

The role of universities in the regional creative economies of the UK: hidden protagonists and the challenge of knowledge transfer

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Abstract

The Triple Helix model of knowledge-industry-government relationships is one of the most comprehensive attempts to explain the changing institutional frameworks for innovation and growth, especially in the regional and urban contexts. Since the 1970s policies have been developed across Europe to evolve this institutional landscape. Since the late 1990s, regional and urban development strategies have also sought to harness the growth potential of the Cultural and Creative Industries (CCIs) to regional and urban economic development. However, whilst the regional and urban planning literature has examined the growth-promoting potential of universities very closely, their possible role in relation to regional and urban creative economic development has received less attention. This paper aims to begin addressing this gap by interrogating the relationship between universities and the regional creative economy using, as a starting point, a model of analysis suggested by the Triple Helix theoretical framework. The paper finds that whilst universities possess often long and hidden associations with regional and urban creative activities – as hidden protagonists - there are important institutional and professional challenges in the possibility of their developing an explicit and sustainable role as new actors in the regional and urban creative economies.

Keywords: Creative economy; knowledge transfer; triple helix; cultural and creative industries; arts and humanities

Introduction

This paper uses the theoretical model of the Triple Helix (Etzkowitz and Leydesdorff 1997; Leydesdorff and Etzkowitz 1998; Etzkowitz and Leydesdorff 2000; Leydesdorff and Etzkowitz 2001; Etzkowitz 2003) to examine the potential relationship between two key phenomena within the regional and urban planning literatures: the role of the CCIs in fostering regional and urban innovation and growth, and, the role of institutions of higher education in promoting these objectives. For the purposes of this paper, the CCIs are taken to be industrial activities that are primarily geared towards the production of symbolic products, the value of which is ultimately valorised in a market-place (Hesmondhalgh 2007). The paper draws upon the experience of the UK, which, since the election of the Coalition Government in May 2010 has conspicuously withdrawn from the regional development agenda, and, in stark distinction with much of mainland Europe, has also disengaged from the CCI development agenda which has now become so much associated with the previous New Labour government.

Universities in the UK under both the previous and new regimes were and continue to be deeply embedded in knowledge economy policy discourse, both shaping it and being the recipients of specific funding to promote it (Charles 2003; Harloe and Perry 2004). The period 1997 through to 2008 also saw a high level of government policy activism (national, regional and local) on the regional and urban benefits of the CCIs, accompanied by a rich and highly varied research effort drawing on a wide range of disciplines and a wide range of research agents, including academics, policy analysts, consultants and CCI intermediary and lobby organisations (Hall 2000; Jayne 2005; Chapain and Comunian 2010). The starting point for the argument of this paper is the recognition that these two facets of public policy – regional policy-making on the one hand and the role of

universities in the development of the creative industries on the other - have not yet explored their potential interaction and overlap.

The research literature on the role of universities in the innovation system is extensive and includes detailed studies on knowledge transfer and collaboration (Bercovitz and Feldman 2006) and models of innovation and their key relationships (Dodgson, Gann et al. 2005), but, so far the research has concentrated on specific – mostly science and technology – disciplinary boundaries of university interaction with policy initiatives and the economy (Linderlöf and Löfsten 2004). Similarly, a review of the research on the CCIs, reveals many studies which analyse, for example, the cultural and creative production system (Pratt 1997; Pratt 2004; Adkins, Foth et al. 2007; Pratt 2008; Bakhshi and McVittie 2009; Abadie, Friedewald et al. 2010; Potts and Cunningham 2010), the role played by networks and informal relations (Banks, Lovatt et al. 2000; Delmestri, Montanari et al. 2005; Adkins, Foth et al. 2007; Antcliff, Saundry et al. 2007; Dahlstrom and Hermelin 2007; Potts, Cunningham et al. 2008; Currid and Williams 2010; Lange 2010; Lingo and O'Mahony 2010), the importance of places and clusters (Bassett and Griffiths 2002; Drake 2003; Mommaas 2004; Neff 2005; Bathelt and Graf 2008; Gwee 2009; Pratt 2009; Collis, Felton et al. 2010; Thomas, Hawkins et al. 2010) and the conditions and drivers of creative labour (Banks 2006; Comunian 2009). The role of HE institutions within this new CCI landscape in the UK has received some attention (Crossick 2006; Powell 2007; Taylor 2007; Comunian and Faggian 2011) but little with an explicitly regional and urban development focus.

The aims of this paper are two-fold: first, to begin creating a conceptual bridge between these two bodies of research which can inform future planning knowledge and understanding, and secondly, to contribute to the process of mapping possible models of interaction and the means by which CCI-university-government relationships might be promoted or inhibited. The advent of policies to promote interaction between businesses, institutions and public bodies has prompted the development of a range of models used to explain the changing regional and urban economic

landscape. One of the most prominent of these, the Triple Helix model is used in the paper as an initial framework to begin the process of disclosing the emergent multiplex dynamics and interactions between the three spheres of the higher education system, the CCIs and public policy. In particular, we are interested in what the model has to say about the dialectical relationship between recursive and reflexive modes of change and adaptation in the knowledge-innovation system. We stress that the framework is used here with the modest ambition of initiating possible avenues of analysis rather than, for example, the much more ambitious (and almost certainly contentious) project of proving any correspondence between the knowledge transfer dynamics of the CCIs and those of say the science and technology field. Since one of the central theoretical tenets of the Triple Helix model is that of the generative and evolutionary power of relationships, this paper is particularly interested in how academics as a professional group central to the operation of the Triple Helix have responded to the seemingly intensifying interactions between the spheres of higher education, the CCIs and public policy. In particular, the paper bases part of its findings on a series of interviews undertaken with academics during the course of 2007 and 2008 which focused on the self-perceived and self-reported roles that academics play in the creative economy; the value they attribute to their interactions with creative businesses, organisations and practitioners, and what they see as the potential enablers for and barriers against such activities. A more detailed discussion on the methodology and data collected is presented in paragraph 3.1.

The paper is structured in three parts. The first sets out a brief synopsis of the key relevant elements of the Triple Helix theoretical framework, drawing on central contributions in its formation. The second sets out how it might be used articulate the industry-policy-knowledge relationships of the creative economy, drawing on a range of research contributions on the CCIs. The third part of the paper presents and discusses the findings from empirical research undertaken with UK-based academics as key agents in the Triple Helix, framed according to the analysis presented in part two. Our findings suggest that universities have long interacted with their regional creative economies and, at least until very recently, have continued to expand their

engagement. However, rather than the dialectically recursive and reflexive institutional adaptation advanced by the Triple Helix model, what we find is that academic engagement with the creative economy is heavily mediated by three sets of qualifying phenomena: the structural expectations of the higher education system (Benner and Sandström 2000; Lawton Smith 2007), persistent institutional realities (of historic mission, academic organisation and academic culture) and by the norms and values of discipline and academic professional practice (Bullen, Robb et al. 2004). The paper principally aims to stimulate further debate by arguing for the need for a better understanding of the complex, sometimes explicit, often implicit, roles that institutions of higher education play in shaping their regional and urban creative economies. The Triple Helix model is helpful in some respects as an important contribution to this objective, but, as we suggest later, it may be limited in some key areas.

1. The Triple Helix

The Triple Helix model of industry-policy-knowledge relationships was introduced into the academic and policy worlds by the work of Leydesdorff and Etzkowitz (1996), who argued that these rich triplicate relationships were conspicuously influential in the shaping of systems for innovation and growth. Arguing against the familiar and much critiqued linear interpretation of knowledge creation, they explain that “a spiral model of innovation is required to capture multiple reciprocal linkages at different stages of the capitalization of knowledge” (Etzkowitz and Leydesdorff 1997: 1). Observing that the present historical epoch is notable for its state of social, economic and cultural flux, innovation systems are increasingly structured, not by the prevailing institutional arrangements for innovation but by the interactions between agents and the systems of communication and intermediation (including new temporary organisations) they create to enable new innovation to take place (Etzkowitz and Leydesdorff 2000). The sense of intense reflexivity this introduces into the system has the effect of de-centring traditional institutional arrangements, de-coupling institutions from their traditional functions and setting in motion an evolutionary

process of functional combination and re-combination. In a very real sense, historic institutional certainties weaken, new narratives of purpose and intention are created, and new temporary communities of practice – and their necessary organisational arrangements - emerge and submerge according to the dialectic of recursion and reflexivity between the helices of the Triple Helix.

From the first seminal papers in 1996 and 1997, a dynamic research field has emerged (see for example Fritsch and Schwirten 1999; Linderlöf and Löfsten 2004) expanding both its geographical reach and the range of sub-topics covered by Triple Helix analysis. At the heart of the model is the key proposition that innovation springs from the “generative relationships” (Etzkowitz and Leydesdorff 1997) created between agents and the transformations that ensue for both actors within the relationships and in the relationships themselves. As the commentators Viale and Pozzali (2010) observe, the value of the Triple Helix lies in the relationship between feedback and change. With this central tenet in mind, here are the four key features of the Triple Helix model that we use in relation to our analysis of both the existing selected research and which inform our analysis of the interviews with representatives of the academic community.

1. *Multiplex relationships*. The first concerns what Etzkowitz and colleagues see as the proliferation of multiplex relationships between the three spheres of knowledge, industry and government operative at differentiated scales, geographically, sectorally and politically (Leydesdorff and Etzkowitz 2000). In their example, governments that were hitherto constrained to interact at the national level with industries under their own jurisdiction can now interact with sectors across a scale from international to local and vice-versa.

2. *Evaluation*. The second concerns the model of outcome evaluation by which Triple Helix interactions and actions are evaluated. The increased contingency and chance of the knowledge economy renders *ex ante* evaluation pretty much impossible. This places an increased stress on the need for quantifiable measures of *ex-post* evaluation. Agents may not know the value of a

particular interaction at its inception, and may indeed be prepared to entertain a wide variety of possible courses of action, but they do need to be in a position to evaluate it afterwards. As a result, evaluation tends inevitably towards the quantitative (Leydesdorff and Etzkowitz 2000). This closely ties with the third characteristic.

3. *Organisational innovation*. Increased contingency prompts institutions to develop more intuitive and improvisational strategies. These can take institutions outside their institutional comfort-zones as helical combination and re-combination engenders a dialectical spiral of recursive institutional differentiation and reflexive institutional de-differentiation (Etzkowitz 2003). This also applies to how the university can become a component element within the new spaces of innovation that have proliferated beyond the laboratory to encompass a wider range of metaphors for knowledge production and applications activities. The innovation landscape takes on new shapes – niches, clusters, *filières*, *milieux*, etc. (Etzkowitz 2003).

4. *Knowledge exchange*. Historically, this revolves around ‘knowledge-push’ and ‘market-pull’, but in a fourth characteristic, the Triple Helix model argues that distinctions such as ‘basic-applied’ and ‘Mode I-Mode II’ (Gibbons 1994) may not be as absolute as their originators assume. Within the Triple Helix, multi-form possibilities are present. As Etzkowitz and Leydesdorff (2000) explain, the poles of these binaries are as likely to exist within each other as much as they are likely to co-exist in tension with each other.

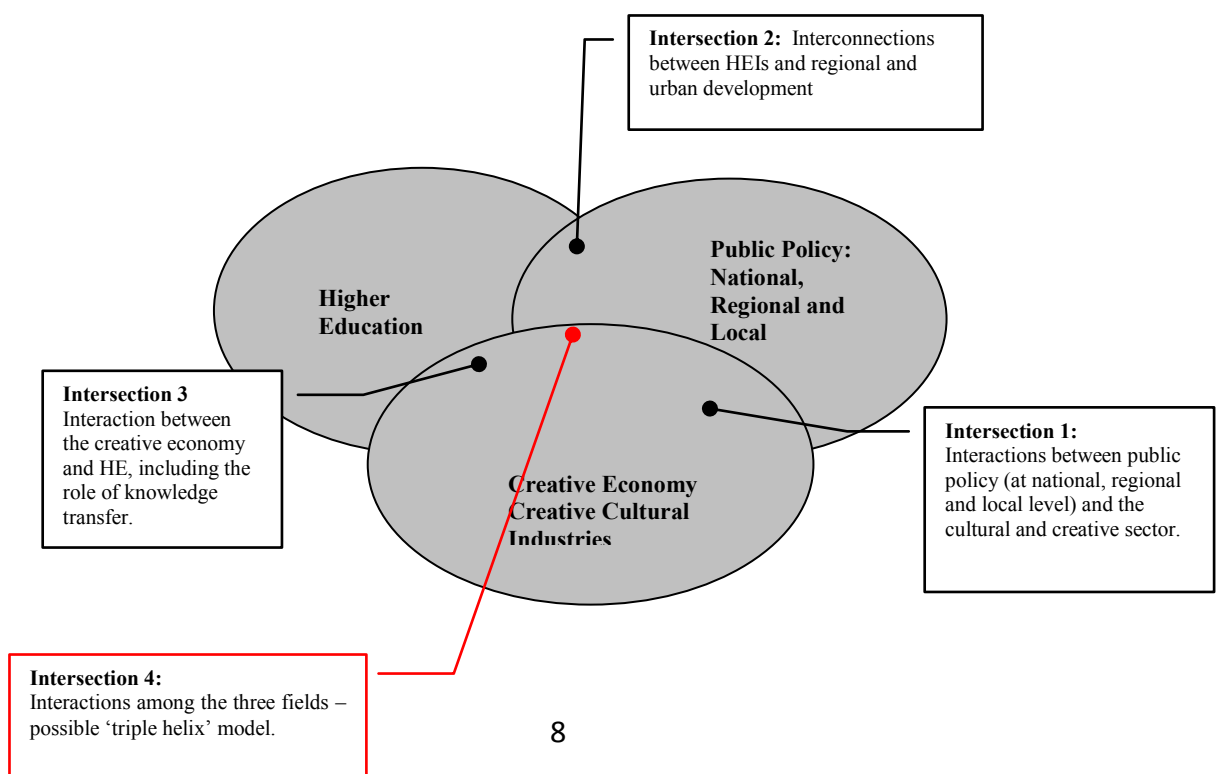
With these four characteristics acting as lenses, we now turn to how this analysis of the Triple Helix might be used to examine the creative economy.

2. The Triple Helix and the Creative Economy

All of these characteristics are relevant to the study of regional and urban creative economies and their interactions with public policy and higher education. Figure 1 offers a simple, provisional mapping schemata of the Triple Helix intersections (labelled 1 to 4) in regional and urban creative

economies. This schema frames the reading of a range of research contributions that have already potentially paved the way for the development of a knowledge base supporting this model. This forms the core of the conceptual bridge that we think will enable these literatures to become connected. In particular, the following sections summarises: first, key research contributions on the relationship between government and local and regional public policies and the role attributed to the creative and cultural sector within these (labelled Intersection 1); secondly, a sample of theoretical research on the claimed role of higher education on the delivery of local and regional economic development and policies (labelled Intersection 2); thirdly, a synoptic exploration of the conceptual potential of the Triple Helix model of the relationships between higher education and the creative economy (labelled Intersection 3). After considering these first three intersections, we then provisionally consider the fourth intersection – the point where these three intersections overlap. This putative Triple Helix model of the creative economy then becomes the focal concern of our examination of the empirical material in the third section of the paper.

Figure 1: A New Triple Helix? The Creative Economy, Public Policy and Higher Education



2.1 Intersection 1: The Creative and Cultural industries and Public Policy

The economic growth potential of the CCIs has animated the field of UK regional and urban development policy for at least fifteen years (Bianchini and Parkinson 1993; Griffiths 1993; Bianchini and Landry 1995; Griffiths 1995; Griffiths 1995; Pratt 1997; Pratt 1997; Wynne and O'Connor 1998; Brown, O'Connor et al. 2000; Bassett and Griffiths 2002; Griffiths, Bassett et al. 2003; Pratt 2004; Pratt 2005). This is now a major area of interest for European policy-makers (European Commission 2005). However, this interest extends beyond the merely promotional. In an important reflexive move, the CCIs are as much a product of the constitutive power of the state's role in economic governance, as they are a product of secular industrial development. As O'Connor (1999) point out, the term 'cultural industries' was first used extensively by the Greater London Council (GLC) in the 1980s as a rhetorical device designed to promote an 'alternative economic' model of cultural policy.

In a move prompted as much by rhetoric (of a distinctively different hue) as by motives of indicative planning, the new UK central government of 1997 moved very quickly to recognise the 'creative industries' by establishing the Creative Industries Task Force shortly after its election. The Task Force comprised representatives of the putative creative industries, including existing and nascent intermediary organisations and representatives of a number of government departments. One of its first actions, in a perfect example of institutional reflexivity set about mapping (describing and quantifying) the creative industries, and identifying policy measures that could promote their further development. The Creative Industries Mapping Document (DCMS 1998) is one of the most quoted documents in the field. One of the main reasons for this is that alongside its seemingly prosaic descriptive and statistical concerns, it offered an analytical

definition of the creative industries sector, famously described as “those activities which have their origin in individual creativity, skill and talent and which have the potential for wealth and job creation through the generation and exploitation of intellectual property” (DCMS 1998:3). Although the ensuing debate quickly descended into arguments over what should be included and what should be excluded, the important effect had occurred: government and industry (and some representatives of higher education and consultancy) had discursively constructed an object to which all parties could relate. Once established, the further constitution of the creative industries emerged in rapid piecemeal fashion in a series of reports commenting variously on television exports (DCMS 1998), the contribution of the creative industries to national exports (DCMS 1999), the internet (DCMS) and the regional dimension (DCMS 1999), together with regular reviews of the economic contribution of the sector to the national economy.

Conspicuously, the constitutive power of public policy is revealed in another important dimension. In addition to the economic importance of the CCIs, a wide literature, both academic and public policy based, has explored how the sector impacts on developments in a wide range of fields, usually corresponding to the regional or local scale, including urban regeneration, social cohesion, civic participation, quality of life and revitalisation (Bianchini and Landry 1995; Griffiths 1995; Markusen and Schrock 2006). This milieu however, evidences further Triple Helix qualities. The boundaries between the types of organisations in the creative industries can often be blurred as commercial organisations take active roles in public interest activities and voluntary organisations take on more commercial functions. Boundaries can be blurred and conditions appear to interchange, a reflection in particular of the specific contexts of each component sub-system and the project-based nature of contractual relations found across much of the sector (Grabher 2001; Neff, Wissinger et al. 2005). According to Pratt (1997) understanding how the CCIs work from a demand side perspective requires a focus on the role of networks and institutions and the social division of labour across firms. The force of social networks as market-forming has also been the subject of conceptual work on the creative industries (Potts, Cunningham et al. 2008).

The policy implications that flow from these kinds of analyses are important for our argument. The CCIs draw together a wide network of agencies and stakeholders that range from the field of culture to the industrial and not for profit sectors, which together prompts speculation about the appropriate type of governance for these arrangements (Jeffcutt and Pratt 2002). This shared governance and the role of networks across different sectors appears to suggest that the CCIs contain a high degree of connectivity both in the public infrastructure and in the production and consumption of economic outputs (Comunian 2010). Jeffcutt and Pratt (2002) describe these arrangements as follows: “Hybrid and emergent organisational spaces, made up of dynamic interfaces between multiple stakeholders with many layers of knowledge are both characteristic of, and endemic in, the cultural industries” (Jeffcutt and Pratt, 2002:231). Hybridity, emergence, multiple stakeholders and multiple layers of knowledge all point to qualities of the Triple Helix.

As boundaries shift between organisation and network, public and private, market and voluntary sector, it is important to acknowledge how this multiplexity also became spatially inflected by the emphasis after 1997 in the UK on the regional and urban contexts. This regionalisation agenda gave especial policy cachet to the CCIs. With this came a new twist in cultural policy as the CCIs were not only related to the then newly conceived economic role of regions, particularly in English political discourse, but to the economic arguments increasingly deployed to explain the creative potential and economic competitiveness of specific localities (Pratt 2004), an understanding that also drove the focus of certain aspects of European Structural Fund intervention (Taylor 2009). In the UK, the advocacy in support of the CCIs has been linked to a specifically regional development perspective leading to what a number of commentators have described as a fairly standard repertoire of policy constructs such as cultural quarters and creative clusters (Jayne 2005). The Sheffield Cultural Quarter, established in the early 1980s as a local government initiative provides a pioneering example. As Moss (2002) suggests, the emphasis of the project was mainly on job creation in cultural production. But other examples have been created in different cities around the

UK such as Bristol (Bassett, Griffiths et al. 2002), London (Newman and Smith 2000) but also in smaller towns such as Huddersfield (Wood and Taylor 2004) in West Yorkshire. In all these examples, local development agencies and local authority initiatives played central roles. Later developments continue the trend for public policy to have a defining role through its interaction with other agents. Indeed, the thrust of the later New Labour government's work on the creative industries reflected in the Creative Economy Programme (DCMS and BERR 2008), together with a flurry of policy-related papers from various think-tanks suggests that the existence of the sector continues to result from the discursive effects of public policy (NESTA 2007; The Work Foundation 2008).

2.2 Intersection 2: Higher Education and Regional Development

There is an extensive literature addressing the role of higher education in regional economic development and we will only comment on a small number of relevant topics here. Authors commonly recognise that this particular attention to the potential impact of higher education has been linked to a national knowledge economy agenda, an agenda to which the CCI policy agenda has an ambiguous relationship. Although it is difficult to summarise the complex role of institutions of higher education in a specific geographical context, the literature articulates three key dimensions for our purposes:

- *Human Capital*: higher education institutions contribute to a specific locality through the provision of graduates and a highly educated workforce (Florida 1999). This human capital, although very mobile (Faggian and McCann 2009), can influence the local economic development of specific contexts. Etzkowitz and Leydesdorff (2000) argue that the supply of graduates may in fact be universities most important contribution to innovation;
- *Knowledge*: it is acknowledged that the knowledge generated by universities can through a variety of processes (knowledge transfer, spin-off companies, knowledge spillovers etc.) enrich the regional context (Audretsch, Lehmann et al. 2005) and give rise to potential economic

benefits derived by that knowledge (Anselin, Varga et al. 2000). Universities can adopt more or less entrepreneurial approaches in managing these spillovers (Clark 1998);

- *Infrastructure*: in the processes through which knowledge and human capital interact and contribute to the local context there is always an element of infrastructure development taking place. This might, for example, be a new incubator space (Rothaermel and Thursby 2005) or new premises and conference facilities as well as new networking spaces or virtual platforms for interaction.

While much of the literature tends to concentrate on specific aspects of the impact of higher education and their interactions with the knowledge economy, many authors recognise the complexity of the knowledge interactions taking place. However, as Harloe and Perry (2004), for example, have argued the much-anticipated alignment of university interests with the knowledge economy agenda has at best been uneven, and possibly even un-convincing. They challenge the view that universities are moving seamlessly from ‘Mode 1’ knowledge production regimes (knowledge generated and controlled by specific disciplinary communities) to ‘Mode 2’ regimes (where knowledge is generated and applied in trans-disciplinary and applied way (Gibbons 1994)). The picture, they suggest, appears much more complex with multiple and overlapping influences and interests at work. In many ways the engagement that universities have with the regional economy exhibit both traditional priorities and new inflexions of older educational agendas. Whilst in Intersection 1 we saw evidence of the Triple Helix-like transformations, there is increased doubt about the extent to which universities as institutions are capable of creating the governance arrangements that would enable the full Triple Helix model to work (Etzkowitz and Leydesdorff 2000; Ozga and Jones 2006).

2.3 Intersection 3: The Role of Universities in the Regional Creative Economy

It has been argued that universities have been long-term, but often ‘hidden’ protagonists of the cultural economy, specifically at local and regional levels (Chatterton and Goddard 2000). It is worth recalling that the majority of universities in the UK were in fact established to fulfil economic functions (Bond and Paterson 2005) in ways which have often rendered the cultural functions of universities less visible. The foundation of the arts and humanities faculties was part of this process of cultural and creative engagement. Not only were the universities historically the training grounds for the professions, but by the 1950s industry was increasingly turning to arts graduates to solve the problem of a growing shortage of technologists (Sanderson 1988). Alongside this contribution the civic role of universities in developing the cultural life and offer of many UK cities (Smith, Taylor et al. 2008) has been demonstrated in the commitment of a large part of the university workforce to cultural activities, their dissemination and, specifically in the areas of arts and humanities, through reach-out projects and the provision of cultural infrastructure.

In these roles, university museums and galleries have a long history of contributing to the local cultural offer, alongside the more contemporary university theatre and students union. If we read across from the regional development functions of universities to the CCIs, we quickly see that the *human capital* dimension has been the main focus of the recent literature, especially influenced by the work of Florida (Florida 2002; Florida 2002; Florida 2002; Florida 2003). While in other disciplinary areas, universities are considered central to the regional economy because they engage actively in research exploitation through such activities as technology transfer, patenting and spin-offs, there is an inherent and not always welcome challenge for the arts and humanities research-base (Bullen, Robb et al. 2004). This is complicated by the very nature of the CCIs as an industrial sector – consisting of micro businesses and with little capacity to finance or support external R&D - and which has implications for the knowledge and infra-structural roles ascribed in dominant innovation discourse to universities.

The CCIs sector comprises mainly small and medium size enterprises (SMEs) of less than 250 employees. 99.6% of UK CCI companies fall into this category, approximately 90% of the whole sector consists of companies with less than 10 employees and the few (around 500) large enterprises that do exist in the sector are concentrated mainly in London (Taylor 2007). This raises two main questions. First, it implies the need to recognise regional differentiation within the creative economy, since universities located beyond the national capital city will almost certainly need to forge better relations with SMEs if they are to engage with the CCIs. Second, it raises questions about the potential affinity between particular kinds of higher education institution and the CCIs. Given the propensity of the research-intensive universities to define their missions internationally in terms of their research quality, striving for success in their local and regional relationships with the CCIs may require some structural and cultural plurality in approaches towards collaborations with the SME sector. As a result even some of the most entrepreneurial universities have responded unevenly to the third mission of economic development and certainly from a system-wide point of view the picture is complex – and incomplete.

It has been suggested that the general challenges of institutional adaptation faced by universities are even more intense at the disciplinary level. Clark's (1998) study of entrepreneurial universities in different European countries argued that while science and technology departments had found it relatively easy (which may be more appearance than reality) to adjust to the new entrepreneurial regimes, arts and humanities departments could be characterised as the 'resisting laggards' (Clark, 1998). Clark, incidentally, thought they might have good reason, since new money may not flow readily from government or non-government sources for these activities, reducing the incentive to change. Nevertheless, in a number of cases partial transformation has taken place resulting in some institutions existing in a 'schizophrenic state, entrepreneurial on one side, traditional on the other' (Clark 1998: 141). Developments over the last ten years in UK research funding models will undoubtedly provide future incentives for engagement.

Despite these apparent gaps, the evidence suggests actual wide-spread engagement. The national survey of English universities' interaction with business in 2001-2002 (HEFCE 2003) found that one of the most commonly reported institutional intentions was to work with the CCIs. The subsequent high-profile Lambert Review of Business – University Collaboration (HM Treasury 2003), commissioned by the UK Treasury noted: “there are many excellent examples of collaborations involving the creative industries and universities or colleges of art and design. Policy-makers must ensure that policies aimed at promoting knowledge transfer are broad enough to allow initiatives such as these to grow and flourish, and that the focus is not entirely on science and engineering” (HM Treasury, 2003:45). Nevertheless, whilst a broad range of types of institution acknowledge their work with the CCIs, it was most marked within the ‘new’ universities sector, a sector that also tends more explicitly to identify its purpose with the local and regional economies (HEFCE 2003). The Higher Education Funding Council’s own evaluation of its innovation and knowledge transfer funding programmes highlighted the unexpectedly high engagement in these activities by the arts.

Taking these three sets of summary observations into account, the synoptic picture at intersection 4 is complex; evidencing Triple Helix-like processes within the CCIs, but more complexly arrayed structural and institutional priorities, motivations and expectations at the system and institutional levels of higher education. It is to this complexity that we now turn. The Triple Helix offers a sophisticated and nuanced account of how institutions may evolve, the reasons for that evolution and where it might lead. The world of UK higher education has seen intense policy action, specifically with regard to working with industry. In the next section we explore through interviews with forty-four academics and academic managers how that new mission has been ingested into the institutional world of the university.

3. A New Triple Helix: Universities, Public Policy and the CCIs

This section interrogates the nature of a series of reported interactions between universities and the CCIs with special emphasis on those interactions that are with the arts and humanities research base. The methodology and data collected are presented before discussing the over-arching questions focused on: multiplexity, evaluation, organisational innovation, spatial innovation and knowledge exchange.

3.1 Methodology, data and research questions

The forty-four interviews were conducted during 2007 and 2008 with four sets of university personnel: executive leaders, departmental managers, central business development managers and academics. The sample of institutions selected was mapped against two criteria – regional location (ensuring a distribution by geography across the UK) and institutional mission. The acknowledged complexities of codifying the latter aside, the sample included respectively: specialist arts colleges, self-identified research intensive universities and universities that fore-grounded their teaching and local industrial engagement missions. This produced a sample of ten institutions (two pilot institutions and eight included in the principal sample). The interviews were conducted using a semi-structured interview schedule with four major areas of interest: the first covered the meanings attached by academic agents to the term ‘knowledge exchange’ in the arts and humanities and the types of activities and engagements with external agencies included under such a rubric; the second covered the reported motivations offered by interviewees for undertaking these types of activities including perceptions of their value; the third area covered the ways in which such activities were supported, or where applicable, impeded; and, the fourth the ways in which value (academic and otherwise) is ‘captured’ by institutions. Interviews were timed to last at least one hour with some variation. The majority of interviews were recorded by the interviewer and transcribed professionally. In three cases, hand-written notes were taken. Interviewees were selected from art, music and performance as represented in standard UK university subject classifications and produced the following structured sample:

Table 1: Summary of sample institutions

Institutional reference	Executive	Departmental	Central business unit	Total
Pilot				
A		3	1	4
B	1	1	2	4
Roll-out				
C	1	5		6
D		5		5
E	1	5	1	7
F	1	2		3
G	1	3		4
H	1	3		4
I	1	3		4
J	1	1	1	3
Total	8	31	5	44

It is readily apparent from university promotional materials and sources, as well as from reports by sector bodies, that universities in the UK have taken on board the push for supporting the CCIs from public policy. Obvious signs of engagement are the development of specific CCI departments; new courses (especially at post-graduate level) aimed at creative entrepreneurship and innovation (Warwick, King's College London, Goldsmith's, and Leeds, for example) and growing centres of research with a specialist interest in the CCIs (at various times: Manchester Metropolitan, Goldsmith's College London, the London School of Economics, Leeds, King's College London and Warwick). Historical affiliations between programmes in music, fine art, performance and design are also being re-tooled to reflect the broader significance of the CCIs,

with the inclusion of enterprise education and work-based learning in the CCIs in the undergraduate curricula (Brown 2007). This activity is mirrored in new funding programmes, especially for developing collaborations between university academics and CCI business and organisations, including national initiatives such as the Creative Industries Knowledge Transfer Network and the regional London Centre for Arts and Cultural Enterprise. Active UK funding bodies include the Technology Strategy Board, the Environmental and Physical Sciences Research Council, the Arts and Humanities Research Council, the Economic and Social Research Council and the Knowledge Transfer Partnership Scheme.

But how do institutions and academics describe their interactions with the CCI sector? What are the typical characteristics of such interactions? What encourages or inhibits them? How is value captured from them? Our results are presented around four key themes that characterised most of the conversations with participants. All the interviewees highlighted the complex network of relations and interactions that characterise their knowledge exchange with creative practitioners and companies.

The second is that the nature of the interactions undertaken as a result and the ways in which they are valued are heavily mediated by what might be described as system and institutional realities (of funding, organisational structure, institutional culture and tradition) and disciplinary cultures (shared ideas across the academic-practice nexus about such matters as artistic credibility, professional repute, disciplinary values and norms). These mediating features persist as political and organisational realities in spite of attempts by policy-makers and funders to persuade universities and academics to adapt their behaviours and priorities in the direction of knowledge exploitation and application. Another key dimension that was of concern both for managers and academics was the issue of evaluation and how to capture the impact of what was taking place within and outside academia. Many of the respondents identified these knowledge practice and exchanges taking place as a new and evolving landscape requiring organisational innovation and

mechanisms of learning and adaption. The respondents also provided interesting takes on the definition and practice of knowledge exchange, which critically engage with the notions of knowledge transfer and Triple Helix.

3.1 Multiplex Relationships

Our interviews evidence a rapid expansion and diversification of the relationships that institutions, departments and individual academics have developed with organisations and individuals in the CCIs. However, they also show that any external push towards speeding up and reframing the collaboration and exchanges with industry and policy are set within the long-terms practices of institutions, departments, disciplines and individuals. Three sets of considerations were regularly cited by academics in relation to interactions with the CCIs. These were: the place of external engagement within the professional academic identity; the relationship between the economy of academic esteem and practitioner reputation, and, the complex problematics of pursuing academic work in the arts and humanities which is sensitised to external engagement with departmental and institutional resource requirements.

Academics who work with other sectors often reported complexities and sometimes tensions in being able to fulfil an external mission which they see as being encouraged by funding streams and policy priorities, but which is still not seen by institutions as impacting upon notions of academic identity:

“I think that definition of the inside and the outside is the thing which has perhaps characterised what I’ve been doing all along. I did a talk....which was attempting to deal with the edges of the institution, the inside and the outside and how one kind of managed that sort of interface, because it strikes me that that’s one of the key problems in this area. And having been in a situation where I did sort of straddle that....I felt acutely the difficulties which arose out of that” (Lecturer).

Responding to encouragement to engage in external activities was even reported as having limiting effects on careers: “*Well I mean I think probably in career terms it didn’t do me any good at all*” (Lecturer).

3.2 Evaluation

The executive managers and leaders in universities we interviewed were amply aware of the public policy push behind the encouragement for universities to interact with the CCIs. That is readily evident in the willingness to validate new courses, create new departments and foster strategic alliances with leading CCI organisations. Interestingly, however, the leaders see these interactions as less as the university adapting to post-industrial economic and social forms and their associated priorities, but more as the university assimilating the CCIs into an on-going institutional narrative about locale and the civic role of the university, which forms a key component of the way that such interactions are evaluated. Often invoking narratives of origin, executive leaders see the CCIs as a new opportunity for the university to be seen as exercising its historic social obligations to locality. This is inflected in two ways depending on the nature of the institution. In some, this adoption is part of an historic narrative about the relationship between the university and local industry. Where universities have a strong sense of their connection with local industry – many were set up by groups of local entrepreneurs (“our connections with industry go back forever”, Institutional Leader) – the approach to the CCIs is couched in terms of serving the local economy, particularly in terms of likely graduate destinations:

“Where arts and humanities have come into commercialisation and consultancy has been in cross-over work really between what they do and what our Careers Advisory Service do around entrepreneurship education and start-ups for graduates.”

In others, the narrative is couched in terms of the university as historic patron of the arts and culture. This was particularly true in research-intensive institutions where cultural paternalism with respect to the arts sits alongside otherwise hard-edged knowledge economy narratives of intellectual property exploitation and industrial innovation. Specialist institutions however, had a

clear sense of both of the contexts within which creative practice takes place, and of their own responsibilities to it, but also the inherent difficulties:

“It’s challenging yeah. And they’re very small scale businesses and so in knowledge transfer and buying services from us they’re never going to be in a position to do it” (Executive Leader).

Departmental heads also share this broader strategic sense of the university in relation to the CCIs.

However, their view is tempered by resource considerations and what was clearly a more institutionally pragmatic outlook:

“...like every university, we are under pressure to bring in more income and we spent a lot of time last year developing new ideas for short courses and conferences and we may have some very imaginative ideas....but in the end we just couldn’t live with any of these plans because we couldn’t make them sufficiently price competitive” (Departmental Head).

Typically as the authority accountable for resources, departmental heads find themselves in negotiation between the strategic imperatives of the institution, especially with respect to income generation and the achievement of core goals in relation to learning and teaching and research. However, for experienced heads of department there is also something resonant about the emergence of the ‘knowledge transfer agenda’:

“It’s of course been happening endlessly. So, what used to be coming back to the university to talk to a member of staff who used to be in a theatre company and now is setting one up and we’re developing and, etc, etc. that’s now formal mentoring with somebody” (Departmental Head).

This interaction between professional academic work and working in the creative industries has been seen by some departmental heads as offering the prospect of being able to capture benefit for the department, not always with the success sought:

“...we have another member of staff who is only half time for us and who came to us with massive experience in cultural programming for the BBC....and we always hoped and expected that we’d get a slice of that action, but we didn’t, he’s always been able to keep them very separate” (Departmental Leader).

3.3 Organisational innovation

Such experiences as that just illustrated point to an organisational challenge. Engagements with the CCIs are open-ended, managed within disciplinary and local networks with academic and practice-based memberships, and where engagement does not always have tangible benefit to the university. Such membership networks provide both academics and practitioners with space to meet, share ideas and re-enforce disciplinary norms and values, especially in relation to matters of esteem, reputation and credibility. However, benefits back to the department are typically uncertain, unpredictable and generally unquantifiable in terms of likely payback. The opportunities for student engagement were unanimously supported with respondents very clearly endorsing the widespread adoption across the arts of agendas on employability, enterprise education and work-based learning. Engagements with external organisations prepared to provide placements, internships and other forms of work-based learning were particularly valued.

What this illustrates is that although universities understand that the CCIs are a deeply networked sector, they find it difficult to take the next Triple Helix step and take on the 'role of the other' by taking on the priorities, values and ways of working of the CCIs. Other solutions are improvised.

As one music academic explains:

"Liaison between the culture industry or the popular music industry or the commercial industry and academia is fraught....there aren't meeting places.....And so there are....word of mouth...exchanges that take place between commercial music and the public subsidised bodies and we're all interested in each other. We can talk to each other....and I look for opportunities. I'm comfortable with that. Brokerage might be the key." (Lecturer)

However there are structural inhibitors that highlight the set of asymmetries between university departments and CCI organisations:

"...we like the idea of emulating science and technology, we like the idea of being organised and setting up large umbrella schemes to work within and I think that is possible. But actually the size of the companies are different...it's quite difficult to find a creative company of the size that would support the sort of large-scale projects that are going on in science and technology." (Departmental Head).

3.4 Knowledge Exchange

The concept of knowledge exchange has taken over from the older concept of knowledge transfer in order to reflect the reflexive nature of university-industry relationships. It aligns closely with the dynamic of the Triple Helix. Academics were especially sensitised to both the discursive power of this shift in language – but also to the practical implications of what it might entail. The relationship between intellectual and artistic and cultural practices meshed complexly with imperatives for external engagement. As a music academic explained

“I think that the stuff, the matter, the material of our subject is, in itself, a form of knowledge transfer in any case because we’re thinking about the world of ideas...we’re living in a world of communication and a world of critiquing one form and reading art forms and all this is related to the transference of knowledge...We’ve always been engaged with the relationship between what we are researching and the audiences that are receiving it” (Lecturer).

In some instances the very nature of the activity contains within it both intellectual and practical knowledge, basic and applied knowledge and also the sense of an exchange relationship between the producers and consumers of cultural experience. In this sense we can see that aspect of the Triple Helix in which different modes of knowledge production sit alongside (and even within) each other.

Institutions were also highly sensitised to how the concept of knowledge exchange might be seen as combining a range of agendas with, interestingly, a key role for students. As one institutional leader explained:

“Well I think it’s used at the moment in probably three or so different ways and I don’t think they’re mutually exclusive. One obviously is a question of third stream and income generation and that’s the most difficult to address. The other is around, increasingly now, around the idea of the other end of the spectrum if you want to call it, is to do with student enterprise and sort of developing notions of what we mean by student enterprise what with the Leitch Report and questions to do with employability” (Executive Leader)

Conclusion

The paper has tried to test the value of engaging with the existing models and literature on knowledge engagement and platforms for its support across academia, industry and public policy

in relation to the arts and humanities research. In particular, it has explored the practice of academics in arts and humanities through the lens of the Triple Helix model, to further unfold a complex network of stakeholders and dynamics that have so far received very little attention in the literature.

The Triple Helix framework has enabled us to highlight the role played by public policy in the creative economy and the specific nature – often small and fragmented – of the creative industries themselves to better understand the long-established but often informal interconnections with higher education in general and specially arts and humanities. While the informality and unstructured nature of most of the relationships described in the paper might seem to contradict some of formal structure and dynamics described by Etzkowitz and Leydesdorff in their research on the triple helix, these appear only as superficial incongruities.

As Etzkowitz and Leydesdorff (2000) suggest, the Triple Helix describes not only the relationship between university, industry and government, but also the forms of internal transformations that can occur within these different spheres. In this respect it can be clearly argued that the model can be seen to be at work in the CCI sector and has a role in promoting a better understanding of how arts and humanities based disciplines are engaging in knowledge transfer and exploitation activities with the wider CCIs sector. It can help researchers and academics to appreciate the dynamics of these relationships alongside those they create for teaching and researching. These relationships point to knowledge sharing, economic impact, knowledge spill-overs and local economic development, although much of it happen through experimentation, fluid structures and interconnection rather than formal platforms for interactions.

From our interviews we received two broad conclusions, each with particular detail sensitised to the relative institutional positions of the personnel interviewed and, by ideas about institutional mission. The first is that diversity characterises the ways that universities have taken on the ‘CCI

proposition' as expressed through various forms of engagement or knowledge exchange between the research base and 'knowledge' users: this is a complex knowledge creation-practice dynamic. The second is that the nature of the interactions undertaken as a result and the ways in which they are valued are heavily mediated by what might be described as system and institutional realities (of funding, organisational structure, institutional culture and tradition) and disciplinary cultures (shared ideas across the academic-practice nexus about such matters as artistic credibility, professional repute, disciplinary values and norms). These mediating features persist as political and organisational realities in spite of attempts by policy-makers and funders to persuade universities and academics to adapt their behaviours and priorities in the direction of knowledge exploitation and application.

However, on the basis of our interview work at ten UK universities there are a number of considerations that universities and wider public policy need to make if they are to engage with this sector in a productive way. They have to consider whether and how their own processes of knowledge production and dissemination are appropriate for the creative industries. In a sector where tacit knowledge plays such a crucial role, this and other forms of un-traded interdependency in regional development point to the need for universities to examine their own role in the creation and circulation of knowledge. Equally, whilst public policy appears to be pro-active in the promotion of regional development strategies incorporating the CCIs, what it might also need to consider more specifically are the characteristics of innovation in this sector and in particular its social dynamics, especially in relation to the role of tacit knowledge. The cultural and creative industries in particular trade heavily on the role of social interaction and as, Nevarez (2003) claims, universities may make more appropriate 'chambers of commerce' for the creative industries than those of the traditional variety.

The key question for the arts and humanities disciplines concerns their relationship with new paradigms of knowledge production. Far from being an ill-fitting exceptional case in the

knowledge economy, it may be that the interactions between the arts and humanities research base in higher education and the CCIs is actually defining and giving meaning to new knowledge exchange processes through new forms of organisation, partnership, transdisciplinarity, accountability and reflexivity - new contexts of knowledge creation and diffusion. The heuristics of the Triple Helix provide a valuable opportunity to map this landscape and to open a new dialogue about the nature of knowledge production, transfer and exploitation in a sector that is in the process of rapid transformation. However, what this may signal is a growing expansion of the function of university research rather than necessarily a re-orientation of its purpose. To that end we see the moves being made by universities to shed their historic hidden protagonist guise and take on the mantle of active regional agents, not as a re-functionalisation but as an assimilation of ostensibly new agendas to historic regimes of value derived from the academy as a particular kind of institution.

This paper has opened the way for more of this debate to take place; we feel that there are a number of interesting venues still to research. Firstly, while recent publications (Universities UK 2010; AHRC 2011) have explored the attitude and practice of arts and humanities academics towards external engagement, there is still very limited knowledge about the user-led engagement and the attitude of creative industries towards academia. Secondly, public and governmental organisations have been essential in providing support towards the development of creative industries, however, they have been slower in bridging academic research to the creative economy and creating collaborative frameworks. A better understanding of the role played by policy in supporting these creative connections is needed. Finally, the role of the engaged academic and specifically in the creative fields of the teaching practitioner is a key characteristic of the arts and humanities and need to be better understood.

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