemed to be the main problem linked to the malfunction of the economic strategies. Based on the results from the survey interview Figure 12.1 shows the summary of the main findings.

12.3.1 Part A: The cluster programmes provided by Business Support Agencies

It has become clear from the study that the industry cluster approach concept can be regarded as a politically-popular policy idea because the cluster idea was only considered after the establishment of the AWMEDS. This poses questions about the creation of the cluster because original theory suggest that the creation of clusters

should not be a government driven effort, but should be the result of market-induced and market-led initiatives to allow growth.

The study also demonstrated that there was no link between the cluster programmes offered by the BSAs. It seemed that each BSA concentrated in fulfilling their objectives, which tended to overlap with objectives of other BSAs. This meant there was a duplication of services provided. The study revealed this to be caused by the way the programmes are funded and the fact that the BSAs policies are driven by availability of funding rather than business needs.

The study also revealed that the BSAs were still facing issues of practical implementation of the cluster policies. This involves the adoption of the policies that seem to be poorly developed because of the number of changes in the operations of the BSAs as well as changing offices.

Figure 12.1: Summary of findings

Part A: Cluster programmes provided by Business Support Agencies

- Cluster policies are politically-popular policies, such that they were not market led initiatives but supply driven.
- The cluster concept came about after the development of AWM and the economic strategy in 1999.
- Cluster programmes were formed to meet government expectations rather than to reinforce and build on established and emerging clusters.
- Lack of consultation between BSA and AWM before the formation of the economic strategy led to duplication of services and some pitfalls of previous policies are repeated instead of avoided.
- For some programmes there was only a change of name more like repackaging existing policies to become cluster programmes.
- Services offered by the BSAs are subject to funding.
- The background of the BSAs managers have a influence on setting the objectives of the BSA.

Part C: Issues Raised

- There is great potential as the city is being regenerated.
- Firms are sceptical of each other and there is always a level of suspicion.
- BSAs can bridge the gap of trust between new media firms.
- Training needs must be identified and training offered at time convenient.
- There is need to continue to improve the image of the city.
- BSAs and academic institutions provide a neutral ground for training and building relationships.
- The key factor is building relationships.
- Need for stable financial funding without frequent reapplications.
- There is a trade off between collaboration and giving up market intelligence.

Part B: New media industry

- Firms still young in the industry 0-5yrs with a few employees and most are private companies.
- Most firms established in Birmingham because owners were born and grew up there.
- Firms are not planning to move because Birmingham offers a reasonable cost of living.
- Most firms' location had been chosen because of convenience.
- Their location is not dependent on customers or suppliers.
- SIC codes are used to describe the activities of the firms.
- The features of their products are also used to define the industry.
- Face to face contacts are still important.
- Network is through referrals.
- Trust is crucial for relationship building.
- There is fear of ideas being stolen as they are a knowledge based industry.
- There is no evidence of collaboration between the firms.
- Most firms are not participate in the cluster programmes.
- They are concerned about the red tapes in obtaining funding and the image of the city.

Part D: Recommendations for policy makers

- Plan and have process operation in place before implementing policies.
- Programmes must be explained and simplified for firms.
- Get understanding of the cluster and be able to define its boundaries and features.
- Understanding the importance of interpersonal relationships for the cluster to work.
- Academic cluster analysis must focus on social relationships.
- Policy makers need research work before doing work on clusters.

12.3.2 Part B: New media industry

Part B of Figure 12.1 indicates the findings on the characteristics of the new media cluster in Birmingham. The findings indicate that the new media firms owners chose have generally the location of their firms because they were born in and grew up in Birmingham. They also indicated that they did not consider moving to another city because Birmingham offers a reasonable cost of living compared to other cities. It has been observed that this is not according to the initial argument of Marshall (1890) and Krugman (1991) where it was stated that firms are attracted to a particular location by a labour market with highly skilled workers and that location near a pool of specialised intermediate inputs can provide the firms with equipment, tools, technologies and services from supporting industries.

Clustering refers to links between the firms, which involve trade relations of products or services purchasing and non-trade relations of information exchange encouraging a variety of inter-firm learning. The research also revealed that, though some of the firms are in the same geographical location, there was no evidence of any significant degree of collaboration amongst the firms. Such collaboration is built upon trust and this is the main concern for new media firms because they are in knowledge based industry. The fear that most firms have is that their knowledge might leak out and be stolen which in turn becomes a major barrier to collaboration. Hence, not all agglomerations of firms in related lines of business that locate and operate in close physical proximity have clustering potential. The firms acknowledge the potential benefits of collaboration, which comes with learning new skills, and the number and scope of new projects and the risk that the firms' knowledge or ideas will be stolen.

12.3.3 Part C: Issues Raised

The findings of this study indicate that the industry cluster approach is likely to unlock the economic potential of those agglomerated economic activities that exist in Birmingham, as the BSAs bridge the gap of trust between the new media firms. The study showed that the new media industry in Birmingham is locked into an unfavourable economic structure, thus needs initial triggers to develop new sources of growth and employment creation. Now, with the regeneration and cluster programmes in place, the city stands a chance of unlocking its economic potential.

The study revealed that the cluster programmes were initiated because of the funding that was available from AWM, meaning that they were supply driven. It follows then that they are likely to face failure to detect and adapt to the real needs of the firms. This suggest that the cluster programmes are likely to miss the proper articulation of the needs of the firms, particularly those in the new media industry because of their characteristics.

Most new media firms did not take part in any of the cluster programmes offered by the BSAs, claiming that, from past experience, the programmes offered do not meet their needs. This shows that there is not much trust and a weak relationship between new media firms and BSAs, yet the industry cluster concept is about building relationships. The BSAs have to win back trust of the firms by delivering what they promise so that previous negative experiences the firms have had with BSAs are reduced and the effectiveness of existing support is enhanced.

One of the key roles of the BSAs is there to bridge the differences between the firms, provide security and confidence. This case study showed that the main task of policy makers is to facilitate the networking process, enabling firms participating in the cluster programmes by BSAs to develop new knowledge intensive skills and participate in the knowledge pool.

12.3.4 Part D: Recommendations for the policy makers

From the findings of the study Part D of Figure 12.1 indicates recommendations to policy makers. Since the literature reviewed suggested that it is common for policy makers to use policy taken from successful regions and apply it elsewhere (see Chapter 4). The findings of the present study provide information that is relevant to Birmingham.

The results from the study suggest that policy makers need to plan and have process operations in place before implementing policies. The findings also highlighted the importance of developing policy - using information relevant to the region. As a result, research was considered important before developing policies on clusters.

12.4 Principal Research Contributions

The theoretical and empirical findings of the study discussed in the previous chapters enabled the researcher to identify and discuss of the main contributions of this research. These contributions are namely theoretical contributions, new knowledge

brought into focus, industry cluster knowledge, new media firms knowledge, local government economic development and a new dimension in methodology.

12.4.1 Theoretical contributions

- The research carried out provided an in-depth practical test of industry cluster theory. This has shown that the theory can be a solution, but only under certain conditions and it will sometimes be the wrong approach.

- The study also revealed that there was a blanket application of cluster policies that had been driven by agencies. When these cluster policies are applied the results to date were not quite like what industry cluster theory had predicted. This might be because agencies imposed their programmes irrespective of what firms need or want. The agencies are clearly under pressure to find clusters, which then raises the question of whether clusters arise naturally or whether they are created to justify the establishment of the cluster strategy polices?

- In the case of new media firms, the study revealed that the industry cluster theory was not appropriate because geographical proximity of the firms did not necessarily meant collaboration. Moreover, the coincidence of co-location made the firms more wary of competitive pressures or the possibility of their ideas being stolen.

- The arguments in favour of clustering, based upon minimisation of economic transaction costs, are weak in the case of new media firms. What this study has shown is that the new media firms are, understandably concerned with

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their well being, and achieving a working environment that is flexible and relaxed, rather than being concerned with transactional costs.

12.4.2 Contribution to industry cluster knowledge

- This research presents the evidence that proximity in a geographical location for new media industry does not necessarily mean collaboration. Thus, co-location does not equal collaboration. This finding is not in line with Porter (1998). The study revealed that new media firms would be in a location that is convenient to their customers. As a result, the mere presence of firms and institutions in a location does not necessarily mean that they are inter-dependent. This suggests the need to promote the benefits of relationships so that the geographical concentration of the new media firms may actually become functioning clusters.

12.4.3 Contributions to new media industry knowledge

- Another contribution of the study is that it revealed that people participate informally in the cluster out of enjoyment. The findings suggested that new media firms preferred to be established near pubs. This enabled them to build informal relationships that they might bring into the formal sphere of production, which produces a commercial reward. This comes about when information is shared at the pubs, stirring up interest in each others work and creating a wish to engage in joint projects. This also involves identifying skills each firm has. This reiterates the fact that clusters, especially for the

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new media industry is about people, their inter-relationships and their exploitation of every opportunity when meeting people. Clusters are about people and what they do, not just in their jobs or what can be recorded in statistical returns. The boundary between leisure and work is blurred in clustering.

- The research brought together the arguments presented about the new media industry cluster and their location decision processes in order to help policy makers in formulating strategies that shape interrelationships.

- The study has provided strategic knowledge for the BSAs about the characteristics of new media industry. The characteristics identified will assist the BSAs when making adjustments to their policies. This also provides the local economic development policy makers with an understanding of how delicate the relationships between the new media firms are.

12.4.4 Contributions to local economic development policy knowledge

- The study developed a greater understanding of the concept of industry cluster theory over the first five years since the government introduced clusters policies through the RDAs. The study highlights how the cluster theory emerged and was adopted for local economic development in contrast with the other strategies the government had used to promote the local economy. The findings suggest that the interest in clusters was not based on any academic research within the UK, but was a concept popular with the OECD countries,

so the government adopted it as they were also keen to find new forms of industry policy in which the focus is firmly on the promotion of successful competitive economies.

- The theoretical framework drawn in this research provides a useful base for more comprehensive or focused studies on new media. This is not only of potential value to the study of Birmingham, but may be useful in facilitating further inter-organisational, cross-sectional and cross-national research. It also identifies the strengths of Birmingham and the areas that can be advanced, highlighting the economic strategies adopted before the industry cluster concept became popular and how they differ from the cluster strategy. Hence, attention is drawn to the pre-conditions and potentials of Birmingham.

12.4.5 New dimension in methodology

- This contribution relates to the research approach used in conducting the study. The research approach used in this thesis was based on qualitative research methods which incorporates descriptive empirical investigation and numerical evidence. Whilst previous studies on clusters have used quantitative methods, this study has brought in a new dimension in the methodology in studying clusters. As a result of using qualitative research methods, the study had included one of the principal means for generating theories (Deshpande, 1983). Even the *"use of conceptual research methods based on descriptive, empirical investigation can significantly increase the external validity of the research conclusions" (Meredith 1993:10).*

12.4.6 New knowledge brought into focus

- The first and the most significant contribution of this study is that it contributes greatly to the understanding of new media industry in Birmingham. The findings of this study are based on the special conditions that exist in Birmingham which are marked by the local economy that was predominately manufacturing. The research revealed that the new media cluster in Birmingham is a proximity cluster, that is, the firms are located in a relatively close spatial relationship with each other but they are not much embedded in the area. The firms are weakly attached to the area, based on the finding that a majority of the firms stated that they are located in Birmingham because their founders were born and bred there, rather than for economic reasons.

- Another significant contribution of this study is that it provided independent empirical evidence on the subject because external bodies such as AWM and BCC did not influence it.

- The study has also had an action research dimension in that it has stimulated networking and showed some new media firms new opportunities that exist in clustering and being part of the programmes offered by the BSAs. Thus, information gathered through this research will help broaden the awareness of the advantages of networking and clustering on complementary resources. It is through such interpretive investigations of the regional economy that

practitioners can make informed judgements about policies suited to strengthening particular local economic sectors.

- The study also revealed that the BSAs are not happy about the funding process. They are faced with problems that existed even with previous policy programmes. Red tape is still a major challenge for the funding of the cluster programmes, they are faced with lengthy funding approval procedures. The expectation for the BSAs was that, since AWM was now providing the funding, it would be a lot easier. In their view this has not happened.

Following the principal research contributions, one point that came through was that the implementation of the cluster programmes is still at its genesis and is facing a number of changes. The findings indicated that the cluster programmes were producer driven policy as some BSAs had to be defined to fit in with AWM policies. Section 12.8 deals with recommendations for policy makers.

12.5 Limitations of the study

Despite the numerous practical and theoretical contributions of the study, there were some limitations in carrying out the research. The following are those that have been highlighted:

- The findings from the research are based upon firms that agreed to be interviewed and they describe their perceptions about the cluster concept at a particular time. At the time of conducting the research the cluster programmes

had just been introduced and most of them had been in operation for not more than two years. It was also evident that the cluster programmes were constantly changing and this was coupled by the fact that even the new media firms are continually evolving and changing.

- The nature of the research did not permit a longer time period of evaluation to be adopted; a better approach to impact assessment would generally require more time to complete. For instance, the critical issue in impact evaluation is whether a program produces the desired effects over and above what would have occurred, either without the intervention or, in some cases, with an alternative intervention. This would require a long time, and the time allocated for conducting this research did not allow for such a longitudinal study.

- The limitation of time frame and resource availability also had a bearing on the methodology adopted for the study. For instance, certain aspects, like why respondents expressed certain perceptions would have been better-explained and understood through participant observation approaches over a longer period. Especially because defining clusters is very complex and the new media cluster changes all the time.

- The cluster programmes offered by the BSAs are all at their genesis stage, such that they still going under operational changes and still facing teething problems which makes it difficult to assess the genuine effect of them on their target firms.

- The study has concentrated on Birmingham and the findings cannot be generalised. It may be that the interviewed firms might have had characteristics that are unique to them and hence might not be truly representative of the total population of new media firms.

- As noted in the literature review, a lack of methodological precision is a common criticism in studies of clusters. Specific issues include the argument that the durability or otherwise of networks is not adequately assessed in many studies. The extent to which social networks are durable is difficult to assess without adopting a longitudinal research approach, especially because new media is a rapidly developing industry.

- The review of literature concerned with defining and identifying industry clusters (see Porter, 1998 and Hart, 2000) clearly showed the diversity of the cluster typologies. As a result, there was no commonly agreed or theoretically determined cut-off for defining the new media cluster and what is or is not really a cluster. The study even revealed that AWM, BCCEDD and other policy makers simply claimed the existence of the new media cluster in Birmingham without recourse to in-depth empirical analysis.

- Since new media firms are evolving rapidly, the sectors that form part of the cluster do not neatly coincide with the existing classifications of industries. By their very nature, the development of the new media industry is breaking

down old sectoral divisions and encouraging the emergence of new hybrid activities.

- The major problem is the difficulty in achieving a consistent and useful way of classifying the different sectors within this overall category. Such classification is, however, necessary if we are to understand the types of products that are being manufactured.

- Lastly, the time, money, cooperation and the need to protect the confidentiality of participants limited the design options and methodological procedures that could be employed.

12.6 Reliability and validity

Despite the limitations of the study, the researcher ensured that the study was reliable by being consistent, reasonably stable over time and across researchers and methods (Miles and Huberman, 1994). Bryman (1988) states that reliability is concerned with the findings of the research and is one aspect of the credibility of the findings. Further, the researcher was careful in keeping records of all data obtained as evidence and based conclusions on the findings for this research stand up to the closest scrutiny.

Bryman (1988) concluded by saying that if a research finding can be repeated, it is reliable. Validity is described by Coolican (1992) to mean the extent to which the research findings accurately represent what is really happening in the situation. The

effect or test is valid if it demonstrates or measures what the researcher thinks or claims it does.

The use of a semi-structured interviews in this study allowed the research to be consistent and it can be reused at any other time subject to the limitations of the study. The semi-structured interviews procedures adopted enhanced the validity and reliability of the study, as the questions were asked in the sequence they appeared on the questionnaire schedule and the same questions were asked to all the firms interviewed. For instance, many questions were asked to cover the reasons for choosing a location to establish the business.

The use of qualitative research methods and numerical evidence provides the assurance that the instruments used measure what they are intended to measure and provide a means of triangulation. The use of documentary data in conjunction with interviews provided additional triangulation.

Data was also collected at different times and from different sources. According to Jick (1979) and Denzin (1989) this provides a check on internal reliability and is triangulation by data sources. In this study the new media firms and the BSAs provided a means of triangulation since the information provided by the firms could be verified against the information given by the BSAs. In addition, data from the BSAs was collected at two stages. For some BSAs during the second round of interviews, a different officer was interviewed this provided an additional check on the validity of the information provided. The triangulation provided vital strength,

encouraged productive research, enhanced qualitative methods and allowed the complementary use of quantitative methods in this study (Jick, 1979).

It is generally argued that validity and reliability of results varies with the type of sampling technique used, the sample size and the methods used to analyse data (Dewar and Werbel, 1979; Peil, 1982; Kerlinger, 1986). Although the sample size in this study was fairly reasonable, the results may not be generalised to the rest of the firms in England other than the core area covered in Birmingham.

The pilot study conducted helped in improving reliability and validity of the findings because problems relating to the wording and design of questionnaires were identified and clarified prior to the full-scale interviews.

Nevertheless, there is no ideal way to determine validity of measures, it all depends on what the research intends to measure given the research context. Some researchers for instance, argue that a series of studies needs to be conducted and tested for validity and reliability if the researchers want to assess constructive reliability (Peter, 1981). Even where a series of studies are conducted, what may be regarded as the most important facets of constructive validity (the degree to which the measure conforms to the theoretical expectations), cannot be determined empirically since it is the nature of the constructs and the theory which determines whether the results support or invalidate a measure (Peter, 1981; Cronbach, 1971).

However, it is the researcher who has a full picture of the theoretical framework used and is the one who knows what the constructs purport to measure. Thus, the following lesson may be learnt from this study.

12.7 Lessons for policy makers

The following are the key lessons for policy makers based upon the findings of the study:

12.7.1 Need for research

Research is key in identifying the firms' needs in order to provide specialist tailored training and support services. Therefore, BSAs need to understand what they are doing and their boundaries so that they can focus on their market in order that they can be effective. This can be achieved when proper and relevant research has been conducted. Research led by industry that welcomes input from the universities can bring to light the needs of the market and enable BSAs to be aware of the market and be able to establish best practices.

12.7.2 Potential roles of academic institutions

Academic institutions are identified in the literature as having a crucial role to play in the formation of cluster programmes. They are seen to have the potential to bring together firms from different backgrounds and give practical training helping them focus on their ideas and innovations for new markets. This in turn creates potential to

attract and grow high value added businesses. They can also provide the neutral ground for the new media firms to establish relationships. They tend to provide an environment that is conducive for building trust between the firms, which is otherwise not easy where there is a fear of losing their market or business ideas.

12.7.3 Establishment of BSAs

The early years of the cluster programmes are best for learning what will work for the cluster, so that the BSAs can establish best practices. The BSAs' will help in modifying the services they offer to the firms so that they are effective and efficient. The BSAs could be more effective if they are funded on a stable financial basis which does not require frequent re-applications. There must also be coordination of all the cluster programmes to avoid any duplication.

12.7.4 Incubation centres

Incubation centres are still crucial in providing premises for the firms to get off the ground and a favourable environment for growth. But firms tend to get comfortable in the incubation centres; they do not move to allow new firms to incubate. Thus, a clear cut policy on the length of stay in the incubation centres is important. These policies and procedures must be in place before any firm is admitted in the incubation centres to avoid anything that would inhibit progress.

12.7.5 Collaboration

The finding of the study suggests that new media firms find themselves in difficult position whenever they want to collaborate with each other. They expressed that there is a trade off between collaboration and giving up market intelligence. The firms have to always come with a balance and the BSAs are perceived to provide the security for the firms.

12.7.6 Performance measurement tools

The performance measurement tools provide information on how the BSAs had performed economically and what roles they play in cluster programmes but do not provide details on how the agencies had developed as entities in themselves. There is need to focus on and develop measures of impact as well as intermediate output measures currently being used.

12.7.7 Services provided

There must be a charge for all services offered so that the firms can place value on them. However, all cluster programmes offered must be seen to make a positive contribution in revenue of the firms.

12.7.8 The image of Birmingham

A positive image of the city is important when developing a new media cluster. Programmes that promote the image of that city must be put in place, such as investing in the city's infrastructure and environment to make it attractive for relocation, development and growth for the new media industries. It is also important to build programmes that would encourage firms to go for national and international markets in order to build the desired image growth and development in the city, maximising the city's potential.

Given the lessons that have been leant in this study recommendations are made to policy makers and future researchers.

12.8 Recommendations for policy makers

Based on the findings, the following are the implications for policy makers:

12.8.1 Introduction of "new" policy

- The study has revealed that the cluster programmes geared towards the new media firms were another method of re-packaging existing policies. The BSAs themselves revealed that in many cases the only change was the name not the operation of the programmes they are offering. Thus, the industry cluster policies were seen as just simple shifts in emphasis rather than clear breaks with other policy approaches, providing new ways of dealing with economic development problems. Therefore, policy makers must ensure that

when introducing cluster policies they do not supplant existing economic development policies, but rather to supplement and integrate these policies together to improve their effectiveness.

- Notwithstanding the critics of adopting the cluster strategy, policy makers must ensure that the cluster policies they adopt make an impact on policy direction and influence local economic development. This will help counter the critics of cluster policies saying that they contain a large segment of old policies and measures. They must always come with ways of explaining how the firms may benefit from the programmes.

12.8.2 Importance of consultation

- Policy makers must ensure that effective consultation is carried out before policy is implemented, involving people from different backgrounds.

- Policy makers must work towards winning support, trust and confidence from the firms and BSAs. This is key because of the degree to which the cluster policy survives largely depends on whether the firms accept their cluster identity and recognise the value of the policy activities being proposed, especially because the firms might have a negative attitude towards policy programmes.

12.8.3 Being informed about each market

- Owing to the rate of change within existing clusters, especially new media industries clusters, policy-makers will have to be able to track and examine cluster dynamics in order to be aware of future technological developments that could positively or negatively affect clusters.

- It is important to stress that the needs of clusters will vary and there is no uniform tool-kit that can foster cluster development.

- It is vital that cluster programmes and actions are properly tailored to the individual needs and requirements of any given cluster and the specific characteristics of any given city or local economy.

12.8.4 Cluster Boundary setting

- To avoid confusion policy makers need to ensure that they define and draw boundaries for clusters before they are formed to avoid any confusion.

12.9 Recommendations for future researchers

In academic research, it is common for more questions to arise as a consequence of scholarly study than are prompted by the initial research (Gergin, 1982). This is also expected in social science research, especially because research in this field is frequently characterised by the development of theories that build upon past weaknesses and strengths of past research theories, conceptualisations and studies.

The same applies with this research, as evidenced from the previous discussion of the limitations such as time and financial constraints. Hence, this section discusses and suggests a number of potential areas and directions for future research that may be pursued by other researchers whose interest is in exploring the industry cluster concept as a policy tool for local economic development. These may include:

12.9.1 A longitudinal study

- A longitudinal study that will look at the growing and maturing stage of the policy strategy since this study was conducted at the inception of the concept and whilst encountering teething problems. This would shed light on the changing behaviour of the firms.

- An evaluative study could be conducted after five years of implementing the cluster programmes, which could provide evidence of whether the interventions really did work. It is only over time that we can tell whether the cluster approach would last or whether there will be a need to look for another policy approach. In some cases it might be that one approach may work for a period, and then cease to be applicable. Thus, a later research study will show whether the cluster programme will provide the desired effects on the economy.

12.9.2 Focus on other industry clusters

- The present study only concentrated on new media firms. Additional research on other clusters would aid current understanding on the firms' perceptions of

the BSAs and will help compare the characteristics and behaviour of firms in the other clusters. Since there are ten clusters that have been identified it would be valuable to undertake a similar study on each cluster to ascertain if a similar pattern emerges.

12.9.3 Conducting a comparative study

- A comparative study could also be done to match the performance of cluster policies in other cities in the country. This could highlight characteristics that are particular to a region or country.

- While there has been a growing body of research of the importance of the existence of clusters in economic development, there is need to assess the impact of the cluster concept in economic development. A study to evaluate the effects of the strategy on the economy - especially in assessing the change in employment levels in the target firms.

- Similar studies may be conducted elsewhere to help facilitate external validity and the model building process, as models may be developed from a number of similar studies that reveal the same results - especially if conducted in a different context. This might also help in validating, further, the conceptual framework used in this study.

- A similar research study might be conducted in a developing country to help facilitate external validity and the model building process of the industry cluster policy since each region or country is likely to have its own unique cluster features.

12.9.4 The use of other research methods

- Future research might use other research methods that utilise probabilistic sampling methods to help validate the research approach used in the study. Different methods might be useful in revealing certain patterns that might not have been revealed in this study or help facilitate comparisons of patterns of new media firms.

12.9.5 Reflecting changes

- With the constant changes and development of new media industries, later studies may reflect the changes in business activities as well as the changing definition of the cluster.

12.10 Concluding remarks

This chapter developed and discussed the main conclusions and limitations of the study. A summary of the findings from the analysis results was presented to enable an appropriate link and logical sequence in the presentation of the conclusions. These conclusions formed a basis for presenting the key contributions from the study. The study limitations were then considered followed by the recommendations to policy makers and future researchers were discussed and the potential avenues for future research.

Clearly, clusters continue to be central to the understanding of local economic development policy tools, because it is assumed that they have the potential to unlock the economic potential of those agglomerated economic activities, intending to bring the attractive developmental benefits enjoyed by existing exemplar clusters. Examining the application of the cluster policies to promote the new media cluster in Birmingham has been an important venture, as it revealed the potential of the industry in the City and the characteristics of the industry. It is therefore envisaged that the overall findings of the study may facilitate future research studies of new media clusters.

In the light of the literature reviewed in previous chapters, it is clear that there are no cluster programmes that can be formulated without a central understanding of the determinants of growth and constraints to growth of the new media firms. Policy-makers are challenged to think about how best they can be effective without missing the opportunity to foster the desired economic development through digital media firms.

It would of course be incorrect to imply that this present study would provide all the information that would be needed by policy makers in establishing an effective cluster programme for the development of local economies. Nevertheless, the study offered an essential input in understanding using the cluster approach strategy in local economic development and its development. The research should assist policy makers in making informed decisions in using the cluster theory for economic development when focusing on digital media firms. Thus, allowing an opportunity to determine their appropriateness, accessibility, responsiveness and acceptability.

The study provides empirical evidence to owner-managers of new media firms of the benefits in participating in the cluster initiative. Furthermore, it provides ideas on how best they can overcome constraints or barriers in firms clustering. For local economic development policies yet to be formulated and implemented the study provided evidence of successes or failures experienced in Birmingham when developing the industry cluster policy for new media firms. However, it is important to note that any development policy is not the only factor at work, even where it is believed that the performance of a firm is improving as a result of a policy, it will be difficult to isolate the effect of individual policies.

Therefore the adoption of the cluster approach as a new direction for local economic development should be welcomed, in that its defining features are symbolic of a new industrial paradigm and the new social economy. What is required now is for additional and supplementary research to be carried out on the other 9 cluster identified by Advantage West Midland to aid the generation of initiatives that will truly aid the development and sustainability of clusters in Birmingham. As the identification of clusters represents a first step in this process, in the light of additional research, it may become more transparent as to the generalised tools that can be employed to facilitate their growth as well as the unique tools that can address the peculiarity of the each cluster.

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Appendix 1 – Pilot Semi-Structured Interview Questions

Questions forming a basis of discussion during the firms' interviews

Aim:

To evaluate the cluster strategy currently being promoted by Birmingham City Council Economic Department

Objectives:

To establish the relevance of cluster theory to the selected sector.

Determine if the firms behave as expected per Porter's cluster theory and those who have taken the approach.

Compare the extent to which the cluster policy established by the Birmingham City Council Economic Development Department matches with the firm's behaviour and needs.

Questions

Interviewee's details

Company Name

Company Address

_____

_____

_____

Telephone Number

_____

Interviewee Name

_____

Position Held

_____

Period of Service   From _____ To _____

Firm's details

When was the firm established?

_____

Who owns the firm?

☐ Sole trade
☐ Partnership
☐ Private company
☐ Public company
☐ Franchise
☐ Subsidiary (owned by ....)

Number of employees

_____

Full-time employees

_____

Part-time employees

_____

Business Category?

☐ Printing
☐ Publishing
☐ Reproduction of recorded media
☐ Manufacturers of computers
☐ Manufacturers of office machinery
☐ Manufacturer of radio equipment
☐ Manufacturer of television equipment
☐ Manufacturer of communication equipment
☐ Computer (Hardware Development)
☐ Computer (Software Development)
☐ Other...

☐ Motion picture & video production
☐ Motion picture & video distribution
☐ Motion picture projection
☐ Television activities
☐ Hardware consultancy
☐ Software consultancy and supply
☐ Electronic publishing
☐ Digital imaging
☐ Interactive TV
☐ Web publishing
☐ Website development

Has the category of business changed at all?

☐ No
☐ Yes (if yes give details below)

What was your previous category?
Date changed?

_____

Date

_____

What would you say is now the firm's main product or service offered?

_____

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Has there been any significant digression in product or service offered in the history of the company? If yes, please explain.

What has been the main contributing factor in developing this business?	☐ Previous work experience with large/multinational firm ☐ Spin out from large firm ☐ Spin out from university ☐ Computer graduate ☐ Other
What does the firm do to keep up with the world class leading edge technology?	☐ Link up into global network ☐ Use of sophisticated information & communication technology networks ☐ Research and development ☐ Social networks ☐ Other

Location

How long have you been operating from your current address?	_____
What do you consider to be the most pertinent factor concerning your location?	☐ Proximity to customers ☐ Proximity to suppliers ☐ Proximity to city centre ☐ Proximity to nearby highway ☐ Proximity to Higher Education Institutes ☐ Concentration of companies ☐ Other...
What do you consider to be the greatest disadvantage concerning your location?	☐ Competition ☐ Premises too small ☐ High rent/rates ☐ Other...
Where would you ideally locate your business?	....
Why would this be your ideal location?	....
Where were you located before?	....
What were the reasons for moving?	....
Do you plan to relocate in the near future?	☐ Very likely ☐ Likely ☐ Uncertain ☐ Unlikely ☐ Very unlikely

If this is likely, are you considering a particular location? Please explain your reasons.	....
	....
	....

Relationships with other firms

How often do you interact with the other firms within your locale?	☐ Always
	☐ Frequently
	☐ Occasionally
	☐ Rarely
	☐ Never

How would you describe the emphasis of any interaction?	☐ Discussing business performance
	☐ Discussing problems related to location
	☐ Sharing vital business information
	☐ Discussing social events
	☐ Other ....

Have you ever been involved in a joint tender with firms within your location?	☐ Yes
	☐ No

With which groups do you have the closest connections/most frequent contact?	☐ Customers
	☐ Suppliers
	☐ Firms in similar/complimentary business
	☐ HE Institutes
	☐ Other

How often do you interact with these firms?

	Customers	Suppliers	Similar/ complimentary firms	HE Institutions	Other
Always					
Frequently					
Occasionally					
Rarely					
Never					

How would you best describe the nature of your interaction?

	Customers	Suppliers	Similar/ complimentary firms	HE Institutions	Trade Associations
Exchange information					
Discuss market changes					
Discuss orders only					
Other					

How did you establish your first contact with them?		Customers	Suppliers	Similar/ complimentary firms	HE Institutions	Trade Associations
	Referral					
	Colleagues before					
	Internet					
	Local Govt. Agency					
	Trade Association					

What must be established in your relationship to keep constant contacts?

☐ Mutual benefit in the relationship
☐ Geographical closeness
☐ Joint projects
☐ Common interest
☐ Other

Which is the preferred form of interaction?		Customers	Suppliers	Similar/ complimentary firms	HE Institutions	Trade Associations
	Face to face					
	Telephone					
	Internet					
	Other					

Does geographical proximity of firms you have connections with matter?

☐ Yes
☐ No

What would you say are the benefits of the connections with other firms?

☐ Information exchange
☐ Future referrals
☐ Keep abreast of customer needs
☐ Keep abreast with changes in technology
☐ Other
☐

What would you say are the disadvantages of connecting with other firms?

☐ Loss of customers to competitors
☐ Loss of employees to competitors
☐ Products/ services imitation
☐ Other

How useful do you feel it is for your firm to have connections with other firms for the purposes of business development?

☐ Very useful
☐ Fairly useful
☐ Quite useful
☐ Not useful

What would you say is the main source of innovation in your firm?

☐ Input of end user of product/service
☐ Competitors product/service
☐ Connection with other firms in development
☐ Other...

How can you best describe the firms you have a strong network with?		Locally	Regionally	Nationally	Internationally
	Customers				
	Suppliers				
	Similar/ complimentary firms				
	HE Institutions				
	Other				

Connections with other trade bodies and public organisations

Would you support an organisation that would specifically help facilitate business connection?   ☐ Yes ☐ No

Are you associated with any formal or informal organisation(s)/trade association(s) locally?   ☐ Yes ☐ No

Are you aware of/ involved with any of the following organisation?

Association/Scheme Name	Awareness Yes/No	Involvement Yes/No	Usefulness 1-5 Scale	Expected Future Involvement
E-Business Club				
Screen West Midlands				
The Exchange/Interaction				
Digital West Midlands				
Technology Fund				
Learning and Skill Council				
Other				

The Birmingham Digital Media Business sector

What would you say are the key to business development?
☐ Strategic location
☐ Good infrastructure
☐ Skilled labour
☐ Access to information
☐ Other

Is the image of the City important to the development of your business?   ☐ Yes ☐ No

Is the location of the city important to the business development?   ☐ Yes ☐ No

What are the effects of having your business in Birmingham with regards to it previously known as a industrial City?   ....

What can be done to attract and retain more digital media firms in the City?   ....

How do you think the development of the Eastside: The Creative Vision would be beneficial to the digital media firms?   ....

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Appendix 2: Introductory Letter

Research Institute
Aston University
11th Floor South Wing
Aston Triangle
Birmingham
B4 7ET
Tel: 0121
Mobile: 0778 648 4817
E-mail:mabuzakd@aston.ac.uk

The Director

Dear Sir or Madam,

I am a doctoral student at Aston Business School conducting research aimed at identifying the most effective ways of assisting the growth and development of firms within and those related to the digital media industry. The Association of Commonwealth Universities is supporting the study.

The study is intended to identify how successful are the policies aimed at supporting innovation, growth and development of firms like yours and what improvements you would like to see.

Your company has been identified as one of the firms in this fast growing industry in Birmingham. I would be grateful if you could spare me a little time to talk to me either by phone or face to face. The interview should not take more than 30 minutes.

All responses will of course be strictly confidential.

I would be grateful if you could forward your response using any of my contact details provided above.

With thanks in advance

Yours Sincerely

Khanyisile Mabuza

Appendix 3 Semi-structured interview questions to Business Support Agencies on first interview

Semi-structured interview questions Business Support Agencies involved in establishing and/or implementing policies that will assist in the promoting business clustering.

Aim:

To identify and assess the relevancy of the policies towards the Birmingham's digital media firm cluster

Objectives:

To identify the policies established after the 1998 White Paper on Knowledge Economy.

To distinguish the policies aimed at establishing, promoting or maintaining clusters.

To examine the basis of the formulation of the cluster policy.

To ascertain their definition of clusters.

To identify the criteria and characteristics they employ to identify clusters.

To identify the best way of promoting digital media firms in Birmingham.

Questionnaire

Kindly note that where Agency is used can mean Organisation or Department.

Interviewee's details

Company Name

Company Address

Telephone Number

Interviewee Name

Position Held

Period of Service   From   To

Formation of the Agency

When was the Agency formed?

Was the Agency formed as a response to any of the following:

☐ 1998 White Paper Our Competitive future: Building the Knowledge Driven Economy

☐ 1999 Creating Advantage: The West Midlands Economic Strategy

☐ 2001 Advantage West Midlands: Agenda for Action

☐ 1998 Birmingham Economic Strategy

☐ None of the above

☐ Other (specify)

If your Agency was already in existence by 1998, were you affected by the above documents?

☐ Yes (How)

☐ No

Who are the shareholders/partners of the Agency?

Who are the responsible for formulating the functions/objectives of the Agency?

☐ Stakeholders

☐ Partners

☐ Advantage West Midlands

☐ The Government Office for West Midlands

☐ Department for Trade and Industry

☐ Others (Specify)

Are there any studies that have influenced the functions/objectives of the Agency?

☐ Yes (specify)

☐ No

To what extend to the funders of the Agency determine the services to be offered by the Agency?

☐ Always

☐ Frequently

☐ Occasionally

☐ Rarely

☐ Never

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Services offered by the Agency

Which of the following would best describe the services offered by the Agency?

- ☐ Advise centre
- ☐ Platform for networking
- ☐ Collaboration facilitators
- ☐ Knowledge sharing centre
- ☐ Training Centre
- ☐ Fund Providers
- ☐ Promote clusters
- ☐ Other (specify)

Has there been any significant digression in service(s) offered by the Agency since it was established?

- ☐ Yes (specify)
- ☐ No

How does the Agency contribute towards firms' networking/clustering?

_____

_____

What are your objectives for promoting networking/clustering?

- ☐ Economic growth
- ☐ Employment growth
- ☐ Increase in Innovation
- ☐ Other (specify)

What services/policies do you offer to promote business networking/clustering?

_____

_____

_____

Is there any particular sector you are targeting when promoting business networks/clusters? Please give reason for your answer.

- ☐ Yes
- ☐ No

What is the response rate of firms to the network/cluster policy?

- ☐ Very high
- ☐ High
- ☐ Moderate
- ☐ Low
- ☐ Very low

On the policies you have towards clusters/business networks which policy is popular? Why?

_____

_____

What type of firms is using the popular policy?

_____

What campaigns has the Agency undertaken to promote the network/cluster policies?

_____

_____

What are the challenges in implementing network/cluster policies?

_____

_____

_____

How does the Agency stay abreast of the needs of the clusters?

_____

_____

_____

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Agency's definition of clusters

Which of the list provide best describes your definition of clusters?

☐ Interdependent firms
☐ Sharing common resources
☐ Level of interaction
☐ Other (specify)
☐ Other (specify)

What is the Agency's cut off point or boundaries in defining cluster?

☐ Distance between firms
☐ Frequency of interaction
☐ Type of product/services offered by firm
☐ Other (specify)
☐ Other (Specify)

What characteristics must exist between firms for your Agency to say a cluster/network does exist?

_____
_____
_____

Do you consider business networks being different from business clusters? Give reasons for your answer.

☐ Yes
☐ No

What has been your foundational basis for defining clusters?

_____
_____
_____

Are there any studies that might have influenced your definition of the clusters? Give details.

_____
_____

The digital media cluster and future prospects

What types of businesses would be in a digital media cluster?

_____
_____
_____

Do you have any policy to targeting this type of businesses?

☐ Yes (Name)
☐ No

How do firms in the digital media cluster interact with one other?

☐ Social networks
☐ Previous jobs
☐ Joint project
☐ Information exchange
☐ Other (specify)

How do the firms in digital media cluster forms their network?

_____
_____
_____

How would you rate the intensity or interaction of the firms within the digital media cluster?

☐ Very strong
☐ Strong
☐ Moderate
☐ Weak
☐ Very weak
☐ Don't know

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| Based on your answer above what measure did you have in mind that would help identify the intensity of the digital media cluster? | ☐ Frequency of contacts
☐ Number of joint projects
☐ Repeat sales/supply
☐ Other |

With your experience with these firms, how would you rate important of their location?

Reason	Significant	Insignificant	Don't know
Proximity to customers			
Proximity to suppliers			
Proximity to higher education institutions			
Proximity to research institution			
Proximity to complementary firms			
Other (specify)			

| What would you say are the key elements for these firms to successfully cluster? | ☐ Face to face contacts
☐ Social network
☐ Location of firm
☐ Referrals
☐ Trade Associations
☐ Competition
☐ Other (specify) |

| What would you say is the key to successful business development in this cluster? | ☐ Strategic location
☐ Skilled labour
☐ Good reputation
☐ Joint projects
☐ Access to information
☐ Other (specify) |

| Firms in the digital media cluster, whom do they have close links with? | ☐ Customers
☐ Suppliers
☐ Complementary businesses
☐ Higher Education Institutions
☐ Other (specify) |

| What do you think is the essential key in maintaining the close link? | ☐ Geographical location
☐ Information exchange
☐ Market opportunities
☐ Joint projects
☐ Other (specify) |

| What are the major constraints of the firms in the digital media cluster? | ☐ Size of company
☐ Lack of skilled labour
☐ Financial constraints
☐ Rapidly changing technology
☐ Competition
☐ Other (specify) |

| Would you say the cluster approach is the best method for promoting this type of firms? | ☐ Yes
☐ No |

What adjustments would you make to existing policies in order to facilitate the further promotion of this cluster?

_____
_____
_____
_____

What forums do you have in place to promote contribution from the digital media firms?

_____
_____
_____
_____

Would you say this cluster has been fully identified in Birmingham? State the reasons for your answer.

☐ Yes
☐ No

In your opinion, how can the promotion of this cluster be improved in Birmingham?

_____
_____
_____

What can you recommend to improve the local demand of the cluster products?

_____
_____
_____
_____

What are the prospects of the digital media cluster in Birmingham?

☐ Very good
☐ Good
☐ Average
☐ Poor
☐ Very poor

The information given on the questionnaire will be confidential and intended solely for the use of writing an academic thesis.

Appendix 4: Semi-structured interview questions for interview with new media firms

Questionnaire

Aims

To develop guidelines for a cluster policy towards digital media firms

To evaluate the cluster strategy currently being promoted by Birmingham City Council Economic Department

To determine the relevancy of Porter's cluster theory in developing the digital media firms in Birmingham

Objectives

To ascertain clustering behaviour displayed by the media digital firms in Birmingham.

To detect whether the digital media firms in Birmingham has what Porter calls the "predictable causes of cluster development".

To assess whether digital media firms recognise and enjoy the benefits of cluster membership as stated by Porter.

To establish the relevancy of Porter's cluster theory to the digital media firms in Birmingham.

To determine the relevancy of cluster strategy currently being promoted by Birmingham City Council Economic Department

To examine the extent and significance of localised inter-company trading.

Questions

1. Interviewee's details

Company name

_____

Company address

_____

_____

Telephone number

_____

E-mail address

_____

Name of person filling the questionnaire

_____

Position held

_____

Period of service

_____

2. Firm's details

1. When was the firm established?

_____

2. Who owns the firm?

☐ Sole trader   ☐ Public company
☐ Partnership   ☐ Franchise
☐ Private company   ☐ Subsidiary

3. How many people are employed?

Part time _____

Full time _____

4. What type of business are you in? Please tick where relevant and give detailed information of what you do below.

☐ Printing
☐ Electronic publishing
☐ Motion picture & video production
☐ Motion picture & video distribution
☐ Television activities
☐ Interactive TV
☐ Broadcast media
☐ Communication equipment
☐ Computer hardware consultancy
☐ Computer software consultancy
☐ Digital image
☐ Web publishing
☐ Website development
☐ Training through e-learning
☐ Internet public relations
☐ Advertising
☐ ....
☐ ....

3. Location of the firm

5. What are the factors that were considered when choosing the firm's location?

_____
_____
_____

6. Was proximity to suppliers or customers an important factor when choosing the location?

Suppliers	Customers
☐ Yes	☐ Yes
☐ No	☐ No

7. Was proximity to a larger firm a consideration when choosing the location?

☐ Yes

☐ No

8. When choosing your location did you consider the type of firms that were already established there?

☐ Yes

☐ No

9. What type of firms or organisations would you prefer to be close to?

_____
_____
_____

10. How would you rate the competition you face in your present location?

☐ Severe
☐ Mild
☐ None existence

11. Does your present location provide you with any of the following? Tick where the answer is yes.

☐ Potential local customers
☐ Accessibility of supplies
☐ Establishing close and ongoing relationships
☐ Possibility of information and knowledge sharing
☐ Availability of skilled labour
☐ Access to available infrastructure
☐ Other

12. What do you consider to be the greatest advantage concerning your current location?

_____
_____
_____

13. What are the greatest disadvantages for being in your current location?

_____
_____
_____

14. Is there another location you would prefer to be?

_____
_____

Why is that?

_____
_____
_____

4. Relationship with other organisations

15. Have you already established links with the firms or organisations in your locality?

☐ Yes

☐ No

16. How did you establish your links with your customers?

☐ Referral
☐ Colleagues before
☐ Internet
☐ Trade association
☐ Other

17. How would you describe the transaction content (what is being passed through the relationship) of the links you have with the firms or organisations in your locality?

☐ Exchange of friendship
☐ Exchange of power and influence
☐ Exchange of ideas, information and know how
☐ Exchange of goods, money, technology or services
☐ Other

18. How did you establish your links with your supplier?

☐ Referral
☐ Internet
☐ Trade association
☐ Other

19. How would you describe the links you have already established with your customers?

	Strong	Average	Weak
Frequency of interaction			
Length of relationship			

20. How do you maintain these links?

_____

_____

_____

21. Could you name 3 firms or organisations you have strong links with and the type of business they are in.

If these are customer, roughly what percentage of sales do each of these account for?

Name of business	Type of business	Sales Percentage

22. What are the benefits you enjoy as a result of links with:

Customers:	Suppliers:
☐ Increased productivity	☐ Increased productivity
☐ Information exchange	☐ Information exchange
☐ Future referrals	☐ Future referrals
☐ Keep abreast of customer needs	☐ Keep abreast of customer needs
☐ Keep abreast with changes in technology	☐ Keep abreast with changes in technology
☐ Other	☐ Other

23. Are there any disadvantages having joint projects with firms offering complementary services?

☐ Loss of customers
☐ Loss of employees
☐ Product/service imitation
☐ Other

24. How would you describe your links with local higher education institution?

☐ Very close
☐ Close
☐ Non existence

25. Of your total sales (income) what percentage of those sales are to customers in:

	Sales percentage
☐ Birmingham	
☐ West Midlands	
☐ UK	
☐ International	

26. Of the your total input products/services (suppliers) what percentage are from suppliers in:

	Supplier's percentage
☐ Birmingham	
☐ West Midlands	
☐ UK	
☐ International	

27. When appointing staff, how do you identify them? Please tick where appropriate.

☐ Family member
☐ Recruitment from Higher education Institutions
☐ Referrals
☐ Previous jobs/projects
☐ Other

5. Connections with local trade bodies and public organisations

28. Are you a member of any local or regional trade association that you are a member?

_____
_____
_____

What are the benefits of being a member?

_____
_____
_____

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What are the disadvantages of being a member?

_____
_____
_____
_____
_____

29. Have you been involved with any of the following:

☐ E-Business Club
☐ Screen West Midlands
☐ The Exchange/ Interaction
☐ Digital West Midlands
☐ Technology Fund
☐ Learning and Skill Council
☐ Other

6. Birmingham digital media business cluster

As you may know, Birmingham is trying to encourage the development of a cluster of firms or organisations involved in the digital media industry:

30. What do you think of this initiative?

_____
_____
_____

31. What do you consider would be the best ways of achieving this? What changes can you recommend to the City to create a good environment for your firms?

_____
_____
_____
_____
_____

32. Are there any other comments you would like to make?

_____
_____
_____
_____

32. What is the turnover of your firms:

☐ >100,000
☐ 100,000 >300,000
☐ 300,000 > 500,000
☐ 500,000 > 700,000
☐ 700,000 <

Thank you for taking the time to complete the questionnaire. Please return your completed questionnaire in the enclosed pre-paid envelope.

Appendix 5 Semi-structured interview questions to BSAs for second interviews

This is a follow up from our previous interview. My focus is mainly in establishing the effective ways of assisting growth and development of new media firms using the cluster approach. Having completed a survey from the firms it would be interesting to find out what you response would be.

	Schedule of questions
	Background information
Interviewee Name of organisation	
	From your perspective how did the idea of Birmingham's clusters strategy come about?
Influences Policies DTI AWM BCC	
	Who have been the main players in developing and implementing the strategy?

	What role has your own organisation played?
Have you employed any specialist with a technical background to assist in the development of clusters?	Has the emergence and launch of this strategy influenced the development, structure, or activities of your organisation?
New department Additional staff Staff training Sector focus Respond to needs not identified before	Have there been any adjustments to the policy and its implementation?
Implementation Policy itself Firms Government influence	What do you consider have been the main factors which have influenced the evolution and implementation of the policy?

	In what ways has the content /delivery of the policy been changed?
Why were the changes made? What are the reasons for changing the contents of implementing your policy?	
	What have been the key issues and problems experienced in implementing this policy?
	What do you believe to be the experience of the firms in receiving the policy?
How do they value this policy aspect? What do you consider the value of local policy to assist new media?	
	How would you describe the main benefits of this policy to date?
Have you any systematic data to base your answer or experience? Has it met your expectations?	

	What do you feel are the appropriate measures to gauge the progress in the sector?
Response rate	
	Given these measures how much progress have you made with this policy?
What basis are you making the judgement? What or are there any evaluation policy?	
	Are you or any organisation engaged in any progress of monitoring and evaluating the policy?
If yes, what is the nature and format of such evaluation?	

	What have been the main barriers to further progress?
Too early to assess Firms not responding No collaboration	
	What are the main weaknesses of the policy?
	How do you think these could be overcome?

Looking into the future:	
	Do you feel it is necessary to alter the policy in anyway?
Adjust the policy?	
Adopt a different approach?	
Policy needs minor adjustments?	
	Are there any problems you foresee in the future with the policy?
Political changes Environmental and Ethical Changes Societal Changes Legislative changes Technical changes	
	How do you think these problems could be avoided?

This is what the firms said. What are your views about their perspectives?

I am going to read you some of the main findings from my survey. The findings may not apply to your organisation. Nevertheless, I would appreciate comments you would wish to make.

1. When the public sector provides accommodation for new media companies to facilitate collaboration, the view is that this does not always work. The view is that media firms are at their early stage of development and remain suspicious of collaboration with firms in the same sector.

2. In encouraging development of new local high technology firms the science parks have provided suitable accommodation to local media firms. However, there remain a concern that in the event of growth and diversification new media firms may not be able to remain on the science park where the expansion does not fit within the parameters set out by the science park.

3. A significant number of companies identified the timing of events for companies during office hours as being inconvenient particularly for small firms of one to two businessmen.

4. The training and seminars events organised for the firms are not valued by them because they feel it is the same people that come in every meeting; the level of training is low and there is no business opportunities at the events.

5. A large number of new media based firms indicted that they saw Birmingham as having a negative image in relation to the media sector which restricted business opportunities and has prompted new media based firms to move to London.

Are there any other comments you would like to make?

Thank you for your help.

Appendix 6 A list of directors and/or senior officers BSAs interviewed

Name of BSA	Comments
1. Business Support Growth, BCC	• They aim to promote business growth for creative industries. • Interviewed twice but on the second interview his position had changed.
2. Business Growth Directories, AWM	• Director of ICT Cluster Opportunity Group at AWM. • He did not participate on second interviews because he was promoted to another position.
3. West Midlands Digital	• Chairman of the West Midlands Digital group. • The organisation is none governmental. • They aim to promote all new media firms in the West Midlands. • When the second interviews were conducted the policy had changed.
4. Warman Group	• Public relations consultancy during the launching of the Advantage Technology Fund. • They were to promote the fund for 2 years. • When the second interviews were conducted the policy had changed.
5. Senior Academic in Business Knowledge and Innovative Department – UCE	• Involved in the developing of the link between UCE and BCC. • Available for the first interview only because somebody else was in charge.
6. UCE Business School Cooperate Development Manager	• Responsible for the link between UCE and BCCED-Interactions. • Available for the first interview only.
7. Director of Angle Technology	• Private company specialist consultancy in developing technical industries. • They handle technical diligence. • They are part of the major consortium responsible for advising and manage the £7M West Midlands Technology Fund for new media firms. • Available only for the first interview because the policy had changed.
8. Birmingham Interactions, BCC	• The aim is to join up project between IT firms, business schools and the BCC. • Provide learning and support for SMEs. • Available only for the second interview.
9. Regional Strategy & Policy Co-ordinator	• The Regional Action West Midlands is influential in establishing and implementing cluster policy. • Available only for the first interview.
10. Screen West Midlands	• They aim to steer the region's screen-related community to higher levels of achievement and recognition. • They provide support in every way they can: practical, financial, creative, strategic and business support. • Interviewed twice.

11. Creative Industries Co-ordinator Business Link	• Member of the Cluster Opportunity Group from Business Link. • Business Link is managed by Birmingham and Solihull Chamber of Commerce on behalf of the Small Business Service. • Provides a one-stop business support service providing all the help, advice and expertise needed to grow a business. • Interviewed during the second interviews, since the COG was not formed yet.
12. West Midlands IT Association – West Midlands Operations Manager	• It has been established as the private sector organisation responsible for the development of a credible and thriving IT industry within the West Midlands. • Focus on IT companies working together across a variety of product and service sector. • They provide an opportunity for IT businesses to grow, improve and influence. • Generated from various IT groups who were formed privately so that they can bid for AWM funds as an association. • Interviewed during the second interviews only because it was not formed during the first interviews.
13. Business Partnership Unit – Aston University	• To assist HE Institutions to reach out to business and community. • Find research support for academics from companies. • They help academics protect intellectual property, work with industrial partners and create spin-out companies. • They also help businesses to increase profits, introduce new products, develop new processes, recruit talented professionals and access government funding. • Only available for the second interviews.
14. Cluster Skills Manager (media) - Birmingham & Solihull Learning & Skill Council	• Providing the training necessary for employees to be IT skilled. • Interviewed twice.
15. BCCED Support SMEs	• They support SME for social and enterprises. • Interviewed during the second interviews.
16. Media Cluster Manager – AWM	• Responsible for the Media Cluster Opportunity Group. • Just taken over from a manager who has just been promoted. • Interviewed during the second interviews only because he was not the manager of the group.
17. E-Business Club	• They aim at helping local businesses make effective use of IT, communication and internet. • Launched in March 2002. • Interviewed during the second interviews only because it was being established during the first interviews.
18. UCE Lecturer, Executive Member of the Media Cluster Opportunity Group.	• He represented HE Institutions in the Member of the Media Cluster Opportunity Group (MOCG). • Contracted for three years to be part of the MOCG. • Interviewed during the second interviews only because the membership of the MOCG was not formed during the first interviews.

19. Education & Training Channel (ETC) at Aston University – Production and Promotion Manager	• It is distance learning channel where lectures and courses for off campus students as well as developing video based support material for Aston University. • They emphasis on creating moving image packages suitable for viewing across all the communication technologies. • Interviewed during the second interviews only because it was not formed during the first interviews.

Source: Author's Survey 2003