

Jane Zheng and Roger Chan

# A property-led approach to cluster development: 'creative industry clusters' and creative industry networks in Shanghai

This article assesses inter-company networks based on a type of urban area labelled as a 'creative industry cluster' (CCJQ) and explores the interaction between CCJQs and creative industry networks. With the use of questionnaire surveys and interviews, Shanghai's property-led clusters are found to contain inter-company networks; however, most linkages are part of companies' own inter-group networks. Thus, individual companies – not clusters – drive the evolution of creative industry networks. Accordingly, three problems are identified: the exclusion of network dynamics, weak institutional basis and inadequate local creativity. Finally, this article identifies the variables of CCJQs that affect company networks and offers advice for cluster improvement.

**Keywords:** creative industry clusters, creative industry, Shanghai's urban development, property-led development, company networks, cultural quarter, China's cultural industry

## Introduction

Recent years have witnessed a distinct rise in academic interest in cultural and creative industries (Smith, 1998; Howkins, 2001; Florida, 2002). One issue debated is the optimal social and urban environment for the growth of the cultural and creative industry: how the performance of companies is affected by the characteristics of their workplace, why certain local milieux prosper while others do not and how a responsive environment can be nurtured. The rationale of these questions is rooted in a sociological tradition that is concerned about the relationship between individuals' or individual companies' working environment, their 'embedded' social networks of communication, and institutional and social foundations (Granovetter, 1991; Thrift and Olds, 1996; Barnes, 1995; Amin, 1998). In these discussions, 'creative industry clusters', the original concept of which grafted culture on to 'industrial clusters', is recognised as one possible mechanism to facilitate the development of a cultural industry. It is suggested that the advantages of clusters originate in the traditions of Weberian formulation of minimum transportation costs and industrial organisation, Marshallian external economies and Hooverian reformulation and innovation (developed by Isard, Perroux, Chinitz and Mills).

Regarding the functions of 'creative industry clusters', it is traditionally believed that they promote trust among establishments, stimulate co-learning and collabora-

tion, and wield magnetic effects in attracting talent and being competitive (Mommaas, 2004; Storper and Scott, 1995; Scott, 2000). Also, cultural assets in local places influence the local cultural production system, resulting in a symbiotic model of place, culture and economy (Molotch, 1996; Storper and Christopherson, 1987). Scott (2000) believes that cultural production blossoms in cities that consist of dense, complex and locationally convergent groups, whereas distribution is embedded in far-flung global networks of transaction.

More recent scholarship tests hypotheses through empirical investigations and casts doubts on the correlation of geographic concentration and companies' competitive advantages (Angel and Engstrom, 1995), arguing that there is insufficient evidence to show that the clustering mode outperforms the dispersed mode (Perry, 2005; Malmberg and Power, 2005). The extent of benefits is hard to determine (Scott, 2004; Rosenfeld, 2004). Gordon and McCann (2000) point out that the widespread spatial-growth analyses need to be examined and elaborated upon and that one critical factor in determining the success of clusters is the existence of inter-actor networks, which is the key feature of functioning clustering. Networks are believed to exist in effective inter-actor clusters to foster trust, collaboration, increased information and knowledge exchange, and generate added values (Hallencreutz and Lundequist, 2003). Successful clusters are usually based upon organically growing inter-actor networks, whereas unsuccessful clusters tend to lack inter-actor linkages and thus have few locational benefits (termed as 'spatial clustering' or 'pure agglomeration') (Gordon and McCann, 2000). Property-led clusters are often referred to as a typical type of unsuccessful clusters. A 'property-led cluster' can be defined as a certain geographic scope of premises housing a certain proportion of creative industry businesses, usually through property lease. These quarters are often managed by for-profit property companies whose purpose is to pursue rent revenues. Examples of property-led clusters in the UK can be found in Pink Lane and Ouseburn Warehouse in Newcastle-upon-Tyne (Jayne, 2005). The property-led mode is characterised by providing office properties for rental incomes rather than being dedicated to facilitating creative industry companies. It has been criticised as a cultural consumption-led approach, containing inadequate on-site synergy, lacking creativity and for escalating gentrification effects (Zukin, 1982; Pratt, 2009).

Property-led clusters have prospered in Shanghai, China, in the recent decade. The Shanghai municipal government borrowed the term of 'creative industry cluster' from relevant global discourses and supported the accreditation of seventy five urban quarters as 'creative industry clusters' or 'chuangyi chanye jijuqu' (cited as CCJQs in the following text) by 2007 (Figure 1). Except for a handful of spontaneously emerging quarters that offered low-cost derelict industrial spaces to poor artists and cultural businesses at their inception, the majority of CCJQs have been developed and operated by the real estate sector backed by district and/or municipal government(s)



Figure 1 The distribution of 75 CCJQs in Shanghai. Source: offered by the Shanghai Creative Industry Center

(Keane, 2009; Zheng, 2010). The municipal government began to intervene in 'creative industry cluster' development when rising economic profits from this type of industrial space became substantial. In 2005, it set up a specialised public institution, the Shanghai Creative Industry Center (SCIC) (Figure 2). The coalition of the government and the real estate sector began exploiting CCJQs as a new mechanism for generating economic growth both for the city as a whole, and for individual government departments (Zheng, 2010).

Previous research shows that most CCJQs in Shanghai are devoid of organisational or management measures to foster added values. Most quarter administrative services simply equate to property management, e.g. property maintenance and hygiene. Although the type of business of prospective company tenants is a concern, the admission threshold is mainly subject to CCJQ administrators' rent income, and creative industry sectors are only taken when they display the financial strength equivalent to non-creative tertiary industry companies (Keane, 2009; Zheng, 2011). By this logic, CCJQs can be viewed as property-led clusters.

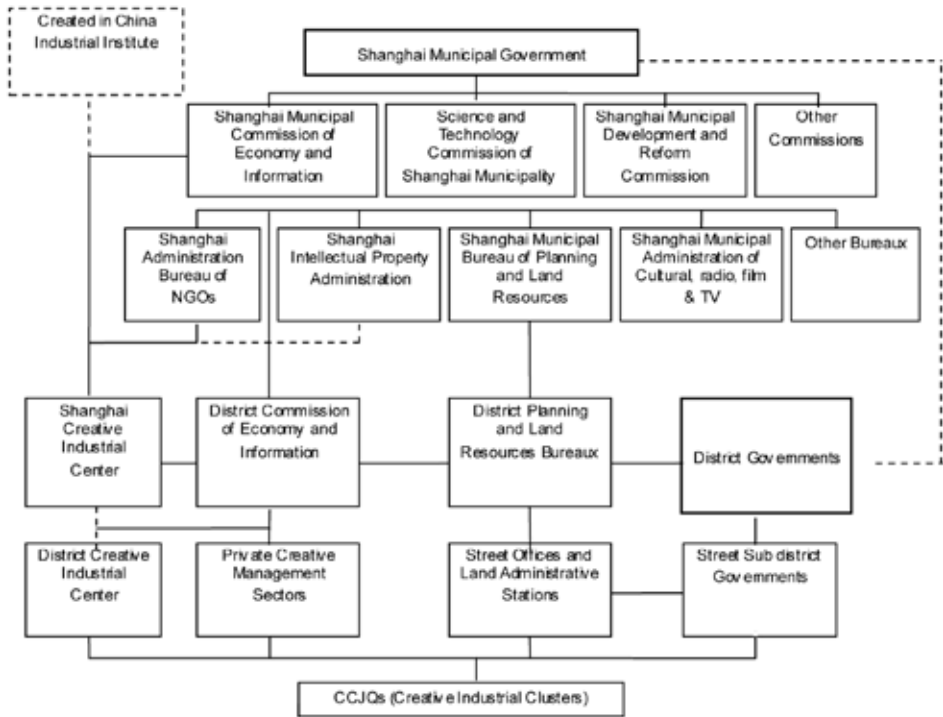


Figure 2 Creative Sectors in Shanghai: Institutional Set-up. Source: <http://www.scic.gov.cn/> <http://www.shanghai.gov.cn> Edited by authors.

Criticisms concentrate on the inability of CCJQs to generate creativity. Keane (2011) highlights the low-quality output of China's animation industry in spite of the increased quantity of its production output. He observes (2009) that creative clusters are places which provide routine fee-for-service work rather than places in which to be creative. O'Connor and Gu (2006) question whether cultural districts and clusters in China are generating an innovate milieu. Also, it is suggested that creative industry clusters do not support entrepreneurship in the sector as they fail to offer financial, technological and facilitative support (Huang, 2008; Keane, 2011; Zheng, 2011). The property-led approach results in a lack of authenticity and artistic creativity in Shanghai's creative economy (Keane, 2009; O'Connor, 2009).

Despite these academic endeavours, one unexplored issue is that of inter-company networking in CCJQs. This research aims to assess inter-company networks in CCJQs and explore the way that CCJQs interact with creative industry networks by addressing three sets of questions. First, are on-site networks and synergies present in CCJQs, and if so, to what extent? How do inter-company networks contribute to cluster growth, and how do clusters affect networking? Second, with vertical and

horizontal connections being two key dimensions of clusters, how do they function in CCJQs and how do CCJQs interact with networks? If vertical connections exist, over what activities are the actors actually co-operating on? If competition is present along with horizontal connections, does such competition hinder co-operation? Third, do networks in CCJQs (if any) work to foster local creativity and what is the function of clusters? An open-ended approach was adopted to identify variables of CCJQs and to preliminarily assess their effects.

The leading argument in this paper is that inter-company linkages exist in CCJQs, but most of them are part of companies' own inter-group networks rather than the outcome of either geographic proximity or the administrative initiatives of the clusters. These linkages have resulted in three major problems of property-led clusters in the Shanghai context. First, the fixed spatial scope of property-led clusters excludes network dynamics as an important constitutive dimension in cluster growth. Second, the interplay between co-operation and competition discourages interactive learning and undermines the clusters' institutional bases. Third, most on-site linkages do not help to foster creativity. This article identifies a set of key variables including quarter images, rents, management style and their *laissez-faire* approach through which CCJQs affect inter-actor networking.

## **Hypothesising the interactions between property-led creative industry clusters and creative industry networks**

A conceptual framework was developed based on a review of ongoing debates on the three issues under exploration, which helped to generate a series of hypotheses for testing.

### **Inter-company networks and cluster growth**

According to traditional cluster theories, the rationale of clusters is rooted in close inter-firm linkages (e.g. Crewe, 1996; Purvis, 1996). A dense set of cluster networks attracts talented people with creative minds to converge and enables small companies to promote inter-actor trust and create 'brands' or 'spatial identities' for interdependence within the group (Amin and Thrift, 1995; Florida, 2002; Hall, 2000; Blau, 1989; Montgomery and Robinson, 1993; Rantisi, 2002; Scott, 2004; Kloosterman, 2005) and they spark innovation through shared information, opinions and cultural sensibilities (Van Bon, 1999; Mommaas, 2009). These have become the main features of a successful creative/cultural industry cluster (Fleming, 2004).

Creative industry clusters without inter-actor networks are criticised for not containing any real clustering or networking effects, i.e. there is simply co-location of cultural/creative industry activities without synergy, partnerships or added values

(Evans, 2004; Montgomery, 2003; Angel, 2002). Many clusters are considered as unsuccessful. Only a small number of studies reveal formal and informal inter-firm collaboration, which tend to be limited to a handful of highly innovative firms (Lyons, 2000). Coe (2000) emphasises the importance of interpersonal relationships and social networks in the distribution system of Vancouver's film industry and thus questions the importance of geographic clusters. Likewise, Love and Roper (2001) suggest that inter-group relations are more important for innovative capacity and that this signifies organisational studies over cluster studies. Due to a lack of institutional support in property-led clusters, local transactions largely occur along actors' own intergroup or interpersonal networks. As a corollary to this, individual tenant companies, instead of clusters, could be the actual centre or driver of creative industry networking.

Another issue that has captured rising scholarly interest in cluster literature is the interaction between network dynamics and cluster growth. The inter-actor network has been viewed as an important factor to identify the scope of creative industry clusters. One cluster mapping approach identifies clusters and their spatial extent based on the density of inter-company networks (Preissl and Solimene, 2003). Heur (2009) characterises the interaction between clusters and inter-actor networks: the clustering of networks is technologically intervened by the accumulation regime and the mode of regulation, which in turn intensifies entrepreneurship of company networks. On the other hand, networks of production constitute, deflect and transform the structuring effects of creative clusters. Since property-led clusters have fixed spatial delimited sphere, this research hypothesises that network dynamics are barred from contributing to the growth of clusters on the spatial dimension.

Another hypothesis related to the above is that most tenant companies' networks are 'long-distance networks' rather than 'local on-site networks'. Previous research provides evidence of insignificant inter-firm transactions at the local level (Angel and Engstrom, 1995; Hendry et al., 2000), in contrast to spatially extended networks of suppliers or customers, and reveals the dominance of global connections (Angel and Engstrom, 1995; Malmberg and Power, 2005). Oahey and others (1988) argue that the creation of new knowledge can be best viewed as a result of combining close and distant interactions (i.e. through local buzz and the knowledge flow along with far-reaching pipelines) (Bathelt, 2004; Mommaas, 2009). Oerlemans, Meeus and Kenis (2007) argue that local and non-local forms of proximity work as mutually complementary factors affecting the performance of firms and clusters. In the Chinese context, the quality of long-distance pipelines could be low. Bathelt (2004) argues that the improvement of global pipelines entails institutional and infrastructural support-internal gatekeepers and boundary spanners that are crucial for translating externally produced knowledge. In China, vague financial rules and taxation regulations, limited access to realistic finance, information censorship and a lack of political transparency all present major barriers (O'Connor, 2005), resulting in lower quality inward information-flows along the pipelines.

## Vertical and horizontal linkages

Cluster theory, starting from Richardson (1972), assumes two constitutive dimensions of a cluster, i.e., the vertical and horizontal dimensions between firms or actors (e.g. Porter, 1990; 1998; Maskell, 2000; Pyke, 1992; Dei Ottati, 1994; Brusco, 1992; Mathews and Weiss, 1991). Vertical linkages are between firms at different stages in the production chain that are thus reliant on each other for co-operation. Horizontal linkages are between firms doing the same kind of thing and thus observing each other in order to keep one step ahead of the competition. Based on studies about single-sector Italian small-firm industrial districts, Brusco (1992) states that co-operation tends to occur between firms at different stages of the production process, referring to vertical co-operation in a production chain; while strong competition occurs between many small firms producing the same product, at the same stage of the production process, competing for the same customers. Mathews and Weiss (1991) describe a similar picture in their studies in Prato, Italy. Dei Ottati (1994) shows how competition between firms and agents specialised in similar activities drives them towards allocative efficiency and innovation through the wide vertical and horizontal division of labour between firms in the district. He further discusses the interplay between competition and co-operation characteristic of the industrial district as an organisation model. In practice, firms can be involved in a relationship including simultaneously co-operation and competition (Bengtsson and Kock, 1999; Bontenbal and van Lindert, 2009). Here, the concept of 'co-opetition' is a mindset that combines competition and co-operation. It goes beyond the conventional rules of competition and co-operation and puts the two elements under the same framework (Brandenburger & Nalebuff, 1996; Luo, X. et al., 2006).

Two hypotheses were developed from the perspective discussed above. First, as China's creative industry clusters are criticised for lacking co-operation in learning (Keane, 2011), tacit knowledge exchange is hypothesised as the major form of mutual learning in CCJQs. According to O'Connor (2004), tacit knowledge, developed instead of formal codified knowledge, is embedded locally, and culture is circulated as signs inside clusters. Bathelt argues that tacit knowledge transfer is 'confined to local milieus whereas codified knowledge may roam the globe almost frictionlessly' (2004, 31).

Second, if co-learning is inadequate in CCJQs (Keane, 2011), competition could be hypothesised as the major form of inter-firm linkage along the horizontal linkages. Perry (2005) points out that proposed advantages of clustering may be mutually exclusive. For example, when one cluster provides a mutual learning environment, it may not concurrently generate strong competition effects: if strong competition is obvious or imminent, a company will try to obtain relevant information to counter this making mutual learning very difficult. Kong's (2009) case study in Singapore verifies Perry's concern: strong competition among visual artists in the scheme blocks certain degrees of information circulation and weakens mutual learning.

## Networks and creativity

According to the literature, property-led clusters influence the networks of creative industry company tenants in two ways. A property-led approach is associated with gentrification effects, which means that small companies with weaker economic strength are displaced by companies with stronger economic viability (Glass, 1964; Ruyters, 2005). Moreover, most property-led clusters are characterised by a *laissez-faire* approach. Pratt (2009) points out that a 'do nothing' approach encourages many institutional factors to be at play. Both impacts impair on-site creativity.

Gentrification effects drive out key creative industry sectors and micro and small creative industry companies, hamper cross-sector interactions and undermine real innovation. Ho (2009) points out that a creative economy is multi-stranded, its braids connected back to more conventional and looser forms. Fashion, music, art, new media, interior design and architecture are widely interconnected. Cultural clustering creates an ongoing source/environment for artistic/cultural/economic imagination and innovation by stimulating cultural diversity, cultural democracy and diversified bohemian lifestyles (Mommaas, 2004). O'Connor and Gu (2006) point out that 'artists' form a tiny, yet crucial, minority within a complex value chain of creative industry.

As in traditional art sectors, it is also important for creative industry clusters to embrace small creative industry firms. Being vibrant and independent, micro and small enterprises are believed to be the key dynamics for cluster development and the drivers of innovation and creativity (Evans, 2004; Scott, 2004; Lash and Urry, 1994; Hallencreutz and Lundquist, 2003). On the other hand, they are weak in structure, lack financial capital and research and development, and have a low uptake of training and new technology/ICT. They converge in clusters to counter pressure and gain overall competitiveness (Evans, 2001; Scott, 2004). Gentrification effects make it hard to maintain social equality and sustain small companies (Hall and Hubbard 1998; MacLeod 2002; Evans 2005).

Shanghai's CCJQs are criticised for severe gentrification as consumer service functions and an increase in land value and rents serve as the bottom line in their administration. In this process, commercialisation becomes the main feature of clusters instead of authenticity (Keane, 2009). The hypothesis here is that the effects of gentrification in CCJQs have driven art sectors and small companies out and thus hampered cross-sector interaction in the clusters.

Second, the *laissez-faire* approach of property-led clusters extends institutional defects to clusters. Hitters and Richards (2002) argue that the local authorities' management strategies for clustering culture and economy have a critical role in shaping cluster activities. In China, the Communist Party-controlled information system is still muzzling media and censoring speech, thus undermining cultural diversity. It also affects the importation of information through global pipelines. Yorke (1989) highlights the short-sightedness of forcing artists to conform to the Party's ideological



mode, which has restrained cultural figures' roles as harbingers of social change. It is hypothesised that the Party's cultural policies have been extended to CCJQs and therefore restrain freedom of expression.

## Research methods

This research adopted by both quantitative and qualitative research methods. A questionnaire survey with two stages of sampling was undertaken, which was complemented with in-depth interviews. As CCJQs initiated by state intervention were the focus of this research, the first stage excluded those spontaneously emerged quarters (exemplified by M50 and Tianzifang). Culture-consumption-led quarters (e.g. Tongfang) were also excluded in order to strengthen the focus on culture-production-based quarters. The authors focused on CCJQs that had been operating for three years, leased 100 per cent of their spaces and had active on-site business activities, and thirty such quarters were identified. These criteria excluded the possibility that inadequate length of tenancy and poor operational status of clusters might have led to insufficient on-site networking. In the second stage, creative industry company tenants were selected through simple random sampling, which meant that all the tenant companies had an equal chance of selection. A questionnaire survey was conducted in March 2007. With the assistance from SCIC, a high rate of survey return was ensured: 141 questionnaires were distributed to the sampled companies, and 111 returned questionnaires were deemed as valid. The response rates throughout the survey process are presented in Table 1:

**Table 1 Response rates to questionnaire survey**

|  |     |
|--|-----|
| Number of CCJQs contacted                                    | 10  |
| Number of CCJQs that responded to this survey                | 8   |
| Number of CCJQs that effectively participated in this survey | 7   |
| Number of questionnaires distributed                         | 141 |
| number of questionnaires returned                            | 118 |
| Useful questionnaires*                                       | 111 |
| Overall response rate from live firms on register            | 80% |

\* The criteria for 'un-useful' questionnaires are: questionnaires 1) that contain incomplete answers; and 2) that have inappropriate answers with evident obvious misunderstanding of what the questions mean.

The data collected was first plotted in diagrams or graphs, according to the categorise of CCJQs. Actual numbers and percentages were used to produce cross-tabulations. Chi-square tests were used in data analysis. In the qualitative section, the first author conducted a pilot study in 2006. In 2007 and 2008, the same author interviewed SCIC officials and fifty CCJQ administrators as well as some of their company tenants.

In 2011, based on the findings from the study and questionnaire survey conducted in 2007, the first author conducted in-depth interviews across the selected CCJQs. Companies that were sampled had been based in the quarters for more than three years and were familiar with the conditions of the quarters.

## Inter-company networks and cluster growth

Contrary to previous understanding that property-led clusters barely contain inter-company networks, this research shows that property-led clusters could have abundant inter-company connections. However, the key characteristic of these connections is that they are brought into clusters by tenant companies or actors as part of their extant inter-organisational or interpersonal connections instead of the outcome of being co-located in clusters. Thus, one major problem of property-led clusters is not a lack of inter-actor networks, but the adversarial tension between the delimited geographic sphere of clusters and network dynamics. Consistent with this finding, a set of variables was identified which demonstrates the way in which property-led clusters affect inter-actor networks.

### Inter-company Networks and their Characteristics

Inter-actor networks in CCJQs – as well as the extent of their connections – were revealed by the questionnaire survey. One of the questions in the survey asked ‘Have any connections been established between your company and other companies or artists in this quarter?’ and requested the participants to further identify the extent to which they are connected to other companies, if such linkages exist.

**Table 2** Number of jobs that has variant degree of on-site linkages,  $X^2(7, N=111) = 1517.67, p < .01$

| CCJQ                            | 0%   | 1%–10% | 11%–30% | 31%–60% | 61%–100% | Total |
|---------------------------------|------|--------|---------|---------|----------|-------|
| Creative Warehouse              | 162  | 30     | 82      | 30      | 0        | 304   |
| Chuangyi Yuan                   | 17   | 62     | 20      | 1       | 0        | 100   |
| 2577 Creative Garden            | 65   | 0      | 26      | 0       | 0        | 91    |
| Jing’an Media Culture Park      | 0    | 6      | 12      | 103     | 30       | 151   |
| Jing’an Modern Industry Mansion | 209  | 61     | 14      | 0       | 6        | 290   |
| The Only Creative Park          | 764  | 615    | 13      | 412     | 0        | 1804  |
| Zhoujia Qiao                    | 223  | 116    | 128     | 69      | 6        | 542   |
| Total                           | 1440 | 890    | 295     | 615     | 42       | 3282  |

According to Table 2, the overall quantity of on-site linkages in the seven CCJQs accounted for around 30 per cent of company linkages (weighted by the number of jobs). This was verified by the findings of the interviews.

In line with the study of Coe (2000) as well as that of Love and Roper (2001), interviews show that the majority of on-site networks are actually a part of the inter-group networks of company tenants. Most companies working on different parts of a common product in one production chain were acquainted with one another before moving into the quarter for collaboration. Friends were often introduced into the quarters through the existing interpersonal connections, and these links continue after becoming neighbours. One case in the Design Warehouse showed that a brother and a sister ran two separate companies specialising in architectural design. The siblings had moved into the same CCJQ and continued to work closely with each other. The Jing'an Media and Culture Park had the highest rate of on-site connection. On-site investigation showed that all the connections were embedded in the interpersonal relationships of company managers. For example, one music and audio production company in the quarter introduced an advertising company, a graphic design company and a media design company into the quarter. These companies would sometimes share customers. The quarter currently houses other design companies, but no connection or co-operation has evolved without the initial inter-company/interpersonal ties (interview with company tenants in CCJQs, 2011). Collaboration generated simply by location proximity seldom occurred. This kind of collaboration usually occurred only after company tenants become personally acquainted with one another. This finding again verifies that locality is less important than the inter-company/interpersonal networks of companies.

### Tensions between networks and cluster growth

In line with the leading argument, the major problem of property-led clusters in Shanghai as demonstrated by the research is the mismatch between network dynamics and cluster growth. The concept of the CCJQ is based on a fixed geographic scope of premises. Thus, incongruence is evident between the physical boundary of CCJQs and the actual geographic scope of converged creative industry's production and distribution networks in agglomeration. Most CCJQ tenants have networked partners outside their CCJQs in Shanghai, mostly in other Chinese cities or overseas through long-distance connections. Design companies, for example, usually fail to find model-making factories inside the same quarter. In the case of one performing-arts training agency, its collaborative team comprises top image designers, fashion designers and music-making workers who are located in South Korea, Hong Kong and in the UK. However, these off-cluster networks are not factored into the CCJQ and do not shape its spatial dimension, no matter how prosperous and dense the network concerned. The CCJQ fails

to cover the actual geographical scope of converged networks. Individual company tenants, instead of clusters, serve as the drivers of networking. Thus, networks of inter-companies do not contribute to the common identity of a cluster supposedly formulated in a particular value chain on sites. In these ways, network dynamics are excluded from cluster construction, development and transformation.

Clusters have little constructive effect on the network development of companies. Overseas investment is usually carried out through the personal connections of companies (e.g. via their overseas founding members). Overall, CCJQs rarely assist companies with attracting capitals and set small limits on capital registration. In addition, CCJQs barely contribute to companies' importation of technology, partly because of the relatively complicated learning process and high cost of importation (interviews with creative industry companies, 2011). CCJQs rarely provide technological training or other support to CCJQ tenants.

Furthermore, CCJQs are unable to remove the institutional barriers on information flow. Numerous creative industry companies find that this limitation hampers their efforts to access overseas information for both knowledge updating and product distribution. 'Western' social networks such as Twitter, YouTube and Facebook are blocked in China. CCJQs fail to provide special zones that allow for unimpeded information, resulting in noticeably negative effects. Several creative industry company managers mentioned difficulties in attracting international markets because of their blindness to consumer expectations (interviews with CCJQ creative industry company managers, 2011). Frictionless information pipelines are recognised as especially important by several creative industry segments. For example, sectors of media and broadcasting, design and exhibition and cultural exchange prioritise full exposure to international information for the improvement of the contents of creative products and of the operational modes of companies. These sectors currently rely largely on their overseas friends/partners for information collection, which is inconvenient to the companies.

### How CCJQs impact on on-site networks?

The Chi square test for the data tabulated in Table 2 showed that the degree of inter-actor linkage varied distinctively across the quarters. Consistent to the argument that inter-personal and inter-group linkages were the major type of inter-company linkages in CCJQs, the degree of on-site linkages in CCJQs was positively related to the chances that enabled companies to bring their networks into quarters and the stability of those on-site networks. Two groups of valuables were identified. Firstly, quarter image (in addition to other physical features of CCJQs) affected companies' site selection. Secondly, rents and quarter management style impacted on the stability of inter-actor linkages.

Previous research discusses a number of cluster variables (e.g. location, gross floor

area (GFA), facilities and rents) that affect a company's site selection. This research highlights the significance of the quarter's image in a company's site selection decision (especially those embodied in the physical environment and cultural atmosphere). A big section of the currently on-site CCJQ tenants are medium-or large-scale, low rent or inter-reliance for group reputation was thus not a main concern in their site selection process. One company manager said that the company was initially set up in a converted building that mixed various incompatible uses and that this setting was unpleasant to many of the companies' partners, namely film stars and cultural celebrities. The company finally moved to the Creative Warehouse Park. The same concern was raised by companies of other sectors, especially those that needed to meet customers and prospective employees in their workplace. Their preferred workplaces were usually characterised by pleasant cultural scenes that included public artwork and well-designed public spaces. The cultural attributes of these places were acknowledged in interviews as not only aesthetically pleasant components but also as inspiration to tenants' creativity.

Aside from the physical features of the quarters that remain unchanged after companies move in, rent and management, being changeable, usually could not be fully assessed instantly. They play the role of both attracting company tenants and pushing them out. Rents affect on-site linkages, as lower rental thresholds allow the access of a wider range of companies with varying financial viability. Thus, more companies in inter-group networks may become neighbours. This was verified by interviews with a number of CCJQ company tenants: they recognised rents as a significant factor impacting on their own and their friends' site selection and tenancy continuation. From 2004 to 2008, the average CCJQ rent increased by around six times; as a result, many small creative companies and cultural figures moved out. A section of creative industry companies that continued to stay in their quarters – largely because of their high initial investment in immovable equipment and interior renovation – disclosed the high financial pressure resulting from spiralling rents (interview with creative industry company managers in CCJQs, 2011).

Management style can sometimes matter more than rent. Firstly, higher quality office building property management services are desirable. Secondly, creative industry companies prefer more flexible regulations and work settings. For example, a large section of creative industry company staff (e.g. design, performing arts, music) work in the evening and prefer twenty-four-hour or at least night-time accessible services. Professional developers are usually able to meet these needs; SOE-run (state-owned enterprise) CCJQs, however, have problems of adapting their management styles to the requirements of office properties, a point illustrated in an interview with a CCJQ administration manager (2006; 2011): 'Most of them are previously manufacturing workers in SOEs; they lack the basic ideas of how to politely serve their customers'. Tensions associated with unfair parking-lot allocation also exemplify this point: the

administrators of some CCJQs in the study had fixed leases for all parking lots and no spare spaces for visiting cars, thus causing disputes. In several CCJQs, administrators were accused of unfairly treating their tenants: some tenants taking advantage of *guanxi* (personal relationship) for easier admission and lower rents. Interviews with CCJQ tenants revealed the fact that a large section of companies moved out of the quarters not because of rents but because of problems with quarter management (interviews with artists in some CCJQs, 2006; 2011).

### Vertical and horizontal connections

Vertical and horizontal connections are another dimension in cluster construction. Discrepancies were evident between quantitative and qualitative survey findings. The questionnaire survey revealed a low rate of competition (Table 3), whereas interviews showed strong on-site competition. From the perspective of ‘co-opetition’, it was found that competition was not a counterpart of co-operation, or represented in an equally observable manner. Instead, co-operation was an apparently quantitatively dominant form of linkage in CCJQs, but its formation was fraught with the strong underlying sense of competition.

**Table 3 On-site displacement and on-site linkages by % of additional firms (employment weighted)**

| CCJQ                            | On-site displacement | On-site linkage |
|---------------------------------|----------------------|-----------------|
| Creative Warehouse              | 6                    | 10              |
| Chuangyi Yuan                   | 0                    | 7               |
| 2577 Creative Garden            | 0                    | 5               |
| Jing'an Media Culture Park      | 0                    | 50              |
| Jing'an Modern Industry Mansion | 0                    | 2               |
| The Only Creative Park          | 0                    | 12              |
| Zhoujia Qiao                    | 1                    | 13              |

Two points illustrate this point more specifically. It should be noted that companies introducing others into the CCJQs selected companies of different business specialisations, situated in various stages of a production chain, to avoid competition. Also, interactive learning was missing from CCJQs, and even tacit knowledge was hardly circulated. This missing knowledge is partially affected by the strong sense of competition (other than actual displacement) that prevails across CCJQs. Company tenants were highly cautious about disclosing information to their neighbours, including to those of different business specialisations.

## The superficial forms of 'co-operation' and the underlying 'competition'

The formation of co-operative connections on sites involves a process in which company tenants filter out the organisations and business associates of friends when introducing some of them to the quarters for co-location. Interviews with company tenants in CCJQs showed that these tenants would choose companies with friendships they trusted and could co-operate with. Accordingly, vertical connections emerged among companies situated in different stages of a production chain, and a wide variety of business specialisations existed in the CCJQs studied (Tables 4, 5 and 6). However, companies of similar or close specialisations were not usually introduced into the quarter, to avoid competition (interview with managers of company tenants in CCJQs, 2012). Thus, the acknowledged majority of co-operative linkages in CCJQs (Table 3) misrepresent a strong sense of competition in the process of neighbour selection.

Consistent with the aforementioned finding, inter-company 'co-operation' in CCJQs is superficial. It simply involves buyer-supplier relations,<sup>1</sup> business introduction within friends' circles and working separately on different parts of a product without intellectual interactions, which can be viewed as labour division based on respective business specialisations.<sup>2</sup> One example of buyer-supplier relations was found in 2577 Creative Garden. The artworks of a sculptor were purchased by quarter administrators to be occasionally displayed in the public space of the quarter. Some of the sculptor's neighbouring companies bought his art to decorate their workplaces (interview with a sculptor in a CCJQ, 2011). Most 'co-operative' practices involved working separately on different parts of a project. For example, a music and audio production company was commissioned for a media and advertising project. This company invited a graphic design company on the second floor to do its graphic designs and an advertising company on the third floor to create the package design for marketing. In 2577 Creative Garden, a ceramic-making studio received business requests for ceramic products, but the studio was not technically equipped to produce some of these products. The studio engaged its neighbour, a sculptor, to deal with sculptural molds and to produce sculptures. Companies of various sectors shared some common resources, which could otherwise be underused in each company. For example, in Jing'an Media Culture Park, a market research company recruited IT personnel but shared this resource with its neighbouring design company (interview with companies in CCJQs, 2011).

However, these practices leave little room for the overlapping of experience sharing, knowledge exchange, collaborative problem solving and experimentation and interactive learning of companies, all of which theoretically constitute the core of inter-company co-operation in creative clusters.

- 1 Buyer-supplier relation accounts for a relatively small proportion, partly because of relatively small quarter scales and a narrow variety of on-site sectors having limited options of transaction.
- 2 One questionnaire question asks whether or not company tenants purchase the products from other companies or sell their own products to others within the quarter, and whether the company and other tenants participate in the production chain of creative industry products. The two types of linkages have been confirmed (Table 3).

**Table 4 Industrial Structure of CCJQs by %**

| CICs                            | Sector |    |    |    |    |    |    |    |    |    |    |   |   |   |   |    |    |
|---------------------------------|--------|----|----|----|----|----|----|----|----|----|----|---|---|---|---|----|----|
|                                 | A      | B  | C  | D  | E  | F  | G  | H  | I  | J  | K  | L | M | N | O | P  | Q  |
| Creative Warehouse              | 5      | 21 | 5  | 5  | 11 |    | 11 | 26 |    |    |    |   |   |   |   |    | 11 |
| Chuangyi Yuan                   | 6      | 6  | 28 | 11 | 6  |    |    |    | 11 |    | 5  |   | 5 |   |   | 22 |    |
| 2577 Creative Garden            | 12     | 12 |    |    | 24 |    |    |    | 12 |    |    |   |   |   |   |    | 50 |
| Jing'an Media Culture Park      | 25     | 12 |    |    |    |    | 13 | 25 |    | 12 | 13 |   |   |   |   |    |    |
| Jing'an Modern Industry Mansion | 16     | 4  | 8  |    | 24 | 16 |    |    | 20 | 4  | 8  |   |   |   |   |    |    |
| The Only Creative Park          | 8      | 33 | 8  |    | 18 | 6  |    | 8  |    |    |    |   |   | 2 |   |    | 17 |
| Zhoujia Qiao                    | 16     | 7  | 18 | 2  | 7  | 2  | 7  | 18 | 2  | 5  |    |   |   |   |   | 12 | 2  |

A, R&D; B, Architecture; C, Art; D, Designer fashion; E, Consultation and planning; F, Computer and video games; G, TV and broadcast; H, Advertising; I, Art and antiques markets; J, Crafts; K, Film and video; L, Music; M, Performing arts; N, Publishing; O, Education and training; P, Retailing; Q, Other

**Table 5 Industrial Structure of CCJQs by % of employment level**

| CICs                            | Sector |    |    |    |    |    |   |    |    |   |   |   |   |   |   |    |    |
|---------------------------------|--------|----|----|----|----|----|---|----|----|---|---|---|---|---|---|----|----|
|                                 | A      | B  | C  | D  | E  | F  | G | H  | I  | J | K | L | M | N | O | P  | Q  |
| Creative Warehouse              | 3      | 30 | 6  | 8  | 9  |    | 4 | 32 |    |   |   |   |   |   |   |    | 6  |
| Chuangyi Yuan                   | 4      | 1  | 20 | 20 | 17 |    |   |    | 16 |   | 7 |   | 4 |   |   | 12 |    |
| 2577 Creative Garden            | 10     | 10 |    |    | 18 |    |   |    | 14 |   |   |   |   |   |   |    | 48 |
| Jing'an Media Culture Park      | 46     | 5  |    |    |    |    | 8 | 30 |    | 4 | 7 |   |   |   |   |    |    |
| Jing'an Modern Industry Mansion | 12     | 4  | 37 |    | 33 | 17 |   |    | 24 | 1 | 3 |   |   |   |   |    |    |
| The Only Creative Park          | 6      | 36 | 1  |    | 4  | 5  |   | 2  |    |   |   |   |   | 0 |   |    | 46 |
| Zhoujia Qiao                    | 11     | 9  | 11 | 1  | 6  | 5  | 6 | 24 | 2  | 2 |   |   |   |   |   | 21 | 2  |

A, R&D; B, Architecture; C, Art; D, Designer fashion; E, Consultation and planning; F, Computer and video games; G, TV and broadcast; H, Advertising; I, Art and antiques markets; J, Crafts; K, Film and video; L, Music; M, Performing arts; N, Publishing; O, Education and training; P, Retailing; Q, Other



**Table 6 Industrial Structure of CCJQs by number of employment**

| CICs                            | Sector |     |     |    |     |     |    |     |    |    |    |    |    |    | Total |     |     |      |
|---------------------------------|--------|-----|-----|----|-----|-----|----|-----|----|----|----|----|----|----|-------|-----|-----|------|
|                                 | A      | B   | C   | D  | E   | F   | G  | H   | I  | J  | K  | L  | M  | N  |       | O   | P   | Q    |
| Creative Warehouse              | 10     | 89  | 16  | 23 | 27  | 20  | 95 |     |    |    |    |    |    |    |       |     | 13  | 293  |
| Chuangyi Yuan                   | 4      | 1   | 30  | 19 | 17  |     | 16 |     | 7  |    |    | 4  |    |    |       |     | 12  | 110  |
| 2577 Creative Garden            | 10     | 10  |     |    | 18  |     | 14 |     |    |    |    |    |    |    |       |     | 47  | 99   |
| Jing'an Media Culture Park      | 67     | 7   |     |    |     | 12  | 43 |     | 6  | 10 |    |    |    |    |       |     |     | 145  |
| Jing'an Modern Industry Mansion | 37     | 13  | 11  |    | 96  | 50  | 71 | 3   | 9  |    |    |    |    |    |       |     |     | 290  |
| The Only Creative Park          | 117    | 637 | 15  |    | 75  | 93  | 29 |     |    |    | 4  |    |    |    |       |     | 814 | 1784 |
| Zhoujia Qiao                    | 62     | 50  | 59  | 6  | 32  | 35  | 26 | 133 | 10 | 11 |    |    |    |    |       | 111 | 7   | 542  |
| Total                           | 307    | 807 | 131 | 48 | 265 | 178 | 58 | 401 | 13 | 33 | 10 | 4  | 4  | 0  | 0     | 123 | 881 | 3263 |
| Percentage                      | 9%     | 25% | 4%  | 1% | 8%  | 5%  | 2% | 12% | 0% | 1% | 0% | 0% | 0% | 0% | 0%    | 4%  | 27% | 100% |

A, R&D; B, Architecture; C, Art; D, Design fashion; E, Consultation and planning; F, Computer and video games; G, TV and broadcast; H, Advertising; I, Art and antiques markets; J, Crafts; K, Film and video; L, Music; M, Performing arts; N, Publishing; O, Education and training; P, Retailing; Q, Other

### The dominant sense of 'competition' and a weak institutional basis

The psychological sense of competition behind acknowledged 'co-operation' in CCJQs appears to be the major force that hinders information circulation and co-learning, resulting in a weak institutional basis in clusters.

Consistent with the literature about inter-company competition, company tenants in our survey observed one another in the clusters. However, as their workplaces were separated, their capacity to obtain business information from their neighbours was actually limited. Company tenants observed changes either in the employment size or in the scale of facilities of their neighbours to judge how well their businesses were operating. In reaction, some of these companies upgraded facilities to indicate a competitive gesture (interview with company tenants in CCJQs, 2012). This research has shown that a strong sense of competition among CCJQ tenants prevails across both horizontal and vertical connections. Professional knowledge or technology is rarely exchanged even among companies along vertical connections. Their superficial way of co-operation (mainly involving labour division based on different specialisations, as discussed above) contributes to the avoidance of competition in overlapping areas of specialisations.

Although our research showed that not many actual competitors exist in quarters because of the neighbour filtering process, it was evident that a sense of competition made companies wary of potential competitors among current neighbours in the cluster. This attitude resulted in the blockage of information flow, which led to a lack of interactive learning. A strong underlying sense of competition, rather than actual displacement, dominated inter-actor linkages and severely impaired co-operation, resulting in low-quality intellectual and professional communication. Findings in this research reject the hypothesis 'that tacit knowledge exchange is the major form of mutual learning in CCJQ' because formal or informal co-learning could barely be found. Most companies recruited staff equipped with the requisite professional knowledge and skills and relied on staff initiative for updates thereof (interviews with company managers in CCJQs, 2011). On another level, casual encounters did occur occasionally among neighbours at coffee bars and restaurants, but such encounters were rarely about professional knowledge and skill exchange. A number of creative industry firm managers expressed concerns about protecting their original ideas from being circulated.

In business competition, only the products that are the first to be registered as patents or brands are viewed as original. We once developed an idea earlier than others but it was, unfortunately, disclosed. So, we are very cautious when communicating with other companies about our ideas in gestation. In particular, neighbouring companies might have more chance to access our information (interview with a creative industry company manager in CCJQ, 2011).

As a result, joint institutional basis and a homogeneous cultural setting that should be the key feature of creative clusters, formed through company tenants' day-to-day practices of participation, discussion, and technology and knowledge transfer through co-location (Amin and Thrift, 1995; Wolfe and Gertler, 2004; Bathelt, 2005), were missing from the studied CCJQs.

This situation is partly, if not entirely, associated with systemic defects in China (e.g., a low degree of intellectual property protection). The *laissez-faire* approach of the CCJQ in this regard has extended these problems to their company tenants. A number of interviewed subjects expressed the same opinion that intellectual protection from the legal system is unreliable, and that companies have to fight against piracy on their own by avoiding unnecessary information disclosure (interview with CCJQ companies, 2012). Although administrators in several CCJQs did provide some supportive measures in an attempt to generate more interactions among tenants (e.g., inviting lectures, organising formal or informal cultural activities in quarters), they were unaware of and unable to remove the systemic barriers in the edifice. The effectiveness of the quarter level measures was accordingly verified by tenants as very limited.

## Networks and creativity

This section aims to ascertain the existence of freedom of expression and whether company tenants have cross-sectoral interactions with traditional art. The findings were that cross-sector interactions were inadequate in CCJQs and most occurred within companies' own networks. Additionally, CCJQs were not able to remove constraints on people's speech which also had a negative effect on on-site synergies.

### Interactions with traditional art sectors in CCJQs

Three findings were identified: first, around one-third of on-site employment was not within the scope of creative industries (some CCJQs contained an obviously higher proportion of non-creative industry companies); second, even within the range of creative industries, more profitable professions were favoured by CCJQ administrators; last, cross-sector interactions took place mainly within companies' own networks. Findings in this subsection support the hypothesis that gentrification effects in CCJQs have forced out art sectors and small companies.

Around one-third of the jobs inside CCJQs in the case study were not related to creative industries, of which 12.9 per cent were retailing (4 per cent of total jobs),<sup>3</sup> such as restaurants, bars and souvenir shops. The rest included a wide variety of sectors

3 This UK classification for creative industries is used since it is much clearer than the five categories given by the SCIC (2006a).

such as law, accounting, engineering, project management and commercial department administration. In addition, only a small section of companies in the CCJQs would be considered as micro- or small-scale (using seven grades according to their annual sales). Among the seven cases, micro or small companies accounted for only 11.7 per cent of all tenants.

**Table 7 Size scale (the annual sale) of CCJQs (RMB) by %**

| <i>CICs Annual Sale</i>         | <i>A</i> | <i>B</i> | <i>C</i> | <i>D</i> | <i>E</i> | <i>F</i> | <i>G</i> | <i>Total</i> |
|---------------------------------|----------|----------|----------|----------|----------|----------|----------|--------------|
| Creative Warehouse              | 8        | 8        | 0        | 23       | 23       | 38       | 0        | 100          |
| Chuangyi Yuan                   | 10       | 20       | 40       | 30       | 0        | 0        | 0        | 100          |
| 2577 Creative Garden            | 0        | 0        | 14       | 28       | 15       | 15       | 28       | 100          |
| Jing'an Media Culture Park      | 0        | 0        | 15       | 85       | 0        | 0        | 0        | 100          |
| Jing'an Modern Industry Mansion | 7        | 23       | 8        | 31       | 8        | 23       | 0        | 100          |
| The Only Creative Park          | 0        | 0        | 3        | 37       | 20       | 10       | 30       | 100          |
| Zhoujia Qiao                    | 0        | 6        | 23       | 42       | 19       | 6        | 4        | 100          |

Note: A: Lower than 100,000; B: 100,000–500,000; C: 500,000–1,000,000; D: 1,000,000–5,000,000; E: 5,000,000–10,000,000; F: 10,000,000–30,000,000; G: Higher than 30,000,000

Further scrutiny of the professions and annual sales of these non-creative industry companies showed that most were large-scale companies with distinctively higher annual sales. In the 2577 Creative Industry Garden and the Only Creative Park for example, non-creative industry tenants almost overlapped with those of the highest annual sales (see Tables 6 and 7. This indicates the preference of CCJQ administrators for companies in large-scale operations,<sup>4</sup> disregarding the fact that these companies may not be creative industry companies. This finding was reinforced by interviews with CCJQ administrators: companies with more stable and strong economic revenues were said to be preferred by the quarter administrators (interview with one CCJQ administrator, 2007).

Among the jobs within the scope of creative industries (accounting for 69 per cent), more profitable professions were favoured by CCJQ administrators. One-fourth of all jobs located in the CCJQs were in architectural design (25%), a booming and lucrative profession in the current wave of urban redevelopment in China. This was followed by advertising (12%), research and development (9%), consultation and planning (8%), computer and video games (5%), art (4%), TV and broadcast (2%),

4 The criteria for micro, small, middle, and large companies are different in various countries and professions. However, a specialised classification for the scale of companies in creative industries in China has not been worked out. This research uses the criteria in Europe and defines micro creative industry companies as having annual sales below RMB0.5 million, small companies: RMB0.5-5 million, medium sized companies: RMB5-30 million; big companies: RMB30 million and above.

crafts (1%) and fashion design (1%). Much smaller proportions of tenant companies were devoted to segments such as visual arts, music, performing arts, film and video, antique markets, and crafts and publication, although all are more closely associated with art, culture-related creativities and innovation.

This research also shows that most cross-sector interactions with traditional cultural and art sectors take place in companies' own networks rather than being the outcome of clustering. Also, many creative industry sectors do not give importance to on-site traditional art sector companies; these neighbours are not indispensable, but are welcomed if present. Most creative industry companies believe that they should rely on their own resources to communicate with the art sector. For example, it was evident that audio and music production companies usually include music departments devoted to making music and songs, as well as close ties to local musicians and movie stars (interview with creative industry company managers in CCJQs, 2011). It was noted that design, planning, market research and performing art agencies all made initiatives to access art resources, either in friends' circles or through recruited staff with qualifications in art and culture. Their expectations of CCJQs, however, merely involved a good cultural atmosphere (usually manifested by good quarter designs, landscaping and public art) (interview with creative industry company managers in CCJQs, 2011).

### Expression of freedom and on-site synergies

The development of CCJQs is not accompanied by any change in cultural policies that may otherwise lead to improved cultural diversity and democracy in Shanghai. This section supports the relevant hypothesis. Obeying the Party's rules in the information system is still the priority and this continues to exclude differing views in politics and other aspects. The SCIC emphasises the Party's ideological guidance in developing CCJQs and creative industries (SCIC, 2006a). 'Management Regulations of Creative Industry Clusters in Shanghai' stipulate that it is the duty of CCJQ administrators to record their tenants, guide their company tenants to register with the local districts, report their tenants' activities to administrative departments in a timely manner, and oversee exhibitions that contain ideological components (SCIC, 2006b, 44–45).

These official regulations have been put in place and as a result, no special cultural policies allow extra freedom of expression. By joining a CCJQ, artists and creative industry companies are involved in more complicated registration procedures (e.g. submitting business licenses and photocopies of personal identity documents, and signing the contract titled 'The Property Management and Service Contract' about the government's regulations on tenants' activities) leading to a sense of surveillance. By contrast, in renting art warehouses along the Suzhou Creek in the early days, the procedure of renting spaces was much simpler, as artists only needed to go through negotiations with landlords about rents.

The negative impacts are observable, but companies' varying responses suggest that clusters are not the right level to overcome this problem. Some sectors (e.g. design or music) appear to take the limited freedom of expression in their stride. Others affirm the importance of free expression, but in reality, are conducting self-censorship. For instance, in order to prevent artists from circulating politically sensitive information that may cause trouble to the organisation, performing art agencies require their contracted artists not to set up any personal 'blogs'; rather, the companies take charge of information release (interview with companies in CCJQs, 2011). Being afraid of political wrongdoing, many companies automatically limit themselves in communicating with yet unacquainted neighbour companies. Some creative industry workers have been frustrated by such ideological control:

In my view, what is creative industry? Why do we need the Shanghai Creative Industry Center? Does SCIC simply aim to renovate old buildings to lease to tenants or to promote the development of creative industries in their start-up stage? All these questions have not been clarified. Without really answering these questions, creative industries will not be successfully developed in the current institution under ideological controls (questionnaire survey, 2007).

## Conclusions

This research conducts an assessment of inter-company networks in property-led creative industry clusters, which is supplemented with an open exploration of interactions between property-led clusters and creative industry networks. It uses CCJQs in Shanghai as case studies and draws upon literature on both property-led clusters and creative industry clusters in China.

The leading argument of this research is that most on-site linkages are part of companies' own networks and are brought into quarters by the tenants, instead of an outcome of either geographic proximity or quarter administrators' endeavours, adhering to what Coe (2000), Love and Roper (2001) and others argue. Thus, property-led clusters in Shanghai are less able to explain the creative industry production system in which most interactions occur in company tenants' own networks (e.g. transaction or non-transaction based interactions, cross-sector interactions with traditional art sectors) and they may be either on or off sites. Also, as most companies are medium or large in scale, they do not mass together for interdependence in technology, learning or group reputation, but simply in the selection of suitable workplaces.

What follows are the findings to the three major research questions:

First, regarding whether there are inter-company networks in CCJQs and their extent, differing from previous assertions that tend to deny networks in property-led clusters (Evans, 2004; Angel, 2002; Lyons, 2000), this research reveals inter-company

connections and partnerships in property-led clusters in Shanghai. The degree of connections is affected by 1) physical conditions of CCJQs (quarter image being a potent variable) and 2) cluster management style and rents. Different from creative clusters (Heur, 2009), the tension between clusters and inter-company networks in Shanghai's property-led clusters is that fixed spatial and premise scope of CCJQs has excluded network dynamics from being a constructive dimension in cluster growth. In the meantime, the centrality of individual companies instead of clusters has conspired to hinder the evolution of cluster-centred identities.

Second, by examining the interplay between 'co-operation' and 'competition' along companies' vertical and horizontal connections, this research shows that 'co-operation' is acknowledged as the dominant form of linkage in the questionnaire survey, but it is actually retrained by the underlying sense of competition in the companies' selection of neighbours. A strong sense of competition, instead of actual displacement, prevails among CCJQs, embedded in protective measures to prevent business ideas and plans from being disclosed. This 'co-operation' and 'competition' interplay has reduced the concept of 'co-opetition' in CCJQs to buyer-supplier relations or labour division based on respective specialties. The latter is often held together by friendship ties without intellectual interactions for innovation. This has also led to blocking information circulation and discouraging interactive learning, and has eventually resulted in a weak institutional setting in the CCJQs.

Third, on the final question regarding whether on-site networks help generate creativity, the finding supports Keane's (2009) and others' arguments and shows that CCJQs are not disposed to generate creativity. As art sector employment accounts for only a small proportion on sites whereas higher-profit business sectors dominate, interactions between creative industries and traditional art sectors are inadequate. Also, inadequate freedom of speech, under the thumb of the propaganda authorities, has restrained on-site communication and synergies.

This research enriches the literature regarding the way that property-led creative industry clusters affect inter-actor networking. Four variables are identified and preliminarily assessed. First, in addition to the physical conditions of a cluster (e.g. location, GFA and property qualities), quarter image manifested in cultural attributes and physical designs appear to influence companies' site selection and thus are relevant to on-site networking. Second, rental level and property management style affect the stability of on-site linkages. Gentrification and undesirable management styles often cut a section of company tenants out and thus lead to unstable on-site networks. Third, the image and reputation of clusters help tenants to attract talent. Finally, the inability of CCJQs' to remove institutional barriers keeps information and expression muzzled. At this point, this research is in line with Hitters and Richards's (2002) argument that the *laissez-faire* approach of property-led clusters extends problems to quarter operations. Geographic proximity, however, appears to

assist little with networking and promotes the tension of information protectiveness.

In addition to theoretical implications, this research also contributes empirical implications regarding ways of generating more positive impacts of property-led clusters on inter-actor networking. It would suggest that CCJQ administrators lower the rent threshold – partially if not entirely – to maximise the chances for companies' linkages to enter, which may include linkages with micro and small cultural companies and the art sector. CCJQs are also advised to provide responsible property management and flexible regulations. As a corollary to these, property-led creative industry clusters should not simply be luxurious office properties, but something that intelligently exploits cheap spaces with design instruments and cultural assets that appear interesting to people with cultural sensibilities. Company tenants' varying responses to a couple of key network-related problems suggest that such problems are difficult to tackle at the quarter level. To fundamentally improve inter-actor networking in CCJQs, systemic reforms in China are called for, such as scrapping or reducing censorship, curtailing the theft of intellectual property, liberating expression and encouraging co-learning and public participation.

## Acknowledgements

The authors are grateful to Professor Cecilia Wong, the journal editor, and the two reviewers for helpful advice and comments for revision. Thanks also to Professor Desmond Hui and the Shanghai Creative Industry Center for assistance with data collection during field trips. Special thanks go to Xu Jianhua in the Jing'an Media Culture Park and Sun Ping, Pu Linyan and others in the 2577 Creative Garden. Roger C K Chan would like to acknowledge the support by the University of Hong Kong Research Award (HKU740211H) leading to this publication.

## References

- AMIN, A. (1998), 'An institutionalist perspective on regional economic development' (Paper presented at the Economic Geography Research Group Seminar), London, Institutions and Governance, Department of Geography, UCL.
- AMIN, A. and THRIFT, N. (1995), 'Globalisation, institutional "thickness" and the local economy' in P. Healey (ed), *Managing Cities: The New Urban Context*, Chichester, J. Wiley, 91–108.
- ANGEL, D. (2002), 'Inter-firm collaboration and technology development partnerships with US manufacturing industries', *Regional Studies*, **36**, 333–44.
- ANGEL, D. and ENGSTROM, J. (1995), 'Manufacturing systems and technological change: the US personal computer industry', *Economic Geography*, **71**, 79–102.
- BARNES, T. (1995), 'Political economy I: "the culture, stupid"', *Progress in Human Geography*, **19**, 423–31.



- BATHELT, H. (2004), 'Toward a multidimensional concept of clusters: the case of the Leipzig media industry, Germany' in D. Power and A. Scott (eds), *Cultural Industries and the Production of Culture*, London and New York, Routledge, 147–68.
- BENGTSSON, M. and KOCK, S. (1999), 'Cooperation and competition in relationships between competitors in business networks', *Journal of Business and Industrial Marketing*, **14**, 178–94.
- BLAU, R. (1989), *The Shape of Culture: A Study of Contemporary Cultural Patterns in the United States*, Cambridge, Cambridge University Press.
- BONTENBAL, M. and VAN LINDERT, P. (2009), 'Transnational city-to-city cooperation: issues arising from theory and practice', *Habitat International*, **33**, 131–33.
- BRANDENBURGER, M. and NALEBUFF, J. (1996), *Co-opetition*, New York, Harper Collins Business.
- BRUSCO, S. (1992), 'Small firms and the provision of real services' in F. Pyke and N. Sengenberger (eds), *Industrial Districts and Local Economic Regeneration*, Geneva, International Institute for Labour Studies, 177–96.
- COE, M. (2000), 'The view from out West: embeddedness, inter-personal relations and the development of an indigenous film industry in Vancouver' *Geoforum*, **31**, 437–51.
- CREWE, L. (1996), 'Material culture: embedded firms, organizational networks and the local economic development of a fashion quarter', *Regional Studies*, **30**, 257–72.
- DEI OTTATI, G. (1994), 'Cooperation and competition in the industrial district as an organization model', *European Planning Studies*, **2**, 463–83.
- EVANS, G. (2001), 'Small is beautiful? ICT and SMTEs, a European comparative', *Information Technology and Tourism*, **2**, 1–15.
- EVANS, G. (2004), 'Cultural industry quarters: from pre-industrial to post-industrial production', in D. Bell and M. Jayne (eds), *City of Quarters: Urban Villages in the Contemporary City*, Burlington, VT, Ashgate, 71–92.
- EVANS, G. (2005), 'Measure for measure: evaluating the evidence of culture's contribution to regeneration', *Urban Studies*, **42**, 959–83.
- FLEMING, T. (2004), 'Supporting the cultural quarter? The role of the creative intermediary', in D. Bell and M. Jayne (eds), *City of Quarters: Urban Villages in the Contemporary City*, 93–108.
- FLORIDA, R. (2002), *The Rise of the Creative Class*, New York, Routledge.
- GLASS, R. (1964), *London: Aspects of Change*, London, MacGibbon and Kee.
- GORDON, R. and MCCANN, P. (2000), 'Industrial clusters: complexes, agglomeration and/or social networks?' *Urban Studies*, **37**, 513–32.
- GRANOVETTER, M. (1991), 'The social construction of economic institutions', in A. Etzioni and R. Lawrence (eds), *Socio-economics: Towards a New Synthesis*, New York, Armonk, 75–81.
- HALL, P. (2000), 'Creative cities and economic development', *Urban Studies*, **37**, 639–49.
- HALL, T. and HUBBARD, P. (EDS) (1998), *The Entrepreneurial City: Geographies of Politics, Regimes and Representation*, London, John Wiley and Sons.
- HALLENCREUTZ, D. and LUNDEQUIST, P. (2003), 'Spatial clustering and the potential for policy practice: experiences from cluster-building processes in Sweden', *European Planning Studies*, **11**, 533–47.
- HENDRY, C., BROWN, J. and DEFILIPPI, R. (2000), 'Regional clustering of high technology-based firms: opto-electronics in three countries', *Regional Studies*, **34**, 129–44.

- HEUR, V. (2009), 'The clustering of creative networks: between myth and reality', *Urban Studies*, **46**, 1531–52.
- HITTERS, E. and RICHARDS, G. (2002), 'Cultural quarters to leisure zones: the role of partnership in developing the cultural industries', *Creativity and Innovation Management*, **11**, 234–47.
- HO, C. (2009), 'The neighbourhood in the creative economy: policy, practice and place in Singapore', *Urban Studies*, **46**, 1187–201.
- HOWKINS, J. (2001), *The Creative Economy: How People make Money from Ideas*, London, Allen Lane.
- HUANG, S. (2008), *Capitalism with Chinese Characteristics: Entrepreneurship and the State*, Cambridge, Cambridge University Press.
- JAYNE, M. (2005), 'Creative industries: the regional dimensions?' *Environment and Planning C: Government and Policy*, **23**, 537–56.
- KEANE, M. (2009), 'The capital complex: Beijing's new creative clusters', in L. Kong and J. O'Connor (eds), *Creative Economies, Creative Cities: Asian-European Perspectives*, Dordrecht, Springer, 77–95.
- KEANE, M. (2011), *China's new Creative Clusters: Governance Human Capital and Regional Investment*, London and New York, Routledge.
- KLOOSTERMAN, R. (2005), 'The creative hype', in S. Franke and E. Verhagen (eds), *Creativity and the City: How the Creative Economy Changes the City*, Rotterdam, NAI Pub., 56–65.
- KONG, L. (2009), 'Beyond networks and relations: towards rethinking creative cluster theory', in L. Kong and J. O'Connor (eds), *Creative Economies, Creative Cities: Asian-European Perspectives*, 61–76.
- LASH, S. and URRY, J. (1994), *Economies and Signs and Space*, London, Sage.
- LOVE, H. and ROPER, S. (2001), 'Location and network effects on innovation success: evidence for UK, German and Irish manufacturing plants', *Research Policy*, **30**, 643–61.
- LYONS, D. (2000), 'Embeddedness, milieu, and innovation among high-technology firms: a Richardson, Texas, case study', *Environment and Planning A*, **32**, 891–908.
- LUO, M., SLOTEGRAAF, R. and PAN, X. (2006), 'Cross-functional "coopetition": the simultaneous role of cooperation and competition within firms', *Journal of Marketing*, **70**, 67–80.
- MACLEOD, G. (2002), 'From urban entrepreneurialism to a revanchist city? On the spatial injustices of Glasgow's renaissance', *Antipode*, **34**, 602–24.
- MALMBERG, A. and POWER, D. (2005), '(How) do (firms in) clusters create knowledge?' *Industry and Innovation*, **12**, 409–31.
- MASKELL, P. (2000), *Knowledge Creation and Diffusion in Geographic Clusters*, Denmark, Mimeo, DRUID, Copenhagen Business School.
- MATHEWS, J. and WEISS, L. (1991), 'A tale of two industries: textiles in Italy and Australia', (Industrial Relations Working Papers No. 86), Sydney, University of South Wales, School of Industrial Relations and Organisational Behaviour.
- MOLOTCH, H. (1996), 'LA as product: how design works in a regional economy', in A. Scott and E. Soja (eds), *The city: Los Angeles and Urban Theory at the End of the Twentieth Century*, Los Angeles, University of California Press, Los Angeles, 225–75.
- MOMMAAS, H. (2004), 'Cultural clusters and the post-industrial city: towards the remapping of urban cultural policy', *Urban Studies*, **41**, 507–32.

- MOMMAAS, H. (2009), 'Spaces of culture and economy: mapping the cultural-creative cluster landscape', in L. Kong and J. O'Connor (eds), *Creative Economies, Creative Cities: Asian-European Perspectives*, 45–59.
- MONTGOMERY, J. (2003), 'Cultural Quarters as Mechanisms for Urban Regeneration. Part 1: Conceptualising Cultural Quarters', *Planning, Practice and Research*, **18**, 293–306.
- MONTGOMERY, J. and ROBINSON, D. (1993), 'Visual artists in New York: what's special about person and place?' *Journal of Cultural Economics*, **17**, 17–39.
- OAKEY, R., ROTHWELL, R. and COOPER, S., (1988), *The Management of Innovation in High-technology Small Firms: Innovation and Regional Development in Britain and the United States*, London, Pinter Publisher.
- O'CONNOR, J. (2005), "'Creative exports": taking "cultural Industries" to St Petersburg', *International Journal of Cultural Policy*, **11**, 45–59.
- O'CONNOR, J. (2009), 'Shanghai moderne: creative economy in a creative city?' in L. Kong and J. O'Connor (eds), *Creative Economies, Creative Cities: Asian-European Perspectives*, 175–93.
- O'CONNOR, J. and GU, X., (2006), 'A new modernity? The arrival of creative industries in China', *International Journal of Cultural Studies*, **9**, 271–83.
- OEERLEMANS, L. and MEEUS, M. AND KENIS, P., (2007), 'Regional innovation networks', in R. Rutten and F. Boekema (eds), *The Learning Region, Foundations, State of the Art, Future*, Cheltenham, Edward Elgar, 160–84.
- PERRY, M. (2005), *Business clusters: an international perspective*, London and New York, Routledge.
- PORTER, M. (1990), *The Competitive Advantage of Nations*, New York, Free Press.
- PORTER, M. (1998), 'Clusters and the new economics of competition', *Harvard Business Review*, **76**, 77–90.
- PRATT, C. (2009), 'Policy transfer and the field of the cultural and creative industries: what can be learned from Europe?' in L. Kong and J. O'Connor (eds), *Creative Economies, Creative Cities: Asian-European Perspectives*, 9–23.
- PREISSEL, B. and SOLIMENE, L. (2003), *The Dynamics of Clusters and Innovation*, Heidelberg and New York, Physica.
- PURVIS, S. (1996), 'The interchangeable roles of the producers, consumers and cultural intermediary: the new 'pop' fashion designer', in J. O'Connor and D. Wynne (eds), *From the Margins to the Center: Cultural Production and Consumption in the Post-Industrial City*, Arden, Aldershot, 117–40.
- PYKE, F. (1992), *Industrial development through small-firm cooperation: theory and practice*, Geneva, Switzerland, International Labour Organisation.
- RANTISI, N. (2002), 'The competitive foundations of localized learning and innovation: the case of women's garment production in New York city', *Economic Geography*, **78**, 441–63.
- RICHARDSON, B. (1972), 'The organization of industry', *The Economic Journal*, **82**, 883–96.
- ROSENFELD, A. (2004), 'Art and design as competitive advantage: a creative enterprise cluster in the Western United States', *European Planning Studies*, **12**, 891–904.
- RUYTERS, D. (2005), 'Asocial, unprofitable and autonomous: the rise of the postcreative class', In S. Franke and E. Verhagen (eds), *Creativity and the City: How the Creative Economy Changes the City*, Rotterdam, NAI Pub., 80–88.
- SCOTT, A. (2000), *The Cultural Economy of Cities*, London, Sage.

- SCOTT, A. (2004), 'Cultural-products industries and urban economic development: prospects for growth and market contestation in global context' *Urban Affairs Review*, **39**, 461–90.
- SCIC (SHANGHAI CREATIVE INDUSTRY CENTER) (2006a), *Shanghai Creative Industries Development Report*, Shanghai, Shanghai scientific and technological literature publishing house.
- SCIC (SHANGHAI CREATIVE INDUSTRY CENTER) (2006b), 'Management Regulations of Creative Industry Clusters in Shanghai', in SCIC (ed.) *Shanghai Cultivating Creative Industry: Research and Practice*, 43–45.
- SMITH, C. (1998), *Creative Britain*, London, Faber.
- STORPER, M. and CHRISTOPHERSON, S. (1987), 'Flexible specialization and regional industrial agglomeration: the case of the US motion-picture industry', *Annals of the Association of American Geographers*, **77**, 260–82.
- STORPER, M. and SCOTT, A. (1995), 'The wealth of regions: market forces and policy imperatives in local and global context', *Futures*, **27**, 505–26.
- THRIFT, N. and OLDS, K. (1996), 'Refiguring the economic in economic geography', *Progress in Human Geography*, **20**, 311–37.
- VAN BON, S. (1999), 'The cultural industries: fostering the local in the network economy: a case study of the Northern Quarter in Manchester', online at [www.poptel.org.uk/nqn/nqn\\_rese.htm](http://www.poptel.org.uk/nqn/nqn_rese.htm).
- WOLFE, D. and GERTLER, M. (2004), 'Clusters from the inside and out: local dynamics and global linkages', *Urban Studies*, **41**, 1071–93.
- YORKE, A. (1989), 'The role of the artist in contemporary China: traditional and modern Western attitudes to art appreciation', *Journal of the Oriental Society of Australia*, **20/21**, 188–98.
- ZHENG, J. (2010), "'Entrepreneurial state" in "creative industry cluster" development in Shanghai', *Journal of Urban Affairs*, **32**, 143–70.
- ZHENG, J. (2011), "'Creative industry clusters" and the "entrepreneurial city" of Shanghai', *Urban Studies*, **48**, 3561–82.
- ZUKIN, S. (1982), *Loft Living: Culture and Capital in Urban Change*, Baltimore, Johns Hopkins University Press.