The Impact of SMEs' Networks on Innovation in the UK Creative Industries

Mariana Dodourova*

University of Hertfordshire
College Lane, Hatfield, AL10 9AB, United Kingdom.
E-mail: m.dodourova@herts.ac.uk

Tauno Kekale

Vaasa University of Applied Sciences
Wolffintie 30, 65200 Vaasa, Finland
E-mail: Tauno.Kekale@vamk.fi

Abstract: Research shows that SMEs enhance their innovation ability by engaging in networks. However, despite the wealth of research in the domain of SMEs, the question of how SMEs exploit network linkages to the benefit of their innovation efforts remains inconclusively answered. This paper examines the impact of external networks on the innovation activities of SMEs operating in the Creative Industries Sector. Owners and managers were interviewed in twenty-eight England-based SMEs. The findings suggest that personal networks are of major importance. Relationships with public bodies are seen as moderately beneficial. The prevalent obstacles for the SMEs in the CIS are funding and hiring of talented individuals. Customers have a strong impact on innovation in the creative SMEs. The large players in the CIS are important in securing path to the market for the creative outputs but they are not central to the creative processes and to the generation of innovation.

Keywords: networks; innovation; SMEs; creative industries

1 Background

The Creative Industries Sector (CIS) in the UK

The UK has the largest Creative Industries Sector (CIS) in the world relative to GDP (Technology Strategy Board, 2009). Within the UK, CIS, excluding crafts and design, contributes more than the contributions of sectors such as Aerospace, Pharmaceuticals and Energy (ibid, p.12). The sector has grown by an average of 5% from 1997 to 2008 compared to 3% of the whole of the economy (DCMS, 2010). In the summer quarter of 2010, creative employment totalled 2.3 million jobs. This was double the whole economy growth rate for jobs of 1% (DCMS, 2010). Moreover, the growing percentage of creative workers in sectors outside of CIS also suggests that the sector has a wider impact on the UK innovation system as a whole (NESTA, 2008a).

The creative industries sector comprises a diverse number of market sub-sectors. This diversity causes difficulties and different approaches to defining CIS (for a review see Skillset, 2011). This study is focused on the sub-sectors of CIS that are seen as having relatively more digitalised output and in which creative processes are seen as being relatively more aided by technology, i.e. software and game production, computer and internet services, and music and broadcasting media, including TV and film production. UK is reported to have the largest number of games development studios in Europe and is the third largest producer in the world (NESTA, 2008b). UK is also the largest producer of TV and radio content in Europe, with only the US generating more value from TV exports (Skillset, 2010), and second only to the US in the global film market (UK Film Council, 2009). Skillset estimates that around half of the workforce of these sub-sectors in UK is located in England (Skillset, 2012).

The subjective value and project-based nature of most CIS products are characteristics that distinguish it from more traditional manufactured products and have driven a flexible employment model, i.e. companies tend to retain a small core team of full time employees and appoint additional employees or subcontract specialist expertise to fulfil specific project commitments. Consequently, CIS is highly fragmented, characterised by a large proportion of small and micro companies.

Traditionally, four stages can be distinguished in the CIS supply chain – concept creation, production, distribution, retail. In the UK, organisations involved in the first stage are

likely to be freelancers and Small and Medium Enterprises (SMEs), or exist in vertically integrated supply chain entities (TSB, 2009). Further along the supply chain, it is larger companies that tend to undertake production and distribution tasks relying on standardisation and scale to make the business model work. A key feature of the studied sub-sectors of CIS is the dependency of smaller entities on the few large businesses for providing the route to market.

Innovation in Small and Medium Enterprises (SMEs)

A number of definitions for innovation types are used in the literature resulting in ambiguity of the term innovation. Typically, innovation is defined either by its object, i.e. product, process, organization, technological, etc., or by the degree of novelty introduced, i.e. radical/incremental, discontinuous/continuous, revolutionary/evolutionary, etc. (for a literature review see Garcia & Calantone, 2002). Most generally, innovation is conceived as something that breaks away from established patterns.

To be successful innovation must be linked to customer demand. Pavitt (1984:344) defines innovation as 'a new or better product or production process successfully commercialised or used'. Consistent with this definition but adding an organisational dimension, Schumpeter (1996) defines five types of innovation: the introduction of a new or improved product or service, the introduction of a new process, the opening of new market, the use of new sources of raw materials and the creation of a new type of organisation. New processes can be administrative or service delivery systems, new production or financing methods, different marketing, sales, distribution or procurement approaches, new information or supply chain management systems (Morris and Kuratko, 2002). This is the understanding of innovation that underpins this study.

SMEs play a critical role in competitiveness through their ability to innovate, increase employment and contribute to economic dynamics (Keizer et al., 2002). The ability to innovate is considered to be one of the key factors for survival and growth of SMEs, a factor that contributes to competitiveness in an increasingly globalized business environment (Massa and Testa, 2008).

However, being a key driver of sustainable competitive advantage, innovation is also one of the key challenges for SMEs. While some studies regard SMEs as efficient innovators,

continually entering the market with new ideas, products and processes (De Long and Marsili, 2006), and commercializing disruptive technologies (Kassicieh et al., 2002), with innovation contributing to more than one-third of sales for about half of the studied SMEs (Capello and Morrison, 2004), others argue that many SMEs lack the capability to innovate (e.g. Vermeulen, 2005).

A review of extant empirical studies reveals a number of internal and external barriers to innovation in SMEs. Constrained ability to invest in new technologies and equipment, and to provide world-class training to their workforce, are seen as key factors constraining SMEs' ability to innovate (Laforet and Tann, 2006). SMEs themselves regard four factors as constituting equally important barriers to innovation: 1) restricted access to finance, 2) scarcity of skilled labour, 3) a lack of market demand, and 4) the high cost of human resources (Flash Eurobarometer, 2007). Limited resources and capabilities for conducting in-house R&D (Hausman, 2005), and over-involvement in operational level decisions (Sethi et al., 2001) have been cited as significant negative effects of smallness. Of course, some of these barriers will apply more to some industries that to others. It is, therefore, useful to establish which barriers are seen as obstructing innovation in CIS and how SMEs overcome these.

Beyond the constraints, SMEs are reported to have such virtues as scarce bureaucracy (Sivades and Dwyer, 2000) and great operational expertise and customer knowledge (Dahl and Moreau, 2002), which foster innovative activities.

Networks

The central idea behind the concept of networks is that firms within a network take advantage of large amounts of autonomy while using their links to transmit and create value. Relational capital, developed by direct interactions between the networking players allows them to avoid many of the problems associated with market transactions, e.g. opportunistic behaviour, imperfect information, incomplete contacts, knowledge spillovers, transmission of tacit knowledge, etc.

Hence, it has been argued that SMEs can counteract the liability of size and enhance their ability to innovate by engaging in networks and utilizing the potentially available resource flows (Bougrain and Haudeville, 2002, Freel, 2005, Narula, 2004). Personal

networks are seen as the main channel for transferring tacit knowledge (Barabasi and Albert, 2000, Pammolli and Riccaboni, 2002), which is embodied in the personal knowledge of technical and scientific agents, cannot be transferred through written documents (Dosi, 1988) and has been found to be of paramount importance in innovation processes (Senker, 1995).

Some authors argue that SMEs have a good ability to create and make use of network relationships due to their size (e.g. Rothwell and Dodgson, 1994) while others author claim that SMEs have weak external contacts precisely because of their size (e.g. Srinivasan et al., 2002). This debate brings a question that has been inconclusively answered by previous research, i.e. whether and how SMEs engaged in networks exploit the potentially available external knowledge to the benefit of their innovation efforts.

Against this background, the main question, which this paper aims to address in the context of SMEs in CIS in UK, is whether networks impact on SMEs' innovation efforts and, if so, how. This research aim leads to the following questions:

- Which barriers are seen as obstructing innovation?
- What is the role of networks in the creative processes?
- Which relationships are most important for the generation of innovation?

2 Research Method

This study is concerned with the need to gain full and true understanding of the realities of SMEs rather than with the need to establish universal applicability. A qualitative research method provides for exploring the perspective of owners and managers of SMEs - what they see as important and significant – and for 'listening' to the complete story, particularly with regard to sensitive issues such as relationships.

Selection of Respondents

The study applies the principle of data source triangulation, whereby the phenomenon of interest is studied at different places (Stake, 1995), i.e. across organizations, which vary in terms of size and industrial background, in order to achieve validity of interpretation,

explanation and generalization. The respondents in this study represent different knowledge-based sub-sectors of CIS in England, namely software and game production (n=9), computer and internet services (n=8), and music and broadcasting media, including TV and film production (n=11). These sectors display similarities in having more digitalised output and creative processes more aided by technology relative to the other sub-sectors of CIS. They are also similar in lagging behind in terms of relative economic contribution. The distribution of the respondents across the sub-sectors is not clear cut because in most cases the companies perform a combination of activities, e.g. TV and Film production is often combined with leisure software production or broadcasting.

The company selection includes three medium-sized companies (with less than 250 employees), six small companies (less than 50 employees) and twenty-one micro-companies (less than 10 employees) (European Commission, 2005). This selection is representative of the highly fragmented structure of CIS, characterised by a large proportion of small and micro companies – eighty-four percent micro companies and twenty-four percent freelancers (Skillset, 2009). Only two percent of the companies in CIS are large, defined as having more than 100 people (ibid.).

To ensure a selection of knowledgeable informants, owners and managers of SMEs were targeted. Company data were obtained from the database of the London Chamber of Commerce and Industry and three hundred companies were randomly selected. They were firstly contacted via personalised introduction emails. The initial response rate was zero. The selected companies were contacted again via email, which contained an outline of the interview questions and provided additional information about the purpose of the study. Several attempts resulted in the recruitment of thirty companies.

Data Collection and Analysis

The employed research instrument was semi-structured, open-ended conversational interview for its potential to generate rich and detailed accounts of the respondents' experiences. A set of key interview questions was developed, reflecting the insights gained from the literature review and purposely designed in general terms to allow the respondents to lead the conversation into areas they considered important. The sequence

of the questions was adapted depending on the conversational flow in each interview (Wengraf, 2001).

Each interview began with a brief narrative of the professional history of the interviewee, which was then used as a basis for follow-up questions. The interviewees were encouraged to develop their views around the key questions and reflect on their experiences. The interviews ranged in length from 60 to 90 minutes.

The recruitment attempts continued until it was felt that the developed theoretical inferences were meaningful and important (Bryman and Bell, 2003). The selection of respondents ensured that patterns of reoccurring events and behaviours were accounted for across the studied sub-sectors of CIS, while taking into consideration the underlying variations.

The study adopted an unstructured approach to the data analysis, allowing themes to emerge from a close reading of the interview transcripts rather than using predefined categories and computer-assisted key word searches. This approach is underpinned by Kolb's learning cycle model (Colombo et al., 2012, Kolb, 1985).

The data were initially broken down into categories (nodes) corresponding to the guiding interview questions. In those cases where the respondent's reply addressed more than one node, the data were coded into both categories. Continuous comparison of the categories across the interviews produced patterns, which were checked for a fit with the existing understanding and concepts suggested by the relevant literature.

Reliability and Validity

To ensure reliability of the findings, all the interviews and consequent comments were tape-recorded and transcribed, and consistent data coding and sorting were deployed and documented.

Internal checks ensured the validity of the data (Kirk and Miller, 1986). The patterns that were beginning to emerge were continuously refined in parallel with the process of interviewing. The study deployed replication of questions across interviews with respondents from different sub-sectors of CIS and different organisational sizes. As the research progressed, if new or inconsistent data were collected, the categories were

compared and modified. Some of the interviewees were contacted via email and telephone calls to elaborate on unclear points where necessary.

3 Findings

Software and game production

The software and game producers that we interviewed were all located in southwest England and, except for one with around 200 people, were very small in size, between 2 and 20 employees. All companies claimed that their product development took place in close cooperation with the customers, and their resources expanded through a personal network of individuals who participated in the development and production work. Most respondents emphasized that they were networking with people, individuals, not companies:

> *"Yes, one of the pillars is the whole notion of customer development and all of our first clients were very important to us because they helped us understand the market, the product and basically tweak what we had as a product at that time to fit the market."*

> *"The rationale behind it is that as a small company financially we cannot afford to run 20, 30, 40 strong sized teams that cover all the bases. However, given the way that technology moves with internet connectivity- Skype, messenger, virtual networking, it means that we can hire individuals to work remotely from wherever they are and communicate with them quite easily. They can fulfil roles that we need for specific projects."*

Universities were not active nodes in the innovation networks of these SMEs. The decision-making speed of the much larger in size academic organizations was found frustrating.

> *"....from a University Perspective, the cross department conversations do not really happen a lot, and the cross department collaborations, and we have experienced competition between different departments, even though we are playing for the same team. There was also an instance when we were looking to putting in a funding bid application and at the 12th hour, that got pulled because*

it was not approved by a person within the university. Because of bureaucratic or paperwork issues."

However, universities and research institutes, although not necessarily a part of these SMEs' direct value-adding network, still played an important role. All managers except one saw their local university as a good source of talented workforce. Many felt that research work and university publications were important and helpful in introducing them to a wider range of technologies and application areas.

As for the governmental and local intermediary institutions, the software/game SMEs managers did not give these institutions high marks for being useful to them, even though they recognised that there may be a role for them elsewhere, in more traditional product-based businesses. Moreover, the available offerings were seen as better suited to the needs of bigger organizations.

"....about the TSB, they have this new scheme which helps to raise money for technology start-ups. It is inadequate for start-ups. So I know there are of opportunities and programs out there but I think that the government do not really understand very well the need of companies like ours so that is another reason why we have not worked with any of these agencies."

"Well I think the government could definitely spend more time and more focus on building the UK's investment community. It is quite good if you are trying to raise 2 million pounds or more. But for the smaller company trying to get the start-up capital, seed capital, half a million to a million pounds is actually really hard in the UK at the moment…"

One main point why these services were not seen to be so useful for the game and software sector SMEs was put forward by an entrepreneur like this:

"The games industry is quite unusual in that small companies like us still compete on a global market. There are not local games companies in the way that there are local farmers."

These SMEs had typically started from a very good idea of what customers wanted, often with already established personal network of individuals worldwide, both to work with and to test ideas with. Thus networking services may not be what these companies

necessarily need unlike a local producer of services or physical products that may need help with retail, logistics etc.

All interviewees felt that there were practically only two barriers to their innovation activities: funding and availability of talented individuals. These problems were also reflected in the respondents' answers regarding what they thought were the problematic areas in the services provided by intermediaries, i.e. they could arrange logistics and peer networks, but they could not arrange suitable SME funding nor lead SMEs to relevant skilled labour pools.

Computer and internet services

This class of companies was much more heterogeneous than the previous. We have chosen to classify these companies under one heading because of the nature of their product, i.e. customised services consumed – as with other services - in the process of production. The innovation in these one-off services typically represents joint problem solving with the customer. Half of the participating companies were well established, with between 30 and 50 employees, while the other half consisted of small start-ups with up to five employees. The problems pertaining to innovation as well as the nature of innovation partnerships were found to vary between these subgroups.

The barriers to innovation among the small start-ups were identical to those in the previous group: skills acquisition and finance. While it is even more difficult to present funding proposals for services than for products, the funding problems of these start-ups were related to operational cash flow. The established companies, on the other hand, had seemingly all reached a size and customer base that their manager was reasonably happy with. Instead of funding problems or staff problems, strategy orientation had become critical in promoting or stopping innovation. The balancing of profitable, organic growth while staying responsive and innovative was seen to be the biggest problem:

> *"We have the challenge of trying to grow our business to be most profitable, and to try and become a bigger fish in the pond and be ready and able to take on ever bigger and ever more profitable pieces of work. So it is all of the challenges of growing successfully, and profitably."*

Some research services, e.g. product development and prototyping services, were seen as more difficult to utilise than in companies developing and selling tangible products. This was reflected in the answers of the entrepreneurs in this group. The main benefit they saw in being located near a university was access to a pool of talent and ideas.

> *"They do provide a source of new ideas. The university tends to have a leaning towards research and new development and opportunities and that in itself provides us with some very good ideas. Every now and again we sort of hear something there and we think about it, and then we realize there is an opportunity. And also it is a source of new recruits, so we work with them to take on undergraduates to come and work."*

The customised nature of the services business seemed to limit the benefits that these companies received from intermediary organisations.

> *"Well I do not know how much they cost. I have had a look on some of their information once or twice but I think that what we do is quite niche and quite specialized, so…"*

Thus, intermediaries may be relatively more useful to businesses operating in more traditional business areas and having an element of tangible production.

Music and media

The replies of music and media companies were very similar to the replies we received from the computer and internet service companies. This could be attributed to the comparable "weightless" nature of their products. In terms of size of the participating companies, all companies, apart from one, were small, i.e. with up to 10 employees.

As in the other studied sub-sectors, SMEs in this group were found to work in extremely close relationships with their customers. Most respondents in this group could not emphasize enough that it is them who put the "creative" in their businesses:

> *"We are in an age of intellectual property in the creative industries. If you do not have innovation you are never going to sell a single product. From the*

sound of music track to the shape of your business model, everything is about innovation."

Yet, the following reply carries a different message:

"Yes, they say we want to do this and that, and then I might say 'One way of approaching that might be too shoot it this way' or 'Yes, we could do it that way', and then they have to see what is the best vehicle for their vision. I mean I do not really have a corporate message of my own, I am just the messenger, not the writer of the message."

In a couple of companies, the entrepreneurs felt that discussion with universities helped them foresee technology changes. Yet, most respondents felt that universities were behind the development curve and, in concert with the respondents in the other two studied groups, found bureaucracy too much and decision-making too slow to allow timely and adequate response to market needs.

"You know, someone needs to help facilitate the people that are trying to respond quickly to changes in the market and not get too bogged down in the bureaucracy of finding the finance and running the program. (….) I mean every time you do that you are taking time that you could have been doing something that is potentially more productive in terms of getting your product to the market."

Public intermediaries were not found very useful either. Several companies shared that they had received some practical help with taxation, paperwork, etc., when starting their company but in the later stages of company development:

"No, because they do not know the first thing about media. They did not bring anything to me. They could not really tell me anything I did not know, and could not really help me find work, generate business."

Yet, the co-founder and co-owner of the only medium size company in this group shared that some business education sessions organised by intermediaries had been eye-opening:

"….and we had some publisher representatives around the world, and we were sort of complaining that our publishers were not doing very well and they were anywhere being near the success we were in the UK, and we went on a course

concentrated on managing overseas partners, and that was quite a turning point for us because that actually opened up our minds to know that it is about how you select them, how you manage them, and actually if they are not delivering, you may have to question yourself, are you are putting in the resources to facilitate them, to educate them, to support them, in doing those things."

In other words, it may be the case that music and media 'creatives' lack business skills and organisational skills more than the SMEs in the other two studied sub-groups. In any case, the most positive feedback on public intermediaries was given by this group of entrepreneurs.

4 Discussion

Two key findings emerged from the data. Firstly, all the SMEs work in very close interaction with their customer companies. Secondly, the creative output derives mostly from one or several individuals in the creative SME rather than from the customer companies. The latter point is typically the reason behind the founding of the creative SME in the first place.

The first point stems from the immaterial nature and subjective value of the product. Only a fraction of the studied SMEs sell their products to the end consumers. The majority sell customized products or services to other businesses who tend to be larger incumbents. Creative SMEs work in close interaction with their customers. The buyers - future owners - cannot fully evaluate the product at the time of contracting it so they are typically keen to exercise some control over the creative process. The creative SMEs act as a 'magic boxes' whose potency is contingent upon the creative abilities of the individuals in their 'nodes'. Thus the key capability of the creative 'nodes' is capturing often a hazy idea – originating internally or externally - and turning it into a commercial product. In other words, the key capability of these enterprises is innovation.

Creative SMEs act as 'innovation suppliers', i.e. large companies rely on SMEs to develop the creative part of their offerings. The SMEs work under very loose, if any, specifications when shaping and delivering the customer's vision. Hence, while customers do have a strong impact on innovation in the creative SMEs, the creative

output is typically the 'brain child' of one or several individuals – a creative 'node' - inside the SME who usually include the founders of the SME.

The big players in the CIS, however, while not central to the creative processes and to the generation of innovation, play an important role in securing the path to the market for the creative outputs.

Government-run intermediaries and support agencies are found of little use by the majority of the respondents who are either unaware of their existence, or never felt the need to use them, or, where they had been in contact, view such organizations as generally unfamiliar with the specifics of their businesses. Intermediaries are found useful in delivering some basic information and advice on with paperwork and taxation to start-ups but, alarmingly, their support and advice is found to be too general and largely unaware of the specifics of the creative fields. It seems that these services typically cater to mainstream, product-based companies or more traditional small services. Such sectors may be the recruitment ground for these intermediaries, which may explain why the staff's experience is not well suited to the creative fields. While government agencies and intermediaries may provide sufficient help to more traditional and production-based sectors, SMEs in CIS do not feel adequately supported.

Our data also signal a large gap in the provision for creative SMEs that have entered more advanced stages of the business cycle and need to deal with the strategic challenges of balancing growth and innovation. Government-led network-building programmes are seen as inefficient both in terms of achieved results and cost to the taxpayer. This gap in provision is likely to have a strong impact on SMEs ability to grow beyond survival.

The two key barriers to innovation and growth cited by the respondents are lack of funding in the early stages of the company activity, and availability and employment of creative labour. The latter obstacle is seen as critical by all the respondents: SMEs must renew their creative potential. Most respondents felt that close proximity to universities may be beneficial in providing access to a talent pool.

However, most of the respondents also emphasized that bureaucracy, slow decision-making, and dated understanding of the industry made productive relationships with universities very difficult. While a location in major cities or close to a university is beneficial because it allows access to a diverse talent pool, cooperation with universities

for innovation was seen as hardly feasible. It was also highlighted that the level and quality of education are often not compliant with the fast-changing needs of the industry.

Not surprisingly, the other critical barrier to innovation and growth for SMEs in CIS was found to be access to finance. While in the early stages of the business development the problem is funding, in the consequent stages the issues typically revolve around the building of personal networks and close contacts that could generate 'business' and stable cash flow. These latter issues largely result from the subjective value and project-based nature of the creative products, and appear difficult to address through intermediaries. The data also suggest that the investment community tend to cater to the needs of larger established businesses or technology-based start-ups while small creative businesses must find their own way.

In sum, what surfaces from our analysis is that network relationships are indeed very important for creative SMEs and the latter make good use of them. However, these are personal networks built in the course of doing business and used for securing access to a talent pool as well as to new business projects. The tendency of teams of freelancers to work together in series of consecutive projects produces collective economic efficiency derived from mutual understanding, relations of trust and reputation based on 'word of mouth'. Again, these intangibles are difficult to address via set up third parties.

5 Conclusions

This study contributes to the debate on the impact of external networks on SMEs ability to innovate. We conclude that networks are of major importance for the generation of innovation in the CIS through their impact on SMEs. However, these are highly-specialised self-coordinating personal networks which generate business and innovation and regulate a complex division of labour acting as a talent pool. The knowledge transferred within these networks is rarely technical. It is mainly knowledge of people and events of industry importance. Peer recognition and trust based on personal contacts are the key drivers of the networks evolution. While these intangibles can be hardly delivered by third parties, efficient support in more 'mechanical' areas of the business could free management time for developing network relationships.

The study strongly indicates that the introduction of externally-run support bodies and advisory agencies are unlikely to contribute to the development of the organic networks in the CIS or to strengthen their impact on SMEs' ability to innovate. It appears that companies are generally unaware of the support opportunities that exist as well as sceptical to the return on invested time. Moreover, SMEs in the creative fields perceive the supporting infrastructure as inefficient and largely grounded in the knowledge of more traditional sectors of the economy. Last but not least, there appears to be a large gap in the provision of adequate support for SMEs that have grown beyond the start-up stage. These findings have important implications for the use of public support for innovation in this strategically important sector of the UK economy.

The study also points out the underdeveloped relationships between the creative industries and universities. Policy makers as well as universities must look into the untapped potential to accelerate innovation through enabling, facilitating, and stimulating the involvement of academia with the creative industries. The positive impact of networks on innovation in the CIS may be significantly increased through improvements in the supporting infrastructure and development of efficient interface with academia.

References

Barabasi, A. L. & Albert, H. J. R. (2000) Scale-free characteristics of random networks: the topology of the world-wide web. Physica A 69-77.

Bougrain F, Haudeville B (2002). Innovation, collaboration and SMEs internal research capacities. Res. Pol. 31: 735-747

Bryman, A. and Bell, E. (2003) Business Research Methods, Oxford: Oxford University Press

Capello, R. & Morrison, A. (2004) An Evaluation of the Effectiveness of Science Parks in Local Knowledge Creation: A Theritorial Perspective. Schumpeter Society Conference. Milan.

Colombo, M. G., Laursen, K., Magnusson, M. & Rossi-Lamastra, C. (2012). Introduction: Small Business and Networked Innovation: Organizational and Managerial Challenges. Journal of Small Business Management, 50, 181-190.

Dahl, D., Moreau, P. (2002) The influence and value of analogical thinking during new product ideation. Journal of Marketing Research 39 (1), pp.47–61

DCMS (2010) Creative Industries Economic Estimates, February, www.culture.gov.uk/what_we_do/research_and_statistics/4848.aspx

De Long, J. And Marsili, O. (2006) The Fruit Flies of Innovation: A Taxonomy of Innovative Small Firms, Research Policy, 35, pp. 213-229

Dosi, G. (1988). Sources, Procedures and Microeconomic Effects of Innovation, *Journal of Economic Literature* 36, 1126-1171

European Commission (2005) The New SME Definition: User Guide and Model Declaration, Available at
http://ec.europa.eu/enterprise/policies/sme/files/sme_definition/sme_user_guide_en.pdf

Flash Eurobarometer (2007) Observatory of European SMEs. Analytical Report, Flash Eurobarometer 196, The Gallup Organization

Freel, M. S. (2005) Patterns of Innovation and Skills in Small Firms. Technovation, 25, 123-134

Garcia, R. & Calantone, R. (2002) A critical look at technological innovation typology and innovativeness terminology: a literature review. Journal of Product Innovation Management, 19, 110-132.

Hausman, A., (2005) Innovativeness among small businesses: theory and propositions for future research. Industrial Marketing Management 34 (8), pp.773–782

Kassicieh, S., Kirchhoff, B., Walsh, S., McWhorter, P. (2002) The role of small firms in the transfer of disruptive technologies. Technovation 22 (11), 667–674.

Keizer JA, J.I.M. Halman, M. Song (2002) From experience: Applying the risk diagnosing methodology, Journal of Product Innovation Management, 19, 213–232

Kirk, J. & Miller, M. L. (1986) Reliability and Validity in Qualitative Research, Newbury Park, California, Sage

Kolb, D.A. (1985) Experiential Learning,Pearson, Englewood Cliffs, NJ

Laforet, S. and Tann, J. (2006) Innovative Characteristics of Small Manufacturing Firms, Journal of Small Business and Enterprise Development, 13, 3, pp. 363-80

Massa, S. & Testa, S. (2008) Innovation and SMEs: Misaligned Perspectives and Goals Among Entrepreneurs, Academics and Policy Makers. Technovation, 28, 14.

Morris, M. H. & Kuratko, D. E. (2002) Corporate Entrepreneurship: Entrepreneurial Development within Organisations, Fort Worth, TX, Harcourt College Publishers.

Narula, R. (2004) R&D collaboration by SMEs: New Opportunities and Limitations in the Face of Globalisation, Technovation, 24, pp. 153-161

NESTA (2008a) Beyond the Creative Industries, February http://www.nesta.org.uk/library/documents/beyond-creative-industries-report.pdf

NESTA (2008b) Raise the Game, Games Investor Consulting Ltd http://www.nesta.org.uk/library/documents/raise-the-game-report.pdf

Pammolli, F. and Riccaboni, M. (2002) Technological Regimes and the Growth of Networks: An Empirical Analysis, Small Business Economics, Springer, vol. 19(3), pages 205-15, November

Pavitt, K. (1984) Sectoral patterns of technical change: Towards a taxonomy and a theory. Research Policy, 13, 30.

Rothwell, R., and Dodgson, M. (1994) Innovation and size of firm. In: Dodgson, M. (Ed.), Handbook of Industrial Innovation. Edward Elgar, Aldershot, pp. 310–324

Schumpeter, J. A. (1996) The Theory of Economic Development, New Brunswick, NJ, Transaction Publishers.

Senker J. (1995) Tacit knowledge and models of innovation, Industrial and corporate change, Oxford University Press, 4(2), pp. 425-447

Sethi, R., Smith, D., Park, C. (2001) Cross functional teams, creativity and the innovativeness of new consumer products. Journal of Marketing Research 38 (1), pp.73–86

Sivades, E., Dwyer, R., (2000) An examination of organizational factors influencing new products success in internal and alliance-based process. Journal of Marketing 64 (1), 31–43

Skillset (2009) Employment Census http://www.skillset.org/uploads/pdf/asset_14487.pdf?5

Skillset (2010) Strategic Skills Assessment for the Creative Media Industry http://www.skillset.org/uploads/pdf/asset_14582.pdf?1

Skillset (2011) Sector Skill Assessment for the Creative Industries of the UK (January) http://www.ccskills.org.uk/LinkClick.aspx?fileticket=Hx1lEq5n%2Bis%3D&tabid=822

Skillset (2012) The Creative Industries in England http://www.skillset.org/uk/england/industries/

SRINIVASAN, R., LILIAN, G. & RANGASWAMY, A. (2002) Technological opportunism and radical technology adoption: an application to e-business. Journal of Marketing, 66, 14

Technology Strategy Board (2009) Creative Industries Technology Strategy 2009-2012 http://www.innovateuk.org/_assets/pdf/Corporate-Publications/Creative%20Industries%20Strategy.pdf

UK Film Council (2009) Statistical Yearbook http://www.ukfilmcouncil.org.uk/yearbook

Vermeulen, F. (2005) On rigor and relevance: Fostering dialectic progress in management research. Academy of Management Journal, 48: 978-982.

Wengraf, T. (2001) Qualitative research interviewing: biographic narrative and semi-structured methods. Thousand Oaks, CA: Sage Publications.