

Chapter 2

The Development of Creative Industries and Urban Land Use: Revisit the Interactions from Complexity Perspective

Abstract It took more than 50 years for the concept of “creative industries” to evolve from “culture industry”, through “cultural industries” to “creative industries” (O’connor 2007). In contrast to this comparatively long conceptual evolution history, the time for creative industries to gain its global promotion is much shorter, only around 15 years since its coinage in the 1990s. The underlying policy rationale, as Foord (2008) concludes, is urban policy makers’ high expectation of urban growth and innovation. The wide cultivation of creative industries in urban development scheme, inevitably, presents urban government the issue of how to arrange land space to accommodate creative industries in an efficient and adaptive way. This question cannot be easily solved without a comprehensive and insightful understanding of creative industries and the dynamics of their interactions with urban land use. This chapter aims to revisit existent theoretical discussions on this aspect.

Keywords Creative industries • Locational preference • Social network mode • Complexity

2.1 Understanding Creative Industries

2.1.1 *Origin and Early Evolution*

Arguably, the term creative industries derives from “cultural industries” which dates back to the early 1940s but in the form of “culture industry”. In 1944, Horkheimer and Adorno advanced that “culture industry” is of “mass deception” and should be responsible for the failure of enlightenment because mass culture production would make citizens docile and content (Horkheimer and Adorno 1973).

This argument, however, ignores or cannot foresee three significant issues: (1) the commercial value of culture (Benjamin 1970; O’Connor 2007); (2) the emergence of the consumption culture and of symbolic consumption (Zukin 1982); and (3) the fundamental changes in production and consumption systems resulting from digitalisation especially since the 1990s. These three issues together imply the potential for culture to be massively commoditised.

The 1960s saw the process of “cultural turn” in the developed countries. As a result, culture was brought to the forum, resulting in a series of innovative insights (Chaney 1994). In the UK, works by Williams (1981) which attempted to merge political economy and cultural studies diverted “culture industry” to the economic growth agenda. Then, in the 1980s, the deliberate mediation between the Thatcher Administration and the local authorities by Labour Party directly moves the culture much closer to the centre of policy making as a potential economic resource (O’Connor 2007). Consequently, in practice, research reports or policy documents concerning culture were widely produced (Gorham and Partners 1996; Myerscough 1988). Nevertheless, while by the 1980s culture industry was already in the urban development agenda, a new change in the concept still had to happen, from “culture industry” to “cultural industries” (and from there to “creative industries” as it is now commonly termed).

This change implied three points: First, by using the plural form “industries”, it indicates the necessity to distinguish the subsectors involved in the “cultural industries”. Previously, however, “culture industry” was regarded as one unified entity with no attention paid to its internal difference. Second, the commercial value of cultural products should not be overlooked, which suggests economic analysis paradigm can be infused into culture (Miège 1979). The third point involves the shift from “cultural industry” as subsidised sectors to “creative industries” as businesses which can generate jobs and economic growth, thus alluding policy initiatives to “incubate” new locations and infrastructures for the creative industries (together with the new information age technologies) in optimum areas.

In the 1980s and the early 1990s (in the UK), even though cultural industries were supported by the local authorities (especially those predominated by the Labour Party), they were not ardently promoted by the national development agenda (Roodhouse 2006). After the victory of the Labour Party in 1997, the Department of Culture, Media and Sport (DCMS) was established and Chris Smith was appointed as the head, who coined the term “creative industries”. Since then, the government policy documents in the UK applied “creative industries” instead of the former “cultural industries” (Garnham 2005). Together with emphasis on economic growth and job creation, individual creativity was highlighted, which constructed the linkage between the debate on “creative industries” and the domain of intellectual property rights (IPR). Through this definition, “creative industries” then was extensively entangled with the “new economy”, which was driven by digital technologies and closely related to the “information” or “knowledge” economy (O’Connor 2007). Later, the idea of “creative industries” disseminated quickly. So did the policy initiatives to cultivate industrial sectors identified as creative industries. Nevertheless, the definition (or even the term itself) and the identified subsectors of creative industries vary across different countries around the world (Cunningham 2009).

2.1.2 *Typical Definitions*

“Creative industries” features the merit of inheriting the legacy first developed in the 1970s to promote the “information” or “knowledge” economy (Garnham 2005). At the same time, however, it is confronted with the difficulty in clarifying “creativity”. This is because “creativity” has many dimensions and can be identified in every aspects of life according to different measures (Kaufman and Sternberg 2010). As the KEA (2006) states, creativity is a process of interactions and spill-over effects among different innovative processes including, at least, “scientific creativity”, “cultural creativity”, “economic creativity” and “technological creativity”.

The difficulty in defining creativity, inevitably, leads to the variations in defining “creative industries”. Some scholars even see “creative industries” as a term of little analytical value per se and prefer some other terms instead. For instance, Pratt (2005) recommends “cultural industries” and claims that “cultural industries” has a putative activity (such as film-making or writing a book) to produce a “cultural” object, but creativity is too abstract to describe and measure. This is understandable as creativity is discipline dependent (Kaufman and Sternberg 2010). So if the discussion scope and context are specified, to define and understand “creative industries” can be easier.

A survey of the typical definitions proposed around the world confirms this conclusion (see Appendixes 3 and 4). Generally, researchers engaged in the debate on the definition coming from five main fields which are economics (Caves 2000; Howkins 2001), culture economy (Pratt 2009; Throsby, 2001), culture studies (Jin 2008; O’Connor 2000), media studies (Garnham 1987; Hesmondhalgh 2002) and cultural geography (Scott 2001). Economists tend to keep the term “creative”, especially in the context of business, probably because they think “creative” is an inspiring slogan. By contrast, researchers from culture-related field prefer the term “cultural”. In addition, almost all experts in media studies insist on the adoption of “cultural industries”, and their focus is on examining the messages or symbols embedded in or distributed by creative industries. Unlike the others, “cultural economy” is preferred by cultural geographers, which to some extent is a resonant thought of the reasoning logic in cultural geography or economic geography.

Whatever terms scholars use, it mirrors their effort to pursue the logical rigour of the term’s definition. As “creative industries” has its origin in culture, a conservative method is to confine it within the scope of traditional culture (especially arts). One typical definition based on this thinking is what Caves (2000) proposed. He defines “creative industries” as those supply goods and services that we broadly associate with cultural, artistic or simply entertainment value. In this sense, here “creativity” refers only to the domain of culture and aims to emphasise “cultural creativity”. The deficiency of this definition is its missing of the digitalisation of the cultural content and the new media, which are important components of the new economy or knowledge-based economy.

The Department of Culture, Media and Sport extended this scope and tried to link culture with new technology in knowledge economy. In their view, creative industries are those activities which have their origin in individual creativity, skill and talent and which have the potential for wealth and job creation through the generation and exploitation of intellectual property (DCMS 1998, 2001). This definition evidently points to profit-making. Instead of emphasising the symbolic production in the culture analysis paradigm, more importance is attached to individual creativity. It highlights the power of human capital in the knowledge economy, which coincides with what Florida (2002) claims for the argument of “creative class”.

The third kind of effort is to integrate the above two definitions together, keeping its link to the knowledge economy while at the same time indicating its culture origin. Following this thinking, Cunningham and his colleagues state that creative industries involve activities which have their origin in individual creativity, skill and talent; have the potential for wealth and job creation through generation and exploitation of intellectual property; have creative intangible inputs which add more economic and social value than is added by manufacturing; and encompass and link the traditional cultural industries (such as the performing arts) with the new economy, “info-intensive communication and cultural industries” (such as computer game design) (Cunningham et al. 2003). This definition risks being all encompassing, but the value of it is its potential connections to the understanding of agglomeration, as those activities involved are very likely to be those in which face-to-face contact is critical (Baum et al. 2008).

2.1.3 Subsectors of Creative Industries

The evolution of “creative industries” implies that the term cannot extricate itself from its connection with cultural context and political purposes. This, arguably, provides an understandable ground for variations in the identified subsectors or the adoption of some other terms in different cultures (see Appendices 3 and 4). For instance, 12 industrial sectors are subsumed in Japan (Yoshimoto 2003), while in Hong Kong, there are 11 (CCPR 2003). The Thai, by contrast, adopt a much narrower definition identifying only nine sectors but including “R&D” (KIA 2009), implying the importance of the research institutions. The DCMS (1998, 2001) consider 13 sectors, evidently underlining commercialisation of culture and wealth creation. In China, the State Statistics Bureau bind the public cultural welfares and the profit-making sectors together and propose a hybrid term “cultural creative industries”, which is reminiscent of socialism (see Appendix 4). By contrast, the UNESCO (2009) adopts a cultural industries framework to support nationally and internationally cultural statistics with emphasis on cultural diversity. Other examples include America’s “copyright industries” (Siwek 2002, 2004, 2006), Caves’ (2000) too narrow “creative industries” and Howkins’ (2001) too

broad “creative economy” (Cunningham, 2002) and some Nordic countries’ “experience industries” or “content industries” (Power 2009).

Despite of these disputing terms and variations in the subsectors, according to the UNCTAD (2010), all of them can be generalised into four models by referring to the different bases for classification into “core” and “peripheral” industries within the creative economy. They are the UK DCMS model (DCMS 1998, 2001), the symbolic texts model (Hesmondhalgh 2002; O’connor 2000), the concentric circles model (KEA 2006; Throsby 2001; WF 2007) and the WIPO copyright model (WIPO 2003). Under this framework, the UNCTAD (2010) classifies creative industries into nine subgroups, which, they insist, would facilitate an understanding of the cross-sectoral interactions as well as of the broad picture and provide consistency in quantitative and qualitative analysis (for more details, please see Appendixes 3 and 4 and refer to the references).

2.2 Creative Industries as Drivers of Urban Growth and Innovation

The idea of “creativity as an input to stimulate economy growth while at the same time to sustain cultural identity” first emerged in Australia with the launch of “Creative Nation” in 1994 (Commonwealth Government 1994). This national strategy was then exposed to the world by the argument of “creative industries” advocated in Britain (DCMS 1998). Although this argument grew out of a torturous definition history and has been always intertwined with cultural policy (Roodhouse 2006), it is still widely adopted in policy initiatives because of its potential in economic growth and job creation. As stated by Smith (1998), the full economic and employment impact of the whole range of creative industries should be acknowledged and assisted by the government. This statement is justified by figures from the UK (DCMS 2008; WF 2007) as well as other countries of the globe (UNCTAD 2010; KEA 2006).

The theoretical ground for creative industries’ contribution to economic growth can be attributed to the two emerging features of the postindustrial society: The first, as Jameson (1998) claims, is that we have entered a consumer society in which what people consume is not physical products but symbols and images and the second is the rise of a high-income group (especially the white collar engaged in financial business in global cities), which provides the creative industries with a promising market (Sassen 2001).

It is creative industries’ outstanding performance in promoting economic growth that first captures the attention of other countries, which consequently evokes their response to exalt creative industries up to the position of national strategy, for instance, in Australia, Japan, Korea, some European countries and the global south (Cunningham 2009). In the USA, the argument of “copyright industries” is preferred at national level. However, at regional and city levels, “creative industries” is

ardently extolled by the local government to scramble for development space (Wyszomirski 2008). This is exactly the situation in China where the central government insists on the term “cultural (creative) industries”, while pursuing “creative industries” is a craze in regional and local development agenda (Keane 2009). This disparity, to some extent, results from the central government’s responsibility to sustain national tradition and cultural identity while the locals care more about the “GDP”.

Together with arguments for national support is the global prevalence of creative industries as an urban development strategy. In 2004, the Great London Authority launched the development agenda for London in which the mayor claimed to treat creative industries as one key business for London’s success (GLA 2004). This strategy continued in “The London Plan” (GLA 2009), to propel London’s dominant focus for the UK’s creative industries (Freeman 2009). Similar stories of creative industries as urban development strategy can also be told in other cities around the globe, such as Milan, Rotterdam, Tampere (Lavanga 2004, 2006), Brisbane (Cunningham et al. 2003), Johannesburg (Rogerson 2006), small- and medium-size cities in the USA (Christopherson 2004) and large cities in China (Zhang 2008).

This global trend does not moor to its starting point, but instead further fuelled up by the theories of “creative class” and “creative city”. To be a creative city, the urban government has to promote improvements in seven groups of factors: personal qualities, will and leadership, human diversity and access to varied talent, organisational culture, local identity, urban spaces and facilities and networking dynamics (Landry 2000). The creative class, who is crucial for urban comparative advantage but of high moving probability, can only be retained under the condition that the city boasts high-performance marks in “technology, talent and tolerance” (Florida 2002). Creative city and creative industries are both exploited as an urban marketing slogan. It was estimated that until 2005 there were at least 60 cities worldwide having claimed to be creative city, 20 out of which were in Britain (Landry 2007).

It is also stated that creative industries can contribute to innovation in the wider economy, especially with the influx of the creative labour force, which is active in generating new idea and solving problems with innovative approaches (Hopkins 2010; Potts et al. 2008b). According to Bradford (2004), these contributions can be classified into five aspects which are governance innovation, civic innovation, economic innovation, social innovation and artistic and cultural innovation.

We cannot deny that creative industries can bring comparative advantage to a city (Scott, 1997) or a region/country (Florida and Tinagli 2004). Nevertheless, excessive eulogy over its economic and innovation contribution conceals some other problems and challenges (Flew 2010; Flew and Cunningham 2010). Within the domain of urban planning, typical questions can arise as below: (1) If the merits recounted above are true, then how can the urban government spare enough land space for creative firms to settle down? (2) Do the land-use planning arrangements fit to the locational preference of the creative firms by considering creative industries’ new features compared with traditional industries? (3) If these two are well solved,

then how do government and creative firms negotiate with citizens if conflicts in land-use rights occur? (4) Moreover, what are the features of the creative workers' locational preference for residence, and how will this shape the spatial distribution of both the creative firms and the creative workers? All these problems, as a whole, form the complex dynamic system involving the urban government, the creative firms, the creative workers, the citizens and the urban land space.

2.3 The In-City Location Preference of the Creative Firms and the Creative Workers

Traditionally, locational theory aims to help investors to decide where to settle up their factories, and the core is to figure out the optimum site where profits can be maximised with the lowest costs (McCann 2002; Yupo 2001). The central value judgement underlying this statement is to maximise economic benefit. This is especially important for factory owners as returning is the central concern. However, as the economic production system evolves and the role of the workers in the production system changes, considering of some other values becomes necessary. This is especially the case in an era featured by the emergence of the creative economy and the importance of the "creative class". In this new era, even though the traditional locational factors (such as proximity to raw materials) still play their roles, more and more weight is being placed onto the social and spatial quality, which involves use value, perception value and future value (Assink and Groenendijk 2009).

Different from the owners of the firms, the workers care for something else when considering their residence location. The value judgement underlying their residence location decision is not primarily economic efficiency but also some other aspects, such as architectural style and mental satisfaction. This difference is well emphasised by Florida's work on the "creative class", a group of talents whose lifestyle and work style conspicuously differ from other population groups (Florida 2002). Emphasis on the creative workers' distinctiveness, however, does not mean that the traditional factors, such as public transportation, shopping services and housing price, are not important. In fact, it is a complex process which is beyond the analysis based on classic location economics (Brennan-Horley et al. 2010; Dainov and Sauka 2010).

2.3.1 The Factors That Define the In-City Location of the Creative Firms

In addition to economic growth and urban innovation, another benefit that propels the urban policy makers to promote creative industries is their potential for

supporting sustainable urban regeneration. Basically, urban regeneration is a policy response to unemployment and the declining of urban centres (Gómez 1998; Urban Task Force 1999). Generally, there are two modes of urban regeneration, namely, property led and culture led. The property-led mode gives more priority to reconstruction and commercial investment, as the case of London's Canary Wharf (Turok 1992) illustrates. In contrast, the culture-led urban regeneration aims to recover the declining areas via development of cultural industries/creative industries so as to preserve historical sites or architectures (Bell and Jayne 2003; Miles and Paddison 2005). These declining areas are mainly the derelict factories and the old residence sites which usually locate in the inner area of a city. So it is common to see the congregation of creative firms in the very centre of cities. These areas are especially welcomed by new enterprises and small companies (Gertler 2004; Zukin 1996), because of the relative cheaper office rent, the labour force availability and the proximity to cultural facilities (Gnad 2000).

The concentration of creative industries in the inner area of cities can also be explained by the comparative advantages in the inner-city features. As Porter (1995) pointed out, the inner city has four comparative advantages: strategic location, local market demand, integration with regional clusters and human resources. Evidence has shown that these four advantages are still critical today for the creative industries even though the factors that each refers to have, to some extent, changed. For creative industries, the strategic location means the built environment composed of cultural facilities, cultural heritages and universities and alike which are the essential ingredients for building up the context for creativity (Florida 2002). Local market demand also plays an important role as the city centre is usually congested with entertainment businesses such as cinemas and theatres where culture consumption takes place, which, in the domain of creative industries, is an example of "consuming is creating" (Hartley 2005, 2007). Integration with regional clusters means the chance for the smaller firms to cooperate with those internationally competitive firms. This is critically as creativity/innovation can be disseminated through global pipeline established via this connection (Bathelt et al. 2004). Human resources directly refer to the high density of labour force and the sharing of talent pool resulting from the clustering of diverse businesses. All these factors generally can be regarded as "hard" locational factors which are considered in the classic location theory. Generally, in this classic analysis framework, the key factors which impact the in-city location decision of the creative firms include the accessibility to capital, qualified labour, infrastructure, transportation system, research institutions, cultural facilities, tax reduction and affordability of office space (Musterd and Murie 2010).

Even though the inner city boasts these factors and centrality is important for creativity (Yigitcanlar et al. 2008), it does not necessarily mean that other urban areas are not appealing to the creative firms. First, if these hard factors are well established in other areas, then firms can move to these sites (Gornostaeva 2008). Second, the inherent problems arising in the city centre, such as the unaffordable high office rent, can drive some firms to move to the subcentres or the urban periphery (Champion 2010). Third, without these hard factors, some creative

businesses can still be operated as shown by cases in the post-socialist cities in Eastern Europe (Dainov and Sauka 2010). Fourth, there are some other factors which are also highly appreciated by some of the creative firms. For instance, the environment tranquillity, the good feeling of aesthetic appreciation and the place-bound social networking are usually highly valued, which as a result leads to the distribution of creative firms around city edge or in outer-suburban and ex-urban areas (Feltona et al 2010; Brennan-Horley and Gibson 2009). In fact, place-bound social networking is only one aspect of personal networks which also critically influence the locational decision of the creative firms (Granger and Hamilton, 2010). Personal networks can include the place of family, the place of birth, the place of study, the proximity to friends and alike (Musterd and Murie 2010).

The “cluster theory” also critically influences the location of the creative firms, although the underlying drivers can partly be identified within the factors discussed above. According to Porter (1998), cluster can provide at least three advantages for firms within the cluster: (1) allowing companies to operate more productively because of sharing of infrastructures, facilities, talent pools and access to specialised information and knowledge; (2) stimulating innovation by harnessing the advantages of proximity to supplier and buyers, sustained interaction with others, competition pressure and knowledge spillover; and (3) offering big chance of new business formation resulting from access to information, business opportunities, reduced barriers and evident product gaps. These three aspects are all important for the creative industries as creativity is central in these businesses. In addition, the first benefit is especially critical to the small- and medium-size firms which constitute a large part of the creative industries (Miles and Green, 2008). This is because these smaller firms can derive benefits from efficiency gains which cannot be managed on their own in isolated places (Wu 2005).

2.3.2 The Factors That Define the In-City Location of the Creative Workers

Generally, the creative workers can be regarded as the labour force engaged in the creative industries. In this sense, the “urban pioneers” described by Zukin (1982) in the early 1980s are subject to this group. According to Zukin, the “urban pioneers” are mainly composed of artists, designers, crafters and music composers. Due to the rising office rent in the city centre, these people were usually forced to live in the lofts or the old factories in the city centre areas to avoid the high rent pressure while at the same time enjoy the conveniences. This awkward living condition, however, later was transformed to an attitude of lifestyle and then a bourgeois chic. This fad is still in vitality today, especially in some developing countries. As Xu and Chen (2007) reveal, in the Yangtze River Delta, LOFT is replacing SOHO and becoming the new star in the housing market. The abandoned workshops, warehouses and

other old commercial or residential buildings are now the ideal spaces for the artists or other “creative working” people.

The factors involved in this locational decision mode are a combination of both the “hard” and the “soft” conditions. “Hard” refers to the availability of diverse facilities in the city centre and the housing rent. “Soft” is connected to the appreciation of artistic ethos of these places. Inspired by Gouldner’s (1979) work on the “new class” which denotes the high-employed groups, Florida (2002) coined the new term “creative class”, which defines scientists, engineers, actors, designers, poets and novelists, artists, entertainers, actors, designers, architects and alike as the “super-creative core” and people in service industries such as financial sectors as the “creative professionals”. The super-creative core, to some extent, is identical to the creative workers explained above. Florida insists that it is the “soft” factors rather than the “hard” factors that determine the residence location of the “creative class”. These “soft” factors include quality of life, openness to new idea, cultural milieu, local “buzz”, levels of tolerance, diversity of population, etc. Conclusion of this kind is also supported by Yigitcanlar et al. (2007) and Montgomery (2003, 2004).

Florida (2002, 2005) also concludes that these creative talents are always “alternative” and favour a “bohemian” lifestyle. They enjoy a high income and are highly footloose, with a high potential to move around. So they are always actively seeking to live in the inner city, with expectation of life amenity and cultural diversity. However, there are strong counterarguments, which claim that these conclusions are overstated. Via surveying the life and working condition of the animators in Japan, Okeda and Koike (2010) expose the fact that many young animators own very low income and have to work longer than they are supposed to. The situation in the so-called creative Britain is also worrisome. It is revealed that the creative businesses are marked significantly by insecurity, inequality and exploitation (including self-exploitation) (Banks and Hesmondhalgh 2009).

So, the in-city location decision of the creative workers is not like what Florida proposed. It is a complex process with many aspects involved, including both the “hard” and the “soft” factors (Dainov and Sauka 2010). Sometimes, renewal of the inner city to build residential areas is a less significant cultural force than the suburban environment. The high rent can override the appreciation of diversity in the city centre, which results in a trade-off between the “hard” conditions and the “soft” conditions (Kotkin 2007). Sometimes, their locational decision can be even more personal, relating to “look and feel” from the building environment (Helbrecht 2004). As revealed by Chapain and Comunian (2009), local and regional networks play a crucial role in linking people to a specific place, and associated with this social dimension is the fact that personal and emotive dimensions are also critical factors in the decision of the creative practitioners to be located within a city/city region.

2.4 Interactions Among the Firms, the Workers, the Citizens and the Urban Government in Terms of Urban Land Use

Due to comparative advantages, it is common to see the concentration of the creative industries in the inner city. The co-location of the creative businesses, in consequence, provides geographical proximity among these firms which facilitate the formation of cluster (Porter 2000). Different from traditional industries, creative industries within the creative clusters derive positive externality not only from specialisation in particular industries and occupations but also from diversities arising from the city itself (Lorenzen and Frederiksen 2008). As a result, the “soft infrastructure” or the relational assets associated with economically successful networks, such as trust, reciprocity, exchange of ideas and share of economic risks, are generated (Amin 2003). These positive externalities, in turn, form the attractive factors that influence the locational decision of the firms and the workers.

This process, in essence, is spontaneous or can be regarded as market driven. However, there are also increasing arrays of policy initiatives to foster and manage the ensembles of creative/cultural industries within the inner city (Evans 2001). This practice is usually connected to culture-led regeneration. Generally, the underlying goal of it is to rescue the declining sites and stimulate economic renaissance and also social inclusion (García 2004). Through conversion of building function, refurbishment of abandoned factories and development of flagship project, the declining sites become places with economic vitality and cultural diversity. Generally, these sites first become attractive places to the smaller creative companies, especially the start-ups, and home to artists seeking affordable working spaces. Then, followed by improved public services and environment quality, these sites turn out to be the areas for the vibrant cultural life with the influx of people. Finally, they evolve into hubs with an atmosphere of tolerance characterised by differences (Crane 2007; Gertler 2004; Jones 2007).

The spontaneous ensemble of creative industries in the inner city and the regeneration of the declining areas, however, are usually paralleled with replacement of the local residents and the small businesses, which contrasts with the goal of social inclusion. The increasing influx of creative industries and the creative workers moves these areas into the spotlight of public attention. This is further amplified by the cultural iconic architecture and urban marketing embedded in urban regeneration (Miles 2005). Thus, the office/housing rent rises which detracts the advantage of cheaper rent in these areas. This is especially the case when culture-led regeneration slips into property-led regeneration, which centres on massive economic growth and real estate development rather than social inclusion and cultural reservation (Cameron and Coaffee 2005). In consequence, those locals and smaller firms are displaced by those best-performing companies which can afford the high property prices or those middle class who own high income and appreciate the lifestyle of cultural diversity and consumption (Pratt 2009).

Inspired by cultural instrumentalism (Belfiore 2012), culture-led regeneration is also linked to city marketing. The central approach is to apply neo-liberal commercialisation of culture and to use cultural identity as a brand to attract new investment, high-price real estate and national and international visitors (Champion 2010). So, “creative industries”, as a buzzing term worldwide, is placed at the forefront in marketing strategies. Even though this strategy contributes to the influx of new investment, the cost is the displacement and ignorance of the disadvantaged groups (Evans 2009). In order to highlight the seemingly splendid social and geographical environment, the creativity of the city and its competitiveness, the negative aspects are intentionally covered (Kalandides and Lange 2007). The local poor and the struggling artists who do not fit to the visionary picture are relocated (Yeoh 2005). Left behind are demolition of unspectacular buildings, displacement of lower income households, loss of affordable housing, diminishing of social diversity and resentment arising from influenced communities (Musterd et al. 2007).

The pursuit of creative industries also incurs another issue in employment. The development of creative industries provides job opportunities for those people with high techniques, but it excludes those unskilled or lacking basic entry skills, experience and social networks. Further, it also narrows job options and entry chance for rookies and starters (Jayne 2004). Consequently, those small studios are supplanted and forced to abandon their businesses or to move to other cheaper sites. The competition among the creative firms also leads to the demise of the disadvantaged firms (Newman and Smith 2000), which in turn cause the unemployment in the creative industries sectors. The rise and fall of different firms, in consequence, shape the complex recursive interactions between the location of the firms and the movements of the workers (Storper and Scott 2009).

Even though the co-location of firms in the inner city offers advantage (Nachum and Keeble 2003; Newman and Smith 2000), and the government tries to propel rapid growth in the inner city by urban regeneration and investment in “hard” factors such as cultural facilities and telecommunication infrastructures (Hutton 2004), there are tendencies of decentralisation of the creative industries from the city centre to the suburb. The concentrations of creative industries in the suburban area, in this sense, are a “spontaneous” development process which is an adaption to the dynamics of land-use change and rise or fall of the creative firms. It is explained not only by the specifics of industrial organisation, the diseconomies of high rents and the overcrowding in the city centre but also by the requirements of particular lifestyles, as well as by business failure (Gornostaeva 2008; Žaucer et al. 2011).

In addition to this spontaneous process, the decentralisation trend is also pushed forward by policy schemes based on cluster theory. In order to evade the high rent and the crowding environment but still exploit the advantages of cluster, usually the urban government shift their focus from the city centre to the fringe of the inner city or the suburb. To improve the “hard” factors, creative industries parks are commonly established to accommodate the creative firms (Xu and Chen 2007). However, the parks are often mono-functional and show inadequacy of connection to local social context and “soft” conditions (Clark et al. 2002). As a result, some of

these massive investments turn out to be huge waste, leaving a large amount of land/properties with high vacancy rate (Comunian 2011). Or even worse, flexibly and locally the kind of development scheme sometimes is used as a tactic to practice land/property appreciation and speculation. Consequently, it leads to the displacement of the local citizens and also the smaller firms (Musterd and Murie 2010). In addition, the fortunes of creative industries have considerable volatilities, as seen in the rise and fall of the Silicon Alley (Indergaard 2004). Thus, fluctuation in the economy might, to some extent, fatally destroy some sectors of the creative industries and turns the once prosperous space into derelict areas in need of new development.

From what have been reviewed, it can be seen that the urban land-use transformation is the geographical projection of the complex interactions among the creative firms, the creative workers, the urban government and the individual citizens. Even though the land market force can influence the spatial movement of the firms and the workers, the urban government also plays an important role. In addition, neither of them can dominate in this process, and neither of them can manipulate the aesthetic tastes or implement forces in relation to personal social networks of the creative workers or the managers of the firms (Granger and Hamilton 2010). As Hutton (2009) concludes, the spatial impacts of new industry formation in the urban realm are complex (relating to the intricacy of industrial organisation in advanced economies, the vulnerable nature of adjacent communities and the volatility of restructuring episodes), mixed (e.g. encompassing coincident employment formation, as well as job losses through dislocation pressures) and variable (reflecting local aspects of contingency).

2.5 “Social Network” Mode and Creative Industries’ Inherent Heterogeneity

As argued, the urban land-use change can be understood as the geographical projection of the locational movements of the creative firms and the creative workers. However, the factors that shape the creative firms’ and the creative workers’ locational decision are of multiple dimensions which cannot be simply explained by economic analysis or sociological analysis. In addition, their locational decisions are mutually connected. Neither can dominate in this process. This means that a systems view is needed for understanding the restructuring of urban land use resulting from the development of creative industries.

The existent works on this aspect, as recounted, can be generalised into three perspectives: place/city reimagining, creative cluster and urban regeneration. These approaches, in a systems view, are not competent enough to explore the complexity of dynamics of the interactions. First, within these research frameworks, the geographical/spatial mutual dependence of the firms and the workers is ignored/not well represented. Second, the dynamics is constrained at one point of time but

not in a continuous process. Third, the interactions among the involved components (creative firms, creative workers, individual citizens, urban government and the land space) which form an N-N relationship have not been analysed in an integral way. So, this section suggests understanding creative industries by “social network” mode and exploring the interactions from complexity perspective by agent-based modelling. It also points out the importance of considering creative industries’ inherent heterogeneity and re-examining the working and life conditions of the creative workers while approaching to the question of dynamics.

2.5.1 Creative Industries Understood in a “Social Network” Mode

The term “creative industries” is usually interrogated by critics for its less analytical value (Pratt 2005), loosely identified subsectors (Roodhouse 2006) and conspicuous political ends (Garnham 2005). These critiques are reasonable if the term is discussed only within cultural policy. Yet, based on creative industries’ global dissemination and its diverse interpretations (UNCTAD 2010), it can be argued that this term now has evolved to a stage beyond the cultural policy analysis paradigm although the term was developed out from “cultural industries”. In this postindustrial society, the traditional idea of civic humanism and elite arts is merging with mass culture. For creative industries, consumption and production are subtly intertwined as “consuming is creating”. The division of public and private sphere has been blurred by the “sharing” of contents by netizens in the global networks supported by the information and communications technology (ICT) (Hartley 2005, 2007).

These realities indicate that “creative industries” should be explored in a much broader framework. The value of symbol, interflow of content and spatial stickiness of meaning inherent in creative industries necessitate a convergence of studies, respectively, centred on culturology, sociology, economics and possibly human geography (Hartley 2010). In other words, “creative industries” is a hybrid of culture, new media, economy and information technology, embedded in a network society filled with creation and consumption of symbolic value. This distinctiveness, arguably, provides an understandable ground for the diversity in interpretation of “creative industries” or even its disuse in some political or cultural contexts (see Appendixes 3 and 4).

Despite the diversities and variations, most of the existent definitions and debates follow the same method: explicitly or implicitly defining and classifying creative industries according to the traditional standard industrial classification (SIC) system which is incapable to describe the nature of creative industries precisely. Traditionally, it is not difficulty to classify the industrial activities into different sectors as the connections among them are much simpler and much less stronger than they are today. In addition, these industrial activities can also be

categorised simply by referring to the nature of the inputs and outputs. But the creative industries, as explained above, are complex and characterised with uncertainties. The input is creativity which is volatile, and the output is symbolic value or text value depending heavily on individual interpretations (Caves 2000). Thus, price is no longer the signal for both production and consumption. Instead, it is “social network” which is loaded with fashion/popularity information and appreciation tastes that matters. Decisions on both production and consumption are determined by the choice of others in a social network. So, creative industries shall be redefined as the set of agents in a market characterised by adoption of novel ideas within social network for production and consumption (Potts et al. 2008a).

Actually, creative industries do not only involve the production and consumption of creative products/services in the market. They are also engaged in the production and consumption of urban space during the process of culture-led urban regeneration, creative industries clustering and relevant city marketing (Hutton 2000, 2004). First, it influences the re-territorialisation of urban space, manifest in accelerated transition and succession experiences and the associated re-imaging of long-established districts and neighbourhoods. Second, at a more localised scale, it reconstructs the city landscapes, sites and buildings by leaving iconic marks and cultural symbols. Thus, the geographical spaces are then occupied and the symbolic values are appreciated and consumed by the customers (firms, workers and citizens) who share similar values within their own social networks. In other words, the transformation of the urban spatial structure is a reflection of the complex interactions among all the involved agents. It is not only influenced by the economic dynamics of the property market but also by government intervention and personal value appreciation, respectively, held by the firms, the workers and the citizens.

The standard definition of creative industries has the advantage of immediate relevancy to the extant policy platforms. The social network definition, in contrast, opens a new path towards further unification of analytic frameworks in behavioural economics, institutional economics, media and cultural studies and other domains that study the agent behaviour and the changing environments of the creative industries. Also, it facilitates the construction of analytic models based on the late twentieth-century mathematics and science, in particular those of network and complexity theory (Potts et al. 2008a). With this social network mode, the changing of the urban spatial structure then can be understood as the complex interactions among the four groups (the creative firms, the creative workers, the citizens and the urban government). This interpretation facilitates further examination by agent-based modelling (ABM), a common approach to study complex bottom-up processes/systems (Manson et al. 2012).

2.5.2 Differentiate the Identified Subsectors and Distinguish Different Cases

As the plural form “industries” implies, creative industries are of cross-sector, not confined within one sector and engaged in activities of one sort. The subsectors identified as creative industries differ significantly from each other in many aspects, although they share the common input of “creativity”. For instance, regarding sustainable development, the writers and the programmers may produce quite less carbon emission, but product designers often feel they are simply “filling landfill”, and the production of advertising and film has historically resulted in massive CO₂ emissions from travelling around the world for shoots (Forum for the Future 2010). Also, it is difficult to see the common interests among these sectors. As Hartley (2005) describes, publishers do not see what they have in common with gaming companies, who have little contact with newspaper owners, who can’t stand the sight of creative artists, who disdain theme parks, whose operators actually employ creative performers, designers and writers but who see themselves as belonging to quite a different industry (tourism).

So, it would be misleading to draw conclusion by binding up all the creative businesses as one sector with no or ignorable internal heterogeneity. Thus, to examine the in-city location decision of the firms, it is critical to differentiate these subsectors or to clearly state which subsector the research refers to. Hutton (2000, 2004) found that the creative firms involved in top design tend to locate in the CBD; the average ones are around fringe of the CBD; the service sectors in creative industries tend to locate around the urban fringe; and the technological designers usually settle in the suburban areas. By studying the locational behaviour of the new industry, Vang (2007) uncovers that these businesses tend to cling to corresponding agencies such as government offices or sports stadiums for instant information access. Žaucer et al. (2011) proceed much further by examining the attractive power of seven locational factors to each of the 13 subsectors identified by the DCMS (1998, 2001). The results reveal that for each subsector, the importance of each factor is different.

This is also the case for the creative workers in different sectors. As Musterd (2004) emphasised, creative workers engaged in different creative sectors tend to congregate in different locations within the urban area. For instance, creative workers in arts, media entertainment, designer fashion and advertisement show a tendency of inner-city location. But the managers spread in a more even distribution pattern across the city.

Evidence also shows that the locational decision of the firms and the workers varies in different cases. Žaucer and his colleagues demonstrate that the correlation between the attractive power of the locational factors and the individual subsector changes significantly in/on different cases/scales (Žaucer et al. 2011). By investigating five different metropolises across Europe from the East to the West, Dainov and Sauka (2010) found that the creative firms’ in-city location decision is closely related to the local cultural context and the development history of the studied case.

They also pointed out that city rank (capital city or provincial city) also contributes to the variations in the locational behaviours of the firms and the workers.

2.5.3 Re-examine the Working and Life Conditions of the Creative Workers

According to the definition of “creative class” (Florida 2002), the “creative workers” are subject to this special group. In Florida’s view, the “creative class” own high income, have free work timetable, show casual attire in workplace, enjoy an individualistic lifestyle, share independence spirit and are of high footlooseness. But case studies indicate that what situations the creative workers are in is another landscape. Banks and Hesmondhalgh (2009) reveal that, in the UK, the creative workers’ workplaces are marked significantly by insecurity, inequality and exploitation (including self-exploitation). This situation is observed not only within the UK. In Japan, where animation and cartoon are of international reputation, many young animators own very low incomes but have to work for long (Okeda and Koike 2010).

The issues accounted above present the necessity to avoid slippage from the “creative labour” to the “creative class” and uncritically accept what Florida has presupposed. So, a close re-examination of the creative workers’ residence situation and work condition will refresh our view on the labour in the creative industries. This is especially important if we intend to apply agent-based modelling to explore the change of urban land use resulting from the interactions between this agent class and the others, as accurate description of the agents’ nature is the indispensable basis for building a valid agent-based model (Crooks and Heppenstall 2012).

2.6 The Dynamics of the Interactions in Complexity Perspective

As discussed earlier, one common explanation to the spatial distribution of the creative firms within a city is the cluster theory proposed by Porter (1998). This explanation, however, cannot precisely picture the circumstances of the creative firms. Even though the creative firms derive benefits from firms specialised in the same industry (horizontal cluster) and from firms where a value chain of buyers and suppliers has emerged (vertical cluster), they usually get benefits from diversity, associated with a disconnected set of creative firms (Flew 2010). In addition, the locations of the creative firms also heavily depend on their development trajectory, the development history of the city or of the sites where the firms finally settle down (Dainov and Sauka 2010; Musterd and Murie 2010). Still, there is another meta-

question pertaining to the cluster theory here waiting for answer. That is, within the city, where to cluster.

This question, in essence, is related to the in-city location decisions of the firms and the workers as well. However, the locational decision, as reviewed by the aforementioned sections, is a complex process. First, the firms and the workers care different locational factors. Second, the location of the firms and the workers is not only determined by “soft” conditions as proposed by Florida (2002)) but also determined by “hard” conditions. Third, the development history of the potential sites (for the firms or the workers) plays an important role. That is, the development status of a certain site at one time can influence the development of this site in the following periods. Fourth, while considering where to locate, the firms and the workers are usually influenced by their personal or individual social networks, which cannot be easily explained by economic analysis.

Moreover, during this locational decision process, the question that whether the jobs follow the workers or the workers follow the jobs is rarely discussed or not well understood. We cannot answer this question by simply privileging only one of their individual locational choices in response to the locational factors as mentioned above. According to Storper and Scott (2009), neither of them (the firms or the workers) can dominate in this geographical production process. Instead, this process must be understood as complex recursive interactions between the location of firms and the spatial movements of the workers.

Thus, it can be concluded that the relationship of each creative business with its location is a complex balance of factors. The urban land use resulting from this complex locational decision process is shaped by at least five interrelated dimensions (Comunian et al. 2010; Musterd and Gritsai 2010): (1) hard infrastructure which mainly refers to the classic location theory; (2) soft infrastructure featured by social networks, image or identity of place, presence of meaningful traditions, creative/cultural milieu and alike; (3) development path that closely relates to the local development trajectory; (4) markets which not only refer to the product demand market but also the labour market; and (5) governance that exerts its influence through land-use regulation/planning and policy inducement.

So, an integration of these dimensions can expect to generate better understanding of the restructuring of the urban space resulting from the complex interactions among the creative firms, the creative workers, the citizens and the government. As expounded (Table 2.1), the existing works on the spatial dynamics resulting from the development of creative industries can be generalised into three perspectives: place/city reimagining, creative cluster and urban regeneration. These approaches, however, are not competent to explore the overall dynamics process as reviewed. First, within these research frameworks, the geographical/spatial mutual dependence of the firms and the workers is ignored/not well represented. Second, the dynamics is constrained at one point of time but not in a continuous process of time. Third, the interactions among the involved components (creative firms, creative workers, individual citizens, urban government and the land space) which form an N-N relationship have not been analysed as a whole.

Table 2.1 Summary of literature on the dynamics of the in-city location decision of the creative firms and the creative workers

Question	Literature		Gaps
	Methodology (contributor)	Answers/arguments	
What determines the in-city location of the creative firms (in general)?	1. Questionnaires, interviews (Assink and Groenendijk 2009; Liu 2007)	1. Education institution and accessibility to part-time workers	1. Only reasoning, only involves design
	2. Official statistical data, historical analysis, based on specific maps (Deng 2008)	2. Culture endowment, planning regulation, rents and transport	2. Reasonably good, no theoretical explanation
	3. Deduction from literature and case (Wang 2007)	3. Six factors such as culture, capital, market, etc.	3. Not evidence based
	4. Map location by firm size (Vang 2007)	4. Information accessibility	4. Only for news industry
What determines the in-city location of the creative firms (by differentiating the subsectors)?	1. Daily observation and logic analysis (Caves 2000; Zukin 1996)	1. City centre and loft	1. Derived from deduction, no spatial evidence and with no discrimination
	2. Official statistical data, historical analysis, based on specific maps (Deng 2008)	2. Near CBD, along river side and consistent with urban sprawl direction	2. Reasonably good, examination only from different sectors
	3. Statistical analysis, geographical examination (Hutton 2000,2004; Feltona et al. 2010)	3. Different size and different sectors prefer different location; creative industries emerge in suburb area	3. Provide impressive clues, but no continuous dynamics
	4. Mapping and questionnaires (Žaucer et al. 2011)	4. Locational decision is different among different sectors and also different in different cases	4. Description of the static status
What determines the in-city location of the creative workers (in general)?	1. Observation and regression analyses (Florida 2002)	1. Places that are diverse, tolerant and open to new ideas	1. Not convincing, no mapped evidence
	2. Time series analysis of the spatial movement of creative class (Phol 2008)	2. Diversity does not equal to agglomeration of creative class, and it can lead to socio-spatial differentiation	2. Based on political district, not so specific and no examination of the features of these places

(continued)

Table 2.1 (continued)

Question	Literature		Gaps
	Methodology (contributor)	Answers/arguments	
What determines the in-city location of the creative workers (by differentiating creative workers in different sectors/status)?	1. Fieldwork and mapping (Musterd 2004)	1. Different lifestyle leads to different preference in residence location	1. Static description and analysis based on market analysis
	2. Fieldwork and questionnaire analysis (Dainov and Sauka 2010)	2. Different work positions have different tastes, and different cases have different conclusions	2. Static description and comparative analysis
What kind of urban spatial structure does the locational decision of the creative firms and the creative workers produce?	1. Theoretical exploration on node-based theoretical model and case study to test (Mao 2007)	1. Innovation networks based on interaction of five agents	1. No spatial evidence and confined to a cluster
	2. GIS mapping, interview, mental map and its relation to place (Brennan-Horley and Gibson 2009; Brennan-Horley et al. 2010)	2. Commercial and creative centres are not consistent	2. Only static location, no dynamic analysis
	3. Close examination by geographical evidence (Hutton 2006)	3. Connections between individuals are more important for creativity	3. Only for a small area in inner city
	4. Longitudinal data analysis (Teirlinck and Spithoven 2008)	4. Innovation can be spatially organised	4. Only simplified urban spatial structure
	5. Deduction from case study (García 2005; Franklin 2003; McCarthy 1998, 2002)	5. Culture-led urban regeneration, cultural quarter, renewed space	5. No dynamic model

The solution to fill these lacunas is to apply the complexity theory and the approach of agent-based modelling (Manson et al. 2012). Within this framework, each agent will play its own role and feature distinctive locational behaviour. The N-N relationship will be represented by the condition-action rules which form the complex interactions. Moreover, as the complex interactions proceed, the locational quality of each land site will change, producing an environment for all the agents to self-organise themselves and mirror the dimension of path dependence in this process.

Regarding this research, the condition-action rules refer to the locational behaviours of the firms and the workers and the urban government's policies to mediate the conflicts among these groups. As discussed earlier, the factor that determines the firms' office location preference and the workers' housing location choice is multidimensional, which can be categorised into five theoretical groups (Table 2.2).

Table 2.2 The possible locational determinants for the firms and the workers

Theoretical groups	Possible determinants
Path-dependence theory	Its original idea refers to the long-term development trajectory. Here, it may include the firm's development status, the worker's education and major course/module, the transformation of the land plots, the development tradition and history of the city, the already-existent urban geography and spatial structure, the initiated development plan, etc.
"Classic" location theory (hard conditions)	Key factors include the availability of capital and of a labour force with the requisite skills, an institutional context with the right set of regulations and sufficiently attractive tax regimes, the right infrastructure and good accessibility, but also availability and affordability of (office) spaces. It can also be subsidies and/or tax abatements, education facility
Cluster theory	It is from Porter's (1995, 1998) original idea. It mainly refers to the comparative advantages that the firms can get within a cluster. It can be the geographical proximity, the share of knowledge, talent pool, information and infrastructure
Personal network	It is related to the social status of the managers and the workers. Elements in this aspect can be the place of family; the place of birth; the place of study, including the university milieu; and the proximity to friends
"Soft" condition theory	It is defined by comparing with classic location theory. The soft conditions can include urban "amenities", such as the quality of life, urban atmospheres, housing market situations, levels of tolerance, openness, the diversity of the population and also the "look and feel"

Source: Adapted from (Musterd and Gritsai 2010)

It has also explained the importance to differentiating the creative industries' subsectors by their basic nature and the real living and working conditions of the workers. The government, as an important force in this dynamic process, play their roles via urban planning and attractive policy schemes. Moreover, due to the cultural origin of creative industries and the political and cultural elements in urban planning, the locational determinants and the dynamics mechanism are context dependent. So, it is necessary to put the research in a certain case context and apply a mixed approach, such as questionnaire and semi-structured interview to collect data and draw conclusions on the micro-level action rules of the involved interest groups.

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