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Mechanisms of collaboration between creative small, medium and micro-sized enterprises and higher education institutions: reflections on the Creativeworks London Creative Voucher Scheme

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Abstract:

According to the literature, university-industry collaborations are far from straightforward. This paper adds to this work by looking at how the process of collaboration has fared between Higher Education Institutes (HEIs) and small, medium and micro-sized enterprises (SMEs) in the creative and cultural industries (CCI). It does this by looking at the preliminary findings of Creativeworks London's (CWL) Creative Voucher Scheme. The findings emerged from an analysis of application data, ex post project final reports and interview data. The results to date show that: first, past experience in university – industry collaborations is tremendously beneficial to the success of the collaboration ; second, the creative industries engages with a number of different actors that speak different collaborative languages, actors are needed that are able to communicate at multiple levels at once; third, the collaborative process is not simply a dualistic one between university and industry but multi-layered involving a number of knowledge brokers in different positions in-between and at the interstices of these organizational structures; fourth, administrative expediency with regards to implementing these voucher schemes varies from university to university which point to potentially large departmental differences that can affect the intended collaborations; and fifth, there needs to be a managing of expectations and a balancing of different incentives when it comes to negotiating the outcome of these collaborations since university and industry move at different speeds and value different things.

Keywords: Creative Industries, SMEs, University – Industry collaboration, Voucher Scheme, Creativeworks London

1.0 Introduction:

There is a general consensus in the literature that collaboration between industry and universities faces significant challenges and that further research is needed in this area in order to design effective policy (Bruneel et al, 2010). The purpose of this paper is to contribute to this work by highlighting important findings from the Creativeworks London (CWL) Creative Voucher Scheme. This voucher scheme is a policy instrument designed to nurture university-industry collaborations in the creative and cultural industries (CCI) in the form of deliverable projects. The industry component which the scheme focuses on is small, medium and micro-sized enterprises (SMEs) in the CCI. This sector of the economy is surprisingly under-represented in the literature on these types of collaborations, which seem to focus on discipline-specific and more science-based collaborations¹.

The purpose of the CWL Creative Voucher Scheme is to promote working relationships between SMEs in the creative sector and partner higher education institutions (HEIs) - as well as independent research organisations (IROs). According to the AHRC (2012), the scheme allows SMEs to gain free

¹ The point here is that the CCI encompass a spectrum of economic activities that may or may not have discipline-specific synergies between them. Whereas university-industry collaborations - for example in biotechnology - speak the same language, the CCI comprises many 'languages'.

access to academic expertise in order to help them grow and succeed. The implementation and rationale behind the 'creative' voucher is loosely based on 'innovation' vouchers. Innovation vouchers are a policy instrument that are mainly used to allow SMEs to access expertise from knowledge providers such as HEIs or research and development organisations (R&Ds) or public research organisations (PROs) (OECD, 2010). They were first introduced in 1997 and are now used widely in Europe due to their ease of implementation and their role in facilitating knowledge exchange for relatively small sums of money² (Miles and Cunningham, 2006). They are in effect a policy instrument meant to further and promote knowledge provider-industry relationships.

There have been a number of studies to date that have shown that university-industry collaborations are far from straightforward. Scholars have specifically looked at what promotes these collaborations (Cohen et al, 2002), the mechanisms that underpin them (Tether, 2002) and the barriers to them (Bruneel et al, 2010); these will be dealt with in more detail in section 2.0. It is important to note that most of this work is centred on science-based collaborations and does not focus on SMEs. This paper will add to this body of work by looking at how the process of collaboration has fared between HEIs and SMEs in the creative and cultural industries. This is the primary contribution made by this work.

Similar to the work on science-based university-industry collaborations (Balconi et al, 2004; Balconi and Laboranti, 2006; Blumenthal et al, 1986), this paper suggests that the collaboration between specifically creative SMEs and HEIs is not as straightforward as we would like to think. There is an assumption that once SMEs and HEIs are granted access to each other, through policy instruments like voucher schemes, that a successful working relationship is guaranteed. Access is only the first step in the collaborative process. There are a number of steps that have to be negotiated with regard to the promotion of collaboration between them. These steps require actors and organisations to have the ability to speak multiple disciplinary languages at once; essentially this means that the brokering that usually underpins collaborative projects in this case is not uni-linear but multi-layered and highly complex. This paper suggests that the primary barrier to collaborations between universities and industry in the CCI is communication. Communication in this instance means that the CCI comprises of a number of sub-sectors and industries that may or may not have collaborative synergies between them, which is similar to universities regarding departmental and disciplinary differences, and that both of these areas have different incentive schemes as well as expectations as to what 'collaboration' entails. Navigating this terrain is difficult, hence a need exists to recognise and subsequently negotiate the multi-layered levels of collaboration that can exist through the promotion of policy. As this paper will also show, communication depends on more than just an understanding of what people are doing to further a collaborative project. It includes the management of expectations, the acknowledgement that research and enterprise move at different speeds and value different outcomes, and the acknowledgement that the speed of expediting these types of policy instruments is critical to their successful outcome. These findings come from a preliminary analysis of the CWL Creative Vouchers Scheme.

Although voucher schemes have become popular and effective interventions (Miles and Cunningham, 2006; European Commission, 2010; OECD, 2010), their evaluation has proven difficult to standardise due to large variations in their aims, their implementation and the actors that are

² For an introduction as well as a consolidation of perspectives on innovation vouchers see Virani, 2014.

targeted by them (Miles and Cunningham, 2006; Virani, (forthcoming)). The CWL voucher scheme is still ongoing at the time of writing this paper and has not undergone an ex-ante evaluation, which many see as the gold standard for policy evaluations (Heckman, 2000; Papaconstantinou and Polt, 1997). Instead, this scheme has been analysed through the examination of: ex post final reports, application data and interviews with chosen collaborations from the first three rounds - of which there have been six from October 2012 to April 2014. Importantly the questions asked as part of the final report (see Appendix B) as well as the interview prompts (see Appendix C) try to focus on the collaborative process between the academics and the SMEs that received the voucher through examining knowledge transfer/exchange. Moreover, an official evaluation of this particular scheme has not yet been carried out³.

The principal results show that:

- Past experience in university-industry collaborations is tremendously beneficial to the collaboration as well as the promise of future collaborations.
- The CCI engage with a number of different actors that speak different collaborative languages, actors are needed that are able to communicate on multiple levels at once.
- The collaborative process is not simply a dualistic one between university and industry but multi-layered involving a number of knowledge brokers in different positions in-between and at the interstices of these organisational structures⁴.
- Administrative expediency with regards to implementing these voucher schemes varies from university to university which point to potentially large departmental differences that can affect the intended collaborations.
- There needs to be a management of expectations when it comes to negotiating the outcomes of such collaborations since universities and industry move at different speeds and value different things.

This paper will: first, go through the pertinent literature on university-industry collaborations; second, briefly introduce the CWL voucher scheme; third, discuss the methodology for analysis that was adopted; fourth, outline our key findings regarding the collaborations that have taken place to date and fifth, discuss the implications of these findings on future work in this area.

2.0 University-industry collaborations:

To date there has been significant work on industry-university collaborations (Bishop et al., 2009; Bruneel et al, 2010; Cohen et al, 2002) where significant findings have pinpointed what promotes or

³ This being said, the European Commission's Erawatch database (available at: <http://erawatch.jrc.ec.europa.eu/>), lists a huge number of voucher schemes across Europe and detail whether or not they have in fact under gone an evaluation. Many of the schemes that have undergone an 'evaluation' according to the database have in fact not undergone an official evaluation as they are understood in the formidable literature on the evaluation of policy. Added to this is the fact that these schemes are very difficult to evaluate due to the variation between them. The analysis of final reports, application data and adding interview data as well does yield interesting insights into the this particular voucher scheme because it does not focus strictly on the policy instrument; this can be an advantage. There is a certain amount of slack provided thus being open to any additional and important information about these collaborations. Of course this is not meant to be a substitute to an official evaluation of this particular policy instrument. Important as this issue is, it is beyond the scope of this paper and the subject of a forthcoming working paper by the author(s).

⁴ It is worth stressing here that SMEs in the CCI are more likely to be micro-organisations (fewer than 10 persons); universities are not. The lack of organisational isomorphism between them is often a problem that needs navigating.

deters the collaborative process⁵. Much has been learned about the factors enabling industry to collaborate with universities (Arundel and Geuna, 2004; Bruneel et al, 2010; Laursen and Salter, 2004; Meyer-Krahmer and Schmoch, 1998; Tether, 2002). This being said, the majority of this work is very much based on sector-specific collaborations and focuses primarily on technology-transfer and science-based collaborations with enterprises of all sizes; SMEs are not prioritised. This is important since SMEs represent the largest net contributor to the economy in a number of sectors and in a number of countries (Charles, 2006, 2007; Charles et al, 2014; Gertner et al, 2011; Hoffman et al, 1998; Quayle, 2003). Nevertheless this work has garnered significant insights into the ways that university-industry collaborations can work. Research indicates that collaborative success depends on: first, a long-standing culture of co-operation and economic success through collaborations⁶ (Meyer-Krahmer and Schmoch, 1998); second, the types of firms being considered and what is meant by innovation (Tether, 2002); third, an acknowledgement that firms who espouse open search strategies and invest in research and development are more eager to look for collaborative opportunities (Laursen and Salter, 2004).

Another strand of the existing research concentrates on the barriers to collaboration. Bruneel et al (2010) have identified two general barriers to university-industry collaborations. These are: incentives and conflicts between 'public' and 'private' knowledge and conflicts over intellectual property (IP) and university administration. With regards to the former, 'collaborations are likely to be plagued with conflicts due to a weak attitudinal alignment between partners' (Bruneel et al, 2010 pp 859). Incentives and different ideas of what value represents play a large part here. For instance, where researchers would like to disseminate interesting ideas quickly in order to gain academic respect in their field, firms may want to stay quiet so as to not reveal pertinent information to their competition (Bruneel et al, 2010). Added to this the large variance between industries themselves where, for instance, pharmaceutical industries have to disseminate information quickly in order to apply for standardised approval (such as FDA approval in the United States); whereas the music industry times products to coincide with important calendar dates such as Christmas or Mother's Day (for example the large sales in Christmas albums). Regarding dissemination, Brown and Duguid (2001) state that academics wish to create 'leaky' knowledge so that their ideas will be acknowledged by their peers while firms want the knowledge to be 'sticky' so that they can control a resource that is not available to their competitors. University researchers are also likely to choose research topics that are perceived by their peers to be interesting and valuable, while firms are likely to choose topics and problems that are perceived as being valuable for the development of new products and services for their customers (Nelson, 2004).

In terms of conflicts over IP, it has been established that there is a causal negative relationship between a rise in university patenting and a reduction in research collaborations between industry and universities (Valentin and Jensen, 2007). It has also been found that in some instances, universities have attempted to cash in on the potential commercial success emanating from research which has led to profound distributional conflicts between universities and their industrial

⁵ This includes the huge literature on science parks (Link and Scott, 2003, 2006, 2007), technology transfer (See Sazali and Raduan, 2011 for a comprehensive review) and knowledge transfer (see Ankrah 2007 for a comprehensive review regarding university-technology collaborations).

⁶ Importantly, long standing relationships can sometimes have limiting effects regarding important collaborative aspects like innovation as has been pointed out by Meyer-Krahmer and Schmoch due to a lock-in effect of knowledge based on an entrusted organisational network.

partners (Florida, 1999 and Shane and Somaya, 2007). Clarysse et al (2007) point out that in some cases this is made worse by the often unrealistic expectations held by universities about the commercial potential of university research resulting in the overvaluation of IP. These types of conflicts with technology transfer offices (TTOs) or legal offices and university administration may put a significant strain on collaborations, eventually stopping firms from collaborating with universities. According to the literature, these barriers can be mitigated by three potential mechanisms: collaboration experience, a provided range of interaction types and trust between organisations (Bruneel et al, 2010).

According to Bruneel et al (2010) prior experiences of collaborations such as these are an effective way to mitigate against the aforementioned barriers. This is because they enable: first, firms to build the capabilities to collaborate with partners operating within a different incentive system and second, the development of operating routines and practices to manage this collaboration. Over time, Bruneel et al (2010) state that the experience of collaboration should allow academics and firms to join and agree about research incentives versus industrial ones, as well as iron out any deficiencies in their proposed outputs where they are able to both settle on an agreed format of working (Ibid). An aspect that Bruneel et al do not discuss, and which entails another type of barrier, is the role and interest of the universities with regards to regulatory conditions placed on them by governments. This in turn creates another incentive system that may cause tension and organisational mismatches regarding collaborations.

Scope of involvement in a number of types of collaboration, such as consultation or contribution to conferences and publications, may better equip the firm to manage conflicts over the orientation of research (Ibid); although this is yet to be seen and may be less appetising to firms due to their own incentives and rewards structures. Nevertheless it is argued by some scholars that by introducing firms to other types of inter-organisational incentive systems, universities can mitigate against misunderstandings of proposed outputs (Lawrence et al., 2002 and D'Este and Patel, 2007). This can be done through network-building and face-to-face interaction which yields informal results (Kogut, 2000). In essence it is important for the two organisational bodies to want to work with each other.

Trust between universities and industry is vital in mitigating any barriers to collaborations (Bruneel et al, 2010; Santoro and Saporito, 2003). This is because firms and universities are often required to share commercially sensitive information and tacit knowledge (Bruneel et al, 2010). Collaborators are more likely to be less open if a certain amount of organisational trust does not exist (Inkpen and Tsang, 2005). Moreover, there is also a cost of time that needs to be acknowledged, which seems to be valued by enterprise/industry - whereas university time appears to be free but is in fact not. Staff have full-time jobs so collaborations with businesses are additional, an increased workload that can actually also be a significant barrier to these types of collaborations. For instance it may be more cost-effective for the academic to sit in the library writing a paper which will earn a good RAE score and thus bring in funding for their department - rather than talking to an entrepreneur about their idea for free. The latter will implicitly damage their bottom line which is the sustainability of their business - the university. In order for trust to be established, aspects like this must be understood and negotiated as well as compensated⁷. Higher trust between partners stimulates rich social and

⁷ Another related challenge here is that trust may exist between an SME principal and a researcher; but then the contract is with the SME and the University – where no trust has been established.

information exchanges and encourages partners to exchange more valuable knowledge and information (Ring and Van de Ven, 1992) but must also take into consideration the constraints and management of sensitive elements that contribute to a healthy working relationship such as the difference between 'free' time and 'paid' time. Once this is established, trust-based relationships can facilitate the exchange of difficult to codify knowledge (tacit knowledge) and information as well, which is by definition difficult to communicate (Kogut and Zander, 1992).

3.0 CWL's Creative Voucher Scheme:

The CWL Creative Voucher Scheme is an initiative enabling SMEs in London's creative sector to develop unique and innovative short-term, collaborative research and development with CWL's academic partners and IROs. It is primarily designed to foster university-industry collaborations. The design of the scheme is based on the origins of innovation vouchers that have been used widely in Europe since 1997 (see Bakshi et al, 2012). This scheme started in mid-2012 and ends in mid-2016. Over the past 18 months CWL has awarded 48 vouchers aimed at fostering collaborations between creative SMEs and HEIs. This involved matching academics with creative SMEs to deliver a collaborative project. The scheme is designed to provide a flexible, easy mechanism for small businesses in the CCI to access the knowledge, expertise and skills of partner knowledge providers like HEIs and IROs. The maximum sum available is £15,000 of which a maximum of £5,000 can be used for SME costs. The SME should be registered and have been trading for at least 18 months.

3.1 Application, implementation and evaluation:

The first stage of the process is to attend one of CWL's Ideas Pools. The Ideas Pool is where SMEs and academics begin the process of network building in order to see what partnerships are available that may be open to collaborations. Once a partnership has either been struck up at the Ideas Pool, has been brokered by the CWL Knowledge Exchange team, or was struck up before the Ideas Pool, the development of the project can begin. Developing the relationship between the SME and academic is the second stage. Once both parties have agreed upon a project CWL's Knowledge Exchange team ask them to attend an Application Workshop, this is the third stage of the process. It is here that the partnership begins working on the application that will be submitted to a panel who will decide whether or not a voucher will be awarded. The workshops usually last for one full day. The fourth stage is actually working up an application arising from the initial networking that takes place at the Ideas Pool. Once the partnership is happy with the application it is then submitted to CWL. The partnership is informed within six weeks of submission whether or not they are successful. If successful, the project must be completed within 3-6 months of the start date of the project. The final stage is a report submitted to CWL for evaluation of the scheme. Some of the awards were chosen for case study interviews early in the process. This was partly due to the collaboration project itself and how these aligned with ongoing research by CWL's research strands (of which there are three⁸), and also the need to capture the nature of the collaborative process between collaborators and beyond an ex post final report. The interviews took place during the first three rounds of the voucher scheme as they finished their projects; more are scheduled for recent voucher collaborations.

⁸ To learn more about CWL's research please go here: <http://www.creativeworkslondon.org.uk/research/>

4.0 Methodology:

Application data, ex post final reports, and intermediate interviews were used to gather data about the collaborations funded by the voucher scheme. In order to implement the voucher scheme they were tied to a particular theme that underpinned the Ideas Pool networking events. As stated earlier, as of April 2014 there were six rounds of Ideas Pools based on particular themes. This paper draws from findings from the first three rounds.

4.1 Application data and ex post final reports:

Application data was used to gather baseline data about the actors engaging in the scheme. This included standard information about the SMEs that were applying to the scheme as well as academics. See Appendix A for a template of the application.

Twelve out of a possible 18 final reports were used to gather information about the nature of the collaborations that took place in the first three rounds of the voucher scheme. This is because six reports have not been collected yet. These reports were ex-post in design, meaning that they were conducted after the project had been completed. The report template was put together based on specific key performance indicators that were outlined in the larger project bid. This was the ex-ante element of the design of the final report. Importantly, with regards to the theoretical approach of the final reports, they aimed at examining two general questions: first, how the collaboration fared between the academic and the SME and second, whether the two would collaborate again - see Appendix B for a template of final reports. It was important to allow these final reports to be open-ended in design in order to capture any other pertinent information about the scheme. However, it is also acknowledged that this is not an official evaluation and therefore has its limitations in terms of capturing the mechanism of collaboration that takes place between SMEs and HEIs. Nevertheless, the questions asked allow for some insight into the projects themselves, especially regarding the collaborations that took place. It is also acknowledged that conducting a full and official evaluation would need more resources and is beyond the scope of the project to conduct currently.

It is important to point out that these forms were designed not as tools meant for an evaluation but more for monitoring.

4.2 Intermediate, extended interviews:

Intermediate interviews were used to gather data about the collaborations - 28 were conducted - they were recorded and then subsequently transcribed for analysis. They were intermediate because they were conducted either at the beginning or during the collaboration between academic and SME. The interviews were conducted separately between the academic and the SME. Each interview lasted from 30 minutes to one hour and were conducted with consent. The purpose of using interviews was to build a picture of the nature of these collaborations. These interviews were open-ended in nature with a few probing questions, see Appendix C for the interview schedule.

5.0 Findings:

The expectations behind these collaborations were very much rooted in the knowledge transfer/exchange process. This means that although the final reports and interviews were designed to look at this process, it focused primarily on what types of knowledge were being transferred and how this was enabled. The findings told us something much more important, that the collaborative process is in itself vital. Learning how these collaborative processes are supported has become critical.

5.1 Multi-level brokerage:

Knowledge brokerage in collaborations between HEIs and SMEs in the CCI means more than simply the allocation of funds, match-making at events or being an intermediary. In the CCI these brokering activities take on a somewhat different shape and occur more than once. For instance, where a voucher collaboration is concerned, one might expect a number of levels of brokerage that shift from networking to intermediary to actual collaboration. Thus the knowledge brokering happens within the collaborative process itself by those actively involved in the project. Two out of the 12 collaborations examined here had approximately four levels of brokerage: the first was at the Ideas Pool where the academic and the SME meet and networking is brokered by those actors/agents that run the Knowledge Exchange Programme. Brokerage in this area means that there is a curating of expectations and compatibilities that takes place before a project is embarked upon. This means that potential partners are put together based on the Knowledge Exchange team's intimate knowledge of the wider network thus a provision of linkages is offered up. The second level is after the partnership between SME and academic has been struck. This is the stage in the process when the application is being put together and the potential voucher recipients attend an all day workshop which is also run by the Knowledge Exchange team. The third level of brokerage happens within the actual collaboration. In one particular case the managing director of an SME was in charge of representing a number of artists, who in effect made-up the SME. He is not an artist but had the knowledge and the experience to understand what the collaboration entailed in terms of working with both academics and artists. He would translate the rules of participation between them; in essence he brokered the exchange of knowledge by speaking both 'languages' whilst being one of the stakeholders. The fourth level in this particular case has to do with the difference in the levels of experience between the lead academic and the director of the SME. In this case the academic had far more experience in these types of collaborations. In another case it was the director of the SME who in fact had more experience and thus brokered their collaboration. In most collaborations there is a significant amount of learning that takes place, the less experienced party gains more new knowledge from the collaboration generally. Table 1 shows some of the characteristics of the collaborations including how many had more than two levels of brokerage. Some in fact had only two, this is because they had worked together in the past and hence no brokering was needed outside of the Ideas Pool and the full-day workshop – as trust and familiarity increase the level of brokering can be reduced. Importantly those that had more than three levels of brokerage also had previous experience in university-industry collaborations and had also secured a positive outcome (what determines a positive outcome is defined in the Table 1). However, those recipients that had worked together before are not guaranteed a positive outcome, which may mean that brokering may need to increase even if levels of trust and familiarity increase. This notion needs more research.

Table 1: Characteristics of Creative Voucher Scheme collaborations.

Collaborations	Levels of brokerage	Previous experience (academics)	Previous experience (SMEs)	Future collaborations potential	New collaboration?	Positive outcome*
1	4	+	+	+	+	+
2	4	+	+	+	+	+
3	2	+	+	+		+
4	2	+	+			
5	3	+		+	+	
6	2	+	+	+		
7	3			+	+	+
8	3				+	
9	3			+	+	+
10	3			+	+	+
11	2	+	+	+		+
12	3	+	+	+	+	

*Positive outcome here means that there has been either: a strong research output that has been disseminated, strong commercial interest or active measures to continue the partnership such as applying for funds or at the very least identifying where funds could be drawn from.

5.2 Collaborative language and the creative broker:

The CCI are an interesting case study when looking at university-industry collaborations because they are inter-disciplinary. In fact the application form for a creative voucher indicates that there are a numbers of industries (or sub sectors of the CCI) that the scheme will fund. These sub-sectors are supposed to be ‘creative’ endeavours, however what actually entails a ‘creative’ industry is contested terrain and the subject of intense academic wrangling. Nevertheless, there is a general consensus on which industries are creative and which are not. But just because these industries are viewed under the umbrella term of cultural and creative, this does not mean that they speak the same language when it comes to working together. Many of them in fact do not. Again it is the cultural and creative knowledge broker who comes to the rescue here, this is because they speak multiple languages across multiple activities. For instance one academic commented on the voucher scheme and his SME partner:

These opportunities are fantastic because of the breadth of what we’re talking about. I’ve met the people at -----, the people that work with ----- are excellent. ----- is a special person, her breadth of knowledge is staggering.

This is because this particular person has multiple networks in different sectors. She has a working knowledge of the project’s intended research subject as well as how to conduct research into this area. She is the knowledge broker between the academic and her group of tech people and artists within the collaboration, she represented the SME but acted more in this brokerage-type role. She has working knowledge of what her artists do and has experience working with academics. Importantly, many of these brokers know that they are working in the interstices between art, industry and higher education. One voucher recipient states:

Parcelling out knowledge is my job really. The artists make it work, their creativity and their product that is being sold. I can't get past the business model that leaves artists with nothing hence the reason these types of collaborations are important, or at least that the brokers involved understand how to make sure that the artists are not left with nothing. Part of the future thinking of our platform is licensing it to other artists to use. But there are a number of models that need to be understood. Experience with ----- has helped us work quickly as well.

In these types of collaborations it is difficult for the academic to be the broker. This is because most academics work within disciplinary areas that understand their ways of working. Even if the academic is working between disciplines, the infrastructure that exists for universities to disseminate knowledge is by and large quite similar. This does not mean that academics do not have any experience in this:

I have experience with this, so I'm used to it. We are used to running collaborative projects, only some with artists. Longevity of the project? Well after the blockbuster week, we are well aware that many of these projects do not continue, but depending on how things go we will keep things going. Been great working with -----, and we are deeply interested in what he's doing. (Interview with academic).

Working in these collaborative spaces in a sector that is diverse as the CCI means that experience and know-how with regards to collaboration are important assets to have. However, as Table 1 shows, just because you have worked together in the past does not necessarily mean that the project or collaboration will yield the positive results that one would like to see. This is another area warranting further research. What is clear is that brokering between different sectors and institutions and even within one's own organisation requires people who understand how to work in multiple areas at once. It requires the knowledge broker to speak multiple languages of collaboration. This is a quality that seems to be quite widespread in the cultural and creative industries.

5.3 Experience:

The work on university-industry collaborations highlights that experience is important in helping to ameliorate barriers to these types of collaborations. This is also the case here. In the case of voucher collaborations, having experience entails a number of things: first, the ability to think in an interdisciplinary and creative way about the differences between value and incentives in enterprise versus academia; second, acknowledging the differences in pace that both these areas work at and agreeing to one that both parties can adopt; third, the ability to keep longevity in mind but to also work in the present to create something bridging the collegiality of knowledge and the commercialisation of knowledge products. A voucher collaboration collapsed due to a serious lack of communication and understanding of these fundamental points. This breakdown happened for many reasons but one of the most prevalent was that they did not know how to overcome some of the tensions that seem to plague university-industry collaborations. In this case there were grave misunderstandings about intellectual property and the commercialisation of the material being worked on. The academic was working slower than the SME would have liked, and there was no understanding on how to ameliorate the pace of the work. For some, this focus on commercialisation undermines the public 'commons of science', weakening the institutions of open

science through the imposition of private norms on public activities (Nelson, 2004). For others, the rise of the university as an economic actor creates a new motor for economic development that in the past has been puzzling and separate (Etzkowitz and Leydesdorff, 2000).

An SME director stated:

The language of research as construed in UK higher education is not immediately fitting with how the term is typically understood within the creative industries. But after a process of 'translation', there are obvious synergies between the sectors that could be made more apparent. (Interview with SME).

One of the final reports stated:

Sharing of datasets and commercial and research questions, in order to reach a common understanding of each others' priorities and problems is critical.

Clearly unforeseen problems can plague any collaboration, not all of this is down to lack of experience. However, experience in this area would begin with an understanding that both parties need to iron out an agreeable agenda with realistic deliverables at the beginning of the partnership and then work toward these goals throughout the collaboration. This of course is easier said than done. However, research does show that those with more experience in this area tend to have fewer misunderstandings and hence more positive outputs.

5.4 Managing expectations: different incentives

According to Bruneel et al (2010) working with universities on research projects requires not only that firms learn to work across organisational boundaries, but also that they have or can build the capabilities to collaborate with partners operating within a different incentive system. It was the failure to acknowledge this that led to the breakdown in communication in one of the voucher collaborations. The incentive systems of academics versus SMEs are for all intents and purposes completely the opposite of each other. Where university departments may like to hold on to 'leaky' knowledge in order to slowly disseminate research findings SMEs want their knowledge to be commercialised quickly before the competition catch up. This is especially true of the CCI where production-consumption trends move quickly. Finding a middle ground in this area is difficult. It requires the HEI to speed up and the SME to slow down. One way that this area can be sped up is through the elimination of bureaucracy at many HEIs that are designed to deal with complex contact points like large pharmaceutical companies but not designed to deal with SMEs in the CCI.

5.5 HEI Bureaucracy

Most of the 12 voucher collaborations found that the administrative burden imposed by the HEI was not worth the sums that were being given out through the scheme. Out of the 12 schemes, six stated that the administrative element hindered the collaborations. This finding is not surprising and has been reported in the evaluation of other voucher schemes that are housed in universities. Importantly however, not all universities fare the same in this area. Preliminary research into this area shows that the size of the university may play a part in the administration of these types of 'light touch' innovation based policy instruments; smaller universities are able to expedite vouchers faster, although further research is needed in this area. Moreover, there are significant

departmental differences within and across universities that can negatively or positively affect these schemes. Some university departments have foreseen such problems and set up departmental areas that expedite these projects quickly. This seems to be the case in universities that are known for policy and innovation studies as well as business management. Another finding is that many voucher recipients who had collaborations with business departments seemed to have a better learning and collaborative experience. These findings are very early and would need to be researched further; however the important point is that university-industry collaboration is not straightforward but highly complex and contingent on a number of factors that need to be examined.

6.0 Conclusions:

There have been a number of studies to date that have shown that university-industry collaborations are far from straightforward. It is important to note that most of this work is centred on science-based collaborations. Moreover they do not focus on SMEs. This paper has added to this work by looking at how the process of collaboration has fared between HEIs and SMEs in the CCI by looking at the preliminary findings of CWL's Creative Voucher Scheme. Although these findings do not come from an official evaluation, they are brought together through the analysis of interviews, the analysis of ex post final reports and application data. The results show: first, past experience in university-industry collaborations is tremendously beneficial to the success of the collaboration as well as the promise of future collaborations. This is due to the management of expectations and of different incentive structures existent in industry as well as universities. It is also due to the acknowledgement that universities and industry work at different speeds. Second, the CCI engages with a number of different actors that speak different collaborative languages, actors are needed who are able to communicate on multiple levels at once. Some successful collaborations had individuals that were able to speak to academics as well as people primarily engaged with the work that the SME was enabled to do. This meant that they were in the interstices between academic and SME although they represented and/or managed the SME-HEI collaboration. The skill set that these individuals embody needs to be researched further as they seem to be the key to these types of collaborations. Third, the collaborative process is not simply a dualistic one between university and industry but multi-layered involving a number of knowledge brokers in different positions in-between and at the interstices of these organisational structures. This means that, including these individuals that speak multiple collaborative languages, there exist different compartments to these collaborations⁹. There are complex networks of bureaucracy and management beyond the academic and the SME that exist where individuals are needed who have experience of negotiating this type of terrain. Fourth, administrative expediency when implementing voucher schemes varies from university to university - which points to potentially large departmental differences that can affect the intended collaborations. Some university departments are faster and better at engaging with and facilitating these types of collaborations than others. This warrants further research asking why this seems to be the case especially with regards to SMEs. Finally, there needs to be a management of expectations when it comes to negotiating the outcomes of these collaborations since universities and industry move at different speeds and value different things. This means that there needs to be a management of incentive and reward structures which can be attained through the establishment of trust between the collaborating agents.

⁹ For instance, the existence of technology transfer offices (TTOs) within HEIs or business departments that deal with IP.

References:

- Ankrah, S. N. (2007). University-Industry Interorganisational Relationships for Technology/Knowledge Transfer: A Systematic Literature Review. Leeds University Business School working paper series. Available at: <http://business.leeds.ac.uk/fileadmin/webfiles/research/WPS/ANKRAH1.pdf>
- Arundel, A., Geuna, A., (2004). Proximity and the use of public science by innovative European firms. *Economics of Innovation and New Technologies* 13, 559–580.
- Arts and Humanities Research Council, (AHRC), (2012). *London's creative economy gets a boost with new entrepreneurial hub*. Available at: <http://www.ahrc.ac.uk/News-and-Events/News/Pages/London%E2%80%99s-creative-economy-gets-a-boost-with-new-entrepreneurial-hub.aspx>
- Bakhshi, H., Edwards, J. S., Roper, S., Scully, J., Shaw, D., Morley, L., & Rathbone, N. (2012). An experimental approach to industrial policy evaluation: The case of Creative Credits. In Institute of Small Business and Entrepreneurship Conference.
- Balconi, M., & Laboranti, A. (2006). University–industry interactions in applied research: The case of microelectronics. *Research Policy*, 35(10), 1616-1630.
- Balconi, M., Breschi, S., & Lissoni, F. (2004). Networks of inventors and the role of academia: an exploration of Italian patent data. *Research Policy*, 33(1), 127-145.
- Bishop, K., D'Este, P., Neely, A., (2009). Gaining from interactions with universities: multiple methods for nurturing absorptive capacity. *Research Policy*, Forthcoming.
- Blumenthal, D., Gluck, M., Louis, K. S., Stoto, M. A., & Wise, D. (1986). University-industry research relationships in biotechnology: implications for the university. *Science*, 232(4756), 1361-1366.
- Brown, J. S.; Duguid, P. (2001). Knowledge and organization: A social-practice perspective. *Organization science*, 12(2), 198-213.
- Brown, J.S., Duguid, P., (2000). *The Social Life of Information*. Harvard Business School Press, Boston, Massachusetts.
- Bruneel, J., D'Este, P., Salter, A. (2010). Investigating the factors that diminish the barriers to university–industry collaboration. *Research Policy*, 39(7), 858-868.
- Charles D. (2006). Universities as key knowledge infrastructures in regional innovation systems. *Innovation*, 19(1), 117-130.
- Charles, D. (2007). Regional development, universities and strategies for cluster promotion. In: Harding, A; Scott, A; Laske, S; Burtscher, C, ed. *Bright Satanic Mills: Universities, Regional Development and the Knowledge Economy*. Burlington, Vermont and Aldershot, Hants: Ashgate, , pp.53-68.
- Charles, D., Kitagawa, F., Uyarra, E. (2014). University engagement: from regionalisation to localisation, , *Cambridge Journal of Regions Economy and Society*, 7

- Clarysse, B., Wright, M., Lockett, A., Mustar, P., Knockaert, M., (2007). Academic spinoffs, formal technology transfer and capital raising. *Industrial and Corporate Change* 16, 609–640.
- Cohen, W.M., Nelson, R.R., Walsh, J., (2002). Links and impacts: the influence of public research on industrial R&D. *Management Science* 48, 1–23.
- D’Este, P., Patel, P., (2007). University–industry linkages in the UK: what are the factors underlying the variety of interactions with industry? *Research Policy* 36, 1295–1313.
- Diez, M. A. (2001). The evaluation of regional innovation and cluster policies: towards a participatory approach. *European Planning Studies*, 9(7), 907-923.
- Etzkowitz, H., Leydesdorff, L., (2000). The dynamics of innovation: from national systems and “Mode 2” to triple Helix of university-industry-government relation. *Research Policy* 29, 109–123.
- European Commission. (2010). Riga Declaration available here: <http://www.kvoucher.eu/945/news-documents/news/riga-declaration-realising-the-full-potential-of-innovation-voucher-programmes.html>
- Flanagan, K., Uyarra, E., Laranja, M. (2011). Reconceptualising the ‘policy mix’ for innovation. *Research Policy*, 40(5), 702-713.
- Florida, R., (1999). The role of the University: leveraging talent, not technology. *Issues on Science and Technology* XV, 67–73.
- Gertner, D., Roberts, J., Charles, D. (2011). University-industry collaboration: a CoPs approach to KTPs, in *Journal of Knowledge Management*, 15(4) .
- Heckman, J. J. (2000). Causal Parameters and Policy Analysis in Economics: A Twentieth Century Retrospective, in *Quarterly Journal of Economics*, Vol. 115(1), p.45-97.
- Hoffman, K., Parejo, M., Bessant, J., & Perren, L. (1998). Small firms, R&D, technology and innovation in the UK: a literature review. *Technovation*, 18(1), 39-55.
- Inkpen, A.C., Tsang, E.W.K., (2005). Social capital, networks, and knowledge transfer. *Academy of Management Review* 30, 146–165.
- Kogut, B., (2000). The network as knowledge: generative rules and the emergence of structure. *Strategic Management Journal* 21, 405–425.
- Kogut, B., Zander, U., (1992). Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization Science* 3, 383–397.
- Laursen, K., Salter, A., (2004). Searching low and high: what types of firms use universities as a source of innovation. *Research Policy* 33, 1201–1215.
- Lawrence, T.B., Hardy, C., Phillips, N., (2002). Institutional effects of interorganizational collaboration: the emergence of proto-institutions. *Academy of Management Journal* 45, 281–290.

- Link, A.N., Link, K.R. (2003), On the growth of US science parks, *Journal of Technology Transfer*, Vol. 28 No.1, pp.81-85.
- Link, A.N., Scott, J.T. (2003), US science parks: the diffusion of an innovation and its effects on the academic missions of universities, *International Journal of Industrial Organization*, Vol. 21 No.9, pp.1323-1356.
- Link, A.N., Scott, J.T. (2006), US university research parks, *Journal of Productivity Analysis*, Vol. 25 No.1-2, pp.43-55.
- Link, A.N., Scott, J.T. (2007), The economics of university research parks, *Oxford Review of Economic Policy*, Vol. 23 No.4, pp.661-674.
- McEvily, B., Perrone, V., Zaheer, A., (2003). Trust as an organizing principle. *Organization Science* 14, 91–103.
- Meyer-Krahmer, F., Schmoch, U., (1998). Science-based technologies: university–industry interactions in four fields. *Research Policy* 27, 835–851.
- Miles, I., & Cunningham, P. (2006). Smart Innovation–Supporting the Monitoring and Evaluation of Innovation Programmes. EUROPEAN COMMISSION, BRUSSELS.
- Miles, I., Cunningham, P. (2006). Smart Innovation–Supporting the Monitoring and Evaluation of Innovation Programmes. *European Commission Brussels*.
- Nelson, R.R., (2004). The market economy and the scientific commons. *Research Policy* 33, 455–471.
- Papaconstantinou, G., & Polt, W. (1997, June). Policy evaluation in innovation and technology: an overview. In Conference Policy Evaluation in Innovation and Technology, Capítulo (Vol. 1). Platform, OECD Innovation Policy. *Innovation Vouchers*. (2010).
- Platform, OECD Innovation Policy. *Innovation Vouchers*. (2010).
- Quayle, M. (2002). E-commerce: the challenge for UK SMEs in the twenty-first Century. *International Journal of Operations & Production Management*, 22(10), 1148-1161.
- Ring, P.S., Van de Ven, A.H., (1992). Structuring cooperative relationships between organizations. *Strategic Management Journal* 13, 483–498.
- Santoro, M., Gopalakrishnan, S.(2001). Relationship dynamics between university research centers and industrial firms: their impact on technology transfer activities. *Journal of Technology Transfer* 26, 163–171.
- Santoro, M., Saporito, P., (2003). The firm’s trust in its university partner as a key mediator in advancing knowledge and new technologies. *IEEE Transactions in Engineering Management* 50, 362–373.
- Sazali A. W., & Raduan C. R. (2011). *The Handbook of Inter Firm Technology Transfer – An Integrated Knowledge-Based View and Organizational Learning Perspective*. Germany: LAP LAMBERT Academic Publishing.

Shane, S., Somaya, D., (2007). The effects of patent litigation on university licensing efforts. *Journal of Economic Behavior & Organization* 63, 739–755.

Tether, B.S., (2002). Who co-operates for innovation, and why: an empirical analysis. *Research Policy* 31, 947–967.

Valentin, F., Jensen, R.L., (2007). Effects on academia-industry collaboration of extending university property rights. *Journal of Technology Transfer* 32, 251–276.

Virani, T.E. (forthcoming). Understanding innovation voucher scheme evaluations. *Creativeworks London working paper series*. (Forthcoming).

CREATIVESWORKS LONDON

CREATIVE VOUCHER SCHEME APPLICATION

FUNDED BY THE ARTS AND HUMANITIES RESEARCH COUNCIL

APPLICATION SECTION:

1. SME contact details

Name:	
Company:	
Position:	
Postal address:	
Email:	
Website:	
Contact number:	
Twitter handle:	

2. Briefly describe the work of your company (100 words max)

3. What Creative Vouchers Scheme theme are you applying for?

4. Have you previously worked with an academic institution? If yes please provide brief details.

--

5. Project Title

--

6. Project Description (200 words max)

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7. Academic partner

Name:			
University:		Department:	
Contact number:			
Email:			
Website:			
Postal address:			

8. Please outline the key Collaborative Research and Development activities to be undertaken (250 words max). This section should be completed with your partner academic.

--

9. How does your project align with this specific Creative Vouchers Scheme theme? (100 words max)

10. How will your project assist your business goals or needs? (100 words max)

11. How might your project contribute to London's wider creative economy? (100 words max)

12. Outline your project plan and time schedule; please include your project start date. (150 words max)

13. Budget: Income and Expenditure plus brief written justification of costs.

ADDITIONAL COMPANY INFORMATION:

The information collected here allows us to determine if your company is eligible for assistance and is not submitted as part of your application.

Company information:

Company legal status:	
Business sector:	
Year established:	
Number of years trading:	
Company registration number:	
Council company pay rates to:	
Name(s) & titles(s) of Principal Director(s):	

Company finances:

Turnover:	
Salary/wage cost:	
Balance sheet (optional):	
Pre-tax profit:	
Depreciation:	

Employee numbers:

	Full time	Part time
Number of male employees		
Number of female employees		

Ownership:

Ownership: Please indicate a value of 0 to 100% of voting rights or capital:

Held in one or more outside enterprises by the SME:		Held in the SME by one or more outside enterprises:	
If either of these figures are 25% or over please refer to the EC SME Definition section of the guidance notes and indicate if the SME is:			
An Autonomous Enterprise		An Partner Enterprise	
An Linked Enterprise			

Equal opportunities information:

Owner/manager described as (please tick as appropriate):			
White British		Pakistani	
White European		Bangladeshi	
White (other background)		Caribbean	
White and Black Caribbean		African	
White and Black African		Any other Black background	
White and Asian		Chinese	
Any other Mixed Background		Any other	
Indian			

Owner/manager age (please tick as appropriate):		Is the organisation (please tick as appropriate):	
16 - 24		Female led	
25 - 49		Disabled led	
50 - 64		Black minority ethnic-led	
66 +		None of the above	

Verification of information:

Have you applied to Creativeworks London before?	
If yes, please give details:	

1) I confirm that the information provided in this form is accurate and that I have read understood and received the additional “funding application guidelines” document. 2) I confirm that I am willing to participate in any necessary interviews for evaluation and case study purposes.			
Signed		Print name	
Position		Date	

Data protection: I give my consent for this information to be made available to public bodies and independent auditors who may be required to review this data for funding compliance and output verification purposes. Information supplied on this form may be held on computer and passed to other departments and project partners, which may contact you with details of other services in which you may be interested.

CREATIVESWORKS LONDON

CREATIVE VOUCHER EVALUATION QUESTIONS

FUNDED BY THE ARTS AND HUMANITIES RESEARCH COUNCIL AND

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- Q1. (SME ONLY)** How has this collaboration affected your business? *(max. 300 words)*
- Q2. (ACADEMIC ONLY)** How has this collaboration affected your research? *(max. 300 words)*
- Q3.** Do you have plans or expect to work together in the future? *(max. 300 words)*
- Q4.** What is the expected funding for any future collaboration? *(max. 300 words)*
- Q5.** What do you view as the strengths and weaknesses of the Creative Voucher Scheme? *(max. 300 words)*
- Q6.** Are you more or less in favour of knowledge exchange activities as a result of your experience with the Creative Voucher Scheme? *(max. 300 words)*
- Q7.** Have you established new ways of working? If so, can you describe some of them? *(max. 300 words)*
- Q8.** How can Higher Education Institutions, creative enterprises, and other organisations improve collaboration with one another? *(max. 300 words)*
- Q9. (SME ONLY)** Have you increased your customer-base or your connection with your customer-base as a result this collaboration? *(max. 300 words)*
- Q10.** What were the challenges, opportunities and successes of your collaboration? *(max. 300 words)*
- Q11.** Can you describe the value of the brokership that enabled your collaboration, if applicable? *(max. 300 words)*
- Q12.** Have you had to contribute time and resources to the project beyond those specified in the original bid? *(max. 300 words)*
- (SME Only)** Could you please provide a short project description/case study below? *(max. 1000 words)*

Appendix C: Interview guide.

Evaluation of Successful Recipients of Creative Vouchers: Interview guide.

Description:

A light ethnography comprising of three overarching themes: 1) Place Work Knowledge Strand; 2) Audience Strand; 3) Digital Strand. This evaluation will be qualitative in nature thereby using open-ended semi-structured interviews. These interviews will be recorded only with consent from the participants.

Interview 1: This will be conducted at the beginning of the Creative Voucher Scheme in order to assess three things. These are: Perceived route of knowledge transfer and exchange by Creative Voucher (CV) recipients; Form(s) of knowledge and its transfer that this project will include (This will lead to strand specific information/discussions); What is the desired outcome of the Creative Voucher Scheme for this particular project.

Interview 2: Conducted halfway through the allotted timespan for the project, in order to assess:

Whether the perceived route of knowledge transfer and exchange remains the same, and whether it is proceeding to the satisfaction of each party; whether the form of knowledge involved remains the same, and what progress has been made in the project; progress towards the desired outcome; any other noticeable aspects.

Interview 3: Conducted at the end of the project in order to assess progress:

Is there scope for a future partnership between HEI/academic and SME? If so why? If not why? How would the recipients rate the strengths of the Creative Voucher Scheme? How could the experience including the scheme be improved?