

**Renegades on the frontier of innovation:
the *shanzhai* grassroots communities of Shenzhen, China.**

Michael Keane, Queensland University of Technology m.keane@qut.edu.au

[corresponding author]

Elaine Jing Zhao, Queensland University of Technology

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ABSTRACT

This article examines recent developments in southern China commonly described as *shanzhai*. The term translates as “hideaway of mountain bandits”. While *shanzhai* is often condemned as the embodiment of China’s “knock-off” industries we argue that it might be more appropriately viewed as an instance of China’s emerging creative economy and an example of rapid prototyping. The paper traces the evolution of *shanzhai* mobile phones and the materialization of the *shanzhai* ethos in popular culture. In arguing that *shanzhai* provides inputs into creative industries the paper describes the fuzzy boundary between formal and informal culture and notes the interaction between three spheres of activity: official culture, the market and grassroots culture.

Keywords: shanzhai, creative economy, grassroots culture, regional innovation, second generation innovation, intellectual property

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Introduction

...the word “copycat” has given the word “imitation” a new meaning, and at the same time the limits to the original sense of “imitation” have been eroded, allowing room for it to acquire additional shades of meaning: counterfeit, infringement,

deviations from the standard, mischief, and caricature. With visas such as these one can gain entry to the Land of Imitation and take up residence in Mountain Hamlet (Yu Hua 2010: 181)

In 2010, Yu Hua, the author of the renowned novel *To Live*, selected ten words which characterize Chinese society today. Among these keywords were “Grassroots” (*caogen*), “Copycat” (*shanzhai*) and “Bamboozle” (*huyou*). They were entries eight, nine and ten respectively. “People” (*renmin*) and “Leader” (*lingxiu*) listed first and second. The entries in *China in Ten Words* (Yu 2011) are spiced with irony as one might expect from a writer whose work has drawn heavily on the political vicissitudes of the Cultural Revolution (1966 - 1976). Yu begins his account with official terms before moving to the unofficial. In this sequence of “keywords” it is evident that “grassroots”, “copycat” and “bamboozle” symbolize something intrinsic to China’s fast moving commodity economy.

In this paper we are concerned specifically with how “grassroots” is represented. There are many connotations—for instance grassroots democracy (Wang and Yao 2007; Guo 2009; O’Brien and Zhao 2010), grassroots literature and grassroots entrepreneurs (Sato 2004); there are celebrities and anti-celebrities such as Zhao Benshan, Zhou Libo and Sister Lotus that epitomize China’s grassroots culture.¹ But arguably the most telling expression of grassroots culture is *shanzhai*.

The term *shanzhai* translates literally as “hideaway of mountain bandits.” Some anecdotal reports claim that *shanzhai* it is a homophone for Shenzhen in the southern Cantonese dialect. Situated on the border of Hong Kong SAR and the mainland, Shenzhen is a bustling city noted for its entrepreneurial ethos and in the context of this paper, for “knock offs” of famous electronic brands. As we discuss below, the origin of *shanzhai* is in the re-design of mobile phones. As *shanzhai* entered into the vernacular it came to represent a blurring of commodity and simulacra: cheap copycats, fakes, pirated goods, local versions of globally branded goods, celebrity impersonators, as well as parodies of mainstream and official culture. Drawing on an association with the popular Ming dynasty novel *Outlaws of the Marsh* (*Shuihu zhuan*)

¹ See <http://www.seeraa.com/seeraa-special-topics/china-grassroots-culture.html>

about a brotherhood of renegade bandits, *shanzhai* conjures up associations of escape from authority, rising up against social injustice, and developing a set of rules parallel to those of the government (Xi 2009; Wu 2000).

In this paper we demonstrate how *shanzhai*'s bleeding edge technology and "renegade" ethos offers a variation of the slogan "from Made in China to Created in China", which is now widely associated with China's cultural and creative industries in academic, policy and media reports. We will argue that the slogan might be reinterpreted as "From Made in China to recreated in China". "Recreated" can be read two ways; first as imitation, adaptation and variation, which finds an outlet as economic activity; and second as counter-mainstream cultural activities that embody a sense of play: this latter sense of recreation often displays contention, whereby activists "respond creativity to state controls" (Yang 2009: 13) Certainly, many of the cultural representations that are now gathered under the label of *shanzhai* are playful parodies of formal institutions and cultural meanings.

The word *shanzhai* symbolises a range of contending perspectives on China's creative economy. We use the term "creative economy" here in the light of a recent publication by Li Wuwei entitled *How Creativity is Changing China*. Li is a senior policy advisor and vice-director of the Revolutionary Guomindang Party, China's leading "opposition party".² The overriding theme of Li's book is that China must escape from being the "factory of the world": it must look to innovate its future and to construct a "creative society." The issue of copycatting and *shanzhai* is therefore a delicate one. Li writes:

Rather than generalizing the *shanzhai* phenomenon in a negative sense we should differentiate good and bad *shanzhai* products, *shanzhai* cultures and *shanzhai* economies on a case by case basis (Li 2011: 33)

The paper has 4 sections. In the first section we show how this emergent phenomenon has emerged "parallel" to the national innovation policy ambitions of China's leaders. In linking the technological environment of *shanzhai* to the creative economy discourse we note recent

² The Revolutionary Kuomintang (Guomindang) was formed in 1946. It is one of eight "opposition parties". Its function however is more to support the main Chinese Communist Party with policy suggestions than to constitute a Western-style alternative to government.

discussion about how creative industry sectors and occupations provide inputs into the broader economy. A more specific claim is that the creative industries are an element of the (national) innovation system (Potts and Cunningham 2008; Müller et al 2009; Bakhshi et al 2008). The first section briefly introduces this argument and its relationship to the concept of the innovative milieu (Camagni 1991).

The second section turns to the issue of grassroots innovation in China and positions this in the context of three interrelated spheres of activity: the official, market and unofficial. We argue that whereas the official sphere is representative of government power, the market is a domain of behaviour bounded by weak intellectual property enforcement and a high degree of opportunistic behaviour. We believe that the third level, the grassroots sphere, acts as an unofficial incubator for the market. This section introduces the concepts of adaptive creativity (Tatsuno 1990) and second generation innovation (Breznitz and Murphree 2011).

The third section turns to Shenzhen, the origin of *shanzhai* communities. This section describes the origin of *shanzhai* mobile phones and characteristics of *shanzhai* culture. In describing an innovative milieu of *shanzhai* producers, distributors and retailers we offer an alternative version of the argument that creative industries are an element of the national innovation system. Our key point is that a characterisation of the Chinese “world factory” model as derivative and excessively imitative does not account for the inputs of the *shanzhai* “open source manufacturing” model into an emergent regional innovation system. The section also looks at how *shanzhai* culture is disseminated in cultural forms.

In the final section we look at the challenges facing *shanzhai* producers and communities as both the formal spheres of the state and the market respond to the success of the *shanzhai* model of innovation. Drawing on the metaphor of “panarchy” (Simmie and Martin 2010) we show how the *shanzhai* economy has given rise to more formal innovative practices. We conclude the paper by making some observations of the inputs this model is making into the cultural and creative industries and proposing some tentative policy recommendations that are relevant to the creative economy.

National and regional innovation systems

Like many nations facing economic restructuring in the transition to a knowledge-based service economy China has seized upon the idea of innovation. In January 2006, at the National Conference on Science and Technology President Hu Jintao pledged to build China into “an innovation-oriented country” by 2020 (*chuangxin xing guojia*). The benchmark indicator for this transformation is an increase in science and technology-based innovation from 39 percent to 60 percent and a corresponding increase in investment in R&D to 2.5 percent of GDP (Li 2011). The vision entails promoting “indigenous innovation” (*zizhu chuangxin*), particularly the capacity to generate core network technologies and standards rather than relying on developed countries. In addition the focus on indigenous innovation looks at breaking the domination of foreign investment in producer driven industries such as computer and IT products.

Behind the desire to promote indigenous innovation and the triumphalism of China’s booming economy lies a sober realisation. According to Gu and Lundvall (2006: 10): “after twenty years as the origin of manufactured goods “made in China”, China’s economy has not been able to embark upon the track of competence upgrading”. Gu and Lundvall contrast China’s “catch-up” performance with the US and Japan where “made in the US” and “made in Japan” led to both two countries reaching the world frontier in terms of innovativeness and competitiveness, “within the time span of one generation”. China remains specialised in low-value added products with profit margins trapped at a meagre 2- 5 percent, or in some areas even lower (Gu and Lundvall 2006: 10). They maintain that one of the problems of the innovation system inherited from the socialist planned economy was a separation of R&D centres and enterprises. Moreover, statistics reveal that in the current era of technology parks and clusters only 0.81 percent of revenue of large and medium enterprises are spent on R&D (Cao et al 2009: 255). The perception remains that China’s industrial economy is locked into low value OEM.³

³ An original equipment manufacturer, or OEM, manufactures products or components that are purchased by a company and retailed under the company’s brand name.

In an indictment of China's dependence on the factory model, Li Wuwei writes:

China's manufacturing enterprises can be described as a coolie: he sweats over what he is making and sells it to the rich at a very low price. He uses the little money he makes to buy bonds from the rich. But the rich person is still not happy, criticizing him for working too hard, making so much pollution that his home is no longer a safe place to live and taking jobs away from other people. Meanwhile the rich person pays the poor guy principal and interest with a continuously devaluing currency. (Li 2011, 9)

The dependence on foreign ownership and capital has however precipitated a response, which we might categorize as a mode of indigenous innovation, if not the novel product generating mode envisioned by Hu Jintao in 2006. In short, China is excelling at "second generation innovation", the "mixing of established technologies and products in order to come up with new solutions" together with the science of organizational, incremental and process innovation (Bresnitz and Murphree 2011: 4). Elsewhere this has been described as a combination of modular production practices and informal networks (Brown and Hagel 2005). The method by which China moves from OEM to OBM re-evaluates the notion of how a regional innovation system functions. It has ramifications for understanding Chinese-style innovation and the resilience of regions in the face of economic recession and competition (Simmie and Martin 2010). "Recreated in China" helps us to understand the limitations of China's current cultural and creative industries policies, which are focused on the state supervised clusters. The locus of this "grassroots innovation" movement in China is the Pearl River Delta.

The *shanzhai* activities in the region around Shenzhen can be described as both industrial clusters and innovative milieu. Prior to Michael Porter's revival of the industrial cluster (Porter 1990) a number of economic geographers and urban theorists had made use of the "innovative milieu" concept (Camagni 1991). The key idea here is the role of innovative SMEs and their networks, both formal and informal and the notion of "collective learning". The innovative milieu is found in work on regional innovation systems and generates what Lundvall et al (2007) call "interactive learning". The common factor in both the cluster and the innovative milieu is localised external economies; in other words the benefits to co-

location of businesses competing in similar markets but cooperating in the development of similar knowledge.

Arguably China's most culturally diverse city in terms of population, the story of Shenzhen began in 1979, following its inception as the first of China's Special Economic Zones (SEZ). The SEZs, which were created to bring foreign investment into China, initially included Zhuhai, Xiamen, and Shantou. Hainan Island became an SEZ in 1988. By 1984 there were also fourteen "open coastal cities", which like the SEZs had considerable autonomy in fiscal and managerial matters (McGee et al 2007). The rural areas around these cities ultimately witnessed complex forces of migration. Industrial zones (*kaifaqu*) were set up to attract foreign investment; these ultimately attracted workers from many parts of China. Hong Kong provides a good coordination point for many Shenzhen exports. In 1978, the population of Shenzhen was 30,000. By 1994, following Deng Xiaoping's "southern tour" of SEZs, it had jumped to 3.3 million (Liang 1999: 116).

The important point to note about Shenzhen, and the Pearl River Delta more generally, is that this region was designated as an experimental zone by the Chinese government as early as 1978: its distance from Beijing meant that it was a "remote area"; being a site of reform local cadres developed a desire for increased autonomy from Beijing's official culture while at the same time allying with businessmen and investors from Hong Kong. In effect, the rise of the region is more due to grassroots developments than planned actions by the central state (Bresnitz and Murphree 2011). As a result of its hard earned autonomy from central control the region began to encourage migration, much of which was low skilled workers. A notable example of this is the Dafen Art Village in Shenzhen which has transitioned thousands of rural labourers into the flourishing art world, albeit a world that makes its gains from supplying imitation art works to the global market (Keane 2011).

Shenzhen developed a reputation as a frontier city, a place where experiments could happen, where quick money could be made. It attracted young Chinese from other provinces as well as many speculators. Opportunities quickly arose for entrepreneurs in Shenzhen due to its openness and its proximity to Hong Kong. A 40 minute bus trip can bring tourists from Hong Kong or take local business entrepreneurs to Kowloon or Hong Kong Island. Shenzhen

quickly became a Mainland stopover for tourists to Hong Kong, a chance to pick up bargains, often counterfeit goods.

China's grassroots creative economy

In a book entitled *Informal Rules: The Real Games of Chinese History*, initially published in China in 2000 and subsequently banned, the author Wu Si wrote: “Outside the formal regulations of every kind of system in Chinese society, and behind every clear statement, there are unwritten rules that are widely recognized” (Wu 2000: Preface) Wu goes on to say that these kind of unwritten rules determine the rhythms of everyday life. In effect, the formal institutions of society are underpinned by informal institutions, which are in the main inherited from culture. In turn, officialdom has its own informal rules and processes.

China's “creative economy” (*chuangyi jingji*) is not immune from informal rules and processes. Echoing the sense implied by Yu Hua the creative economy is a bamboozling concept: it is “a lexical master key” that opens all kinds of doors (Yu 2011: 205). Indeed, a veneer of academic respectability is attached to a range of activities that absorb a high level of state investment without much visible indication of creativity. In Li Wuwei's *How Creativity is Changing China* the creative economy is conjoined with the “creative industries” (*chuangyi chanye*), a concept imported into China in 2004 (Keane 2007). In this account, as in most government reports, the creative (and cultural) industries extend from high end services to agriculture and tourism. This definitional largesse also extends to “the creative industries” concept globally which according to Bharucha is “at best a catch-word, if not a logo, clubbing together distinct categories like “skill”, talent” and “innovation” which masquerade as an affinity to the world of artists but with no real evidence of the labour and imagination that goes into art-making (Bharucha 2010: 22).

In spite of the scepticism about the applicability of the adjective “creative” or indeed the noun “industry”, the term “creative industries” has captured the policy heartland in many economic development bureaus globally. In making the argument for allocation of resources some authors have argued persuasively that due to the centrality of intellectual property,

particularly in intangible products and services such as design, the creative industries “offer a diverse bundle of services that can be integrated into the innovation processes of other businesses” (Müller et al 2009: 150). Studies conducted in Australia (Higgs et al 2005) have shown that design workers are over-represented in non-creative sectors such as IT, banking and education. In a much-cited study Potts and Cunningham (2008) argue that the creative industries do not drive economic growth directly, as might a boom in the primary resource sector or the housing market for example, but rather facilitate the conditions of change in the economic order.

Do the creative industries function this way in China? Research is still at an early stage but there is evidence emerging to suggest that the importance of tangible outputs in official data collections constrains the capacity of the creative industries to engender change, for instance by bringing about the reform of ineffective market mechanisms (Keane 2011). Moreover, despite arguments by Li Wuwei that creativity impacts across the whole economy, regional policy is invariably directed at constructing physical infrastructure projects. The symbol of the Chinese cultural economy is therefore the cluster. This is not altogether surprising considering how industrial clustering stimulated the Chinese economy to new heights during the 1990s, particularly in Zhejiang and Guangdong provinces. These regions have managed to break away to a large extent from dependence on the state and are celebrated for their entrepreneurial ethos.

However the success of clusters in these regions indicates a failure of policy. Over the past decade Chinese policy advisors have identified clustering as a means of turning the intangible and the mysterious attributes of creativity into material forms (paintings, artefacts, sculptures) — in other words, “things” with which they are familiar. Cluster master plans have circulated as factories are turned over to developers and investors seeking to take advantage of the government’s advocacy of the cultural economy. State-owned enterprises, private business entrepreneurs and university research centres have joined in cultural and creative industries projects thanks to generous incentives from local governments. Setting up a factory, calling it a cluster and producing contracted products is an obvious business model. International animation companies, design firms, movie production companies and international fashion houses have played a part by outsourcing work to low-cost China. Yet the economic benefits of many ambitious cluster projects are yet to be realised.

The concept of clustering can be understood in different ways. The planned physical environment embellished with an official plaque of approval is arguably the benchmark for government officials and developers alike in China. Many of these have names that resonate with their industrial heritage such as 798 Art Zone, M50, 1933, and Loft 49. While these spaces accommodate a variety of businesses and generate positive media reports about how China is becoming more creative, more innovative, the downside is that they are inevitable supervised or monitored by government officials. The sustainability of many cluster projects is conditional on good relationships with officials (Keane 2011).

The verb “cluster” connotes a sense of following, of attaching one’s identity, skills or resources to something already successful, often an existing physical community. Two terms commonly used in China illustrate the role of attraction: *zhao shang* (to attract business) and *zhao chuang* (to attract creativity or innovation). The first sense is pragmatic: businesses are attracted to geographical locations hoping to take advantage of technologies, labour forces and institutional structures (including incentives such as low cost rent and tax waivers). The second term is more contentious: how does a cluster or a region attract creative and innovative people? Moreover, how is a creative ethos engendered? How do you promote a culture of creativity?

In order to understand this regional perspective and the challenges facing China’s cultural economy as it seeks to become a creative economy, it is useful to adopt a wide angle view. In China there are three levels of inter-related activity: the first level of activity operates in the realm of policy and state planning; the second concerns the market adjustment to policy and to uncertainty; the third level represents widespread grassroots experimentation.

The first level is official culture and the Chinese Communist Party’s *raison-d’être*: reform. In effect reform is a process of constantly designing policy to development objectives, although in practice the nature of reform has been contingent on the Marxist-Leninist canon as interpreted by successive Chinese leaders. Policy making in relation to cultural activities has generally followed a conservative path. However, the international diffusion of the creative economy (Kong et al 2006) has led many to speculate how China can tap into the benefits associated with this “millennium idea.” Proponents, often economic bureaus of regional governments, regularly recite the mantra that this is the fastest segment of the global

economy. Likewise in China the economy illustrates the aspirations of municipal and local governments to generate capital from the cultural market. Cultural policy is therefore closely aligned with economic growth theory, urban regeneration and local entrepreneurship. In this triangular relationship there is a sense that government must shoulder much of the responsibility for planning. As a result, there is recognition of the need for “informed” top-down planning.

The first level represents what some political scientists and economists call formal institutions: “the rules, regulations, policies, and procedures that are promulgated and meant to be enforced by entities and agents generally recognized as being official” (Tsai 2005: 125). From a cultural policy perspective the first level symbolizes official culture (*guanfang wenhua*). The state maintains an interventionist role.

The effect of political supervision is acutely felt on the second level. Broadly speaking, this is the realm of commercial popular culture—the tangible manifestation of creative industries. The practice of forming clusters, and of opting to be located in a cluster, is frequently a strategy for obviating the risk and uncertainty of the creative industries. While agglomeration ought to engender “spillovers” and “increasing returns”, in effect we see a widespread tendency to avoid sharing of ideas, a lack of intellectual property generating product and lock-in effects as businesses opt for safe business models. While rigid regulation of media industry sectors constrains much innovation, the market level has become adept at looking for its “ideas”, not from above, but from below.

The third level—grassroots culture—is therefore the most important. It is typified by adaptive activity in non-commercial spheres. Much of the activity currently occurring in online communities is not aimed directly at profiteering, but rather functions as informal and amateur incubation. In other words it is both *re-creation* and *recreation*. The productiveness of this layer is not measured by economic success but by impact. China has more than 420 million net users and over 600 million registered mobile phone users.⁴

⁴ <http://www.cnnic.cn/en/index/00/index.htm>

Whereas levels one (official) and two (popular culture) require navigation of censors, the third level is conspicuous by its risk culture. It is this willingness to take risks that makes it an incubator for the market. Networked social communities are sites of rapid experimentation, drawing on the ingenuity of users and the interpretations of communities. This “grassroots soft power” has a potential “commons” effect, albeit constrained by governmental technologies of power. In effect the third level illustrates a kind of creativity perhaps best described as “adaptive creativity”, a term used by Sheridan Tatsuno in his book *Created in Japan: from Imitators to World Class Innovators*. Tatsuno wrote in relation to Japanese ingenuity: “In the West, creativity is viewed as an epiphany and only one phase in the creative process— the generation of new ideas that triggers dramatic breakthroughs—is emphasized” (Tatsuno 1999, 49).

He goes on:

In the broadest sense, creativity reflects a fresh, novel and unorthodox way of thinking and viewing the world. We need to expand our Western notion of creativity to include all forms of creativity, including Japanese creativity (Tatsuno 1999, 49 - 50).

Tatsuno, writing at a time when Japan was breaking new ground in miniature consumer electronics formats, makes some interesting points in comparing East and West. In China, the term “putting new wine in old bottles” was used to describe how the Maoist revolutionaries rewrote Chinese cultural policy. Rather than trying to rewrite the source code, they used old cultural forms and updated these with Marxist content.

Recycling ideas and imitation is a business model that is shedding its negative image. Oded Shenkar, author of *Copycats: How Smart Companies Use Imitation to Gain a Strategic Edge*, suggests that the age of novel-product innovation is passing. Shenkar’s interest in the role played by imitation in business strategy was aroused during thirty years of study on China. While imitation has always been widespread, it has gained a bad name due to the emphasis placed on innovation (and novelty). Due to the forces of globalization and the codification of knowledge, which facilitate reverse engineering, imitation “is becoming more feasible for a wide array of products and services, process, and business models, as well as more attractive in costs, benefits and potential return” (Shenkar 2005, 43).

In their study of China's IT industry Breznitz and Murphree (2011) draw attention to what they call "two myths": first the "Western techno-fetishism of novelty, which equates innovation only with the creation of new technologies and products" (2011: 2); the second myth is that China's capacity to be innovative must necessarily be measured against an idealised Silicon Valley benchmark. In fact, according to the authors what China does so effectively is second-level innovation—the mixing of new techniques and technologies in order to come up with new solutions, including solutions in organisation of production, packaging, marketing. This ingenuity allows Chinese businesses to move into new niches that have been made profitable by an innovator elsewhere. This is the essence of the *shanzhai* phenomenon, as we demonstrate below.

Renegades and innovators: the *shanzhai* phenomenon

The *shanzhai* phenomenon enjoys a macro-cluster, a highly networked "learning region" (Gu and Lundvall 2006) in which a particular modality of incremental innovation has gained ascendancy. *Shanzhai* innovation is indicative of the region around Shenzhen although it is arguably symptomatic of a wider "national" style. It has much to do with small-scale flexible operations, grassroots communities, and "complex adaptive systems with emergent patterns of behaviour and organisation." (Simmie and Martin 2010: 32). In this context the *shanzhai* innovation model is inimical to the state's preferred vision of strong industrial groups and national brands. Yet the value of *shanzhai* activity to the provincial economy is considerable, especially as much of the value that accrues doesn't appear in official statistics.

Echoing the ethos of contemporary hacker culture and the renegade "take from the rich" spirit of *The Water Margin*, *shanzhai* culture offers the following rules (Jeffrey 2011):

- 1) Design nothing from scratch; rather, build on the best of what others have already done.
- 2) Innovate the production process for speed and small-scale cost savings.
- 3) Share as much information as you can to make it easy for others to add value to your process.

- 4) Don't make it until you've already got a buyer.
- 5) Act responsibly within the supply chain.

The most well-known *shanzhai* product is unquestionably the *shanzhai* mobile phone (*shanzhaiji*). Initially *shanzhai* phones were “non-brand” copycat products that featured multiple functions at incredibly low costs (CCID 2009). Many OEM manufacturers clustered in the Pearl River Delta region sought to compete with the world-leading brands. Some products carry copycat names such as “Hi-Phone”, “Nokla” or Motololah. With *shanzhai* products lying in the informal economy, the absence of 17% value-add tax, network license fees and sales tax, as well as the absence of marketing and after-sales service, save costs. The cheap but functional *shanzhai* phones appeal to price-sensitive consumers. While early *shanzhai* products were knock-offs and counterfeits criticised for intellectual property infringement, *shanzhai* producers have moved beyond merely copying.

The nature of *shanzhai* innovation evolved due to the technology of the integrated chip developed by Taiwan's mobile phone chip solution company MediaTek. The widespread availability of the chip mitigated R&D costs for device producers and accelerated the production cycle. Mobile phone manufacturers took advantage of MediaTek's simple, integrated motherboard and easily changeable user interface, and focused their efforts on developing and adding popular features.

Consumer insights were important in developing products to satisfy consumer needs. Another small but important innovation was dual-SIM-card mobile phones which support two operator networks on one mobile. This novelty not only enables users to bypass roaming charges but also helps them with work/life balance. Such a disruptive innovation has impacted on other players in the industry. It has undermined operators' business models and has led many mainstream mobile manufacturers to start offering such devices. Nokia launched two dual-SIM mobile phones, the C1 and C2 in 2010, in an effort to improve its products and respond to local needs. The diverse range of *shanzhai* mobile phones contributes to the “long tail” effect (Anderson, 2006), constantly stimulating niche market consumption. This is evident in how China's generation X, born in the 1980s and 1990s, have adopted *shanzhai* products as lifestyle statements.

Shanzhai mobile phone manufacturers are known for their speed to market; moreover the added features of their products compete with global and national brand products. With the clustering effect of IT companies in Shenzhen, an effect of government policy (Bresnitz and Murphree 2011), a well-developed supply chain has benefited the *shanzhai* mobile phone industry. The existence of a comprehensive electronics industry chain in the Pearl River Delta provides advantages for *shanzhai* producers as they move up the value chain. This has also brought added market pressure to bear on brand product producers.

The *shanzhai* mobile phone industry rapidly developed a presence in the domestic market, especially in the underserved 3rd to 5th tier cities and rural areas where people want trendy mobile phones but have less purchasing power. *Shanzhai* handsets have to some extent promoted the adoption of mobile data services, as price-sensitive users can get smart phones at affordable prices. In 2008, it was estimated that more than 80 million *shanzhai* phones were produced in China, constituting around 20 per cent of the domestic market (Chase, 2009). Furthermore, *shanzhai* mobile phones have captured large market shares in overseas emerging markets such as India, Brazil, and Russia. Half of the *shanzhai* phones produced were exported to these markets (Chase, 2009). It is also claimed that mobile devices employed in the 2011 Arab Spring uprisings were predominantly imported from Shenzhen.⁵

Despite significant export figures to developing economies, the “informality” of the *shanzhai* mobile industry has caused problems for producers vying for the global market. As most *shanzhai* devices do not undergo an expensive testing and approval process they do not have an International Mobile Equipment Identity (IMEI).⁶ Mobile phones without IMEI imported from China were blocked in India and Pakistan. According to a report from the Pakistani newspaper *Dawn*, a user in Pakistan requested the operator to block the IMEI of his mobile, which resulted in many other users sharing that IMEI not being able to use their *shanzhai* mobile phones (Shahid 2008). In July 2008, the Pakistan government banned sales of IMEI-

⁵ <http://www.fastcoexist.com/1678136/chinas-cell-phone-pirates-are-bringing-down-middle-eastern-governments>

⁶ The International Mobile Equipment Identity or IMEI is a unique 15 digit code to identify mobile phones. It is used by the GSM network to identify valid devices and therefore can be used for stopping a stolen phone from accessing the network in that country.

less phones. In addition there are challenges to content provision and mobile marketing as it is hard to optimize content for mobiles which may have a Nokia look and an iPhone screen size. Further, the hidden costs and sometimes deceptive charges in mobile applications pre-installed on *shanzhai* mobile phones have been a constant complaint among users.

Despite these lingering issues, the success of *shanzhai* mobile device manufacturers is indicative of a Chinese model of indigenous innovation; within China such devices have become a symbol of the *shanzhai* spirit. Originally synonymous with knock-offs or bad quality, *shanzhai* mobile device manufacturers have very quickly transformed “into emerging indigenous adaptors and innovators, from not only industrial design and local demand capture perspectives but also core technological breakthroughs such integrated circuit (IC) chip design, whole phone system’s total solution and whole supply chain’s regional integrations” (Zhu & Shi 2010, p. 31). More importantly, they have successfully challenged the incumbent industry players and disrupted the market with their innovations. Owing to the increased efforts in R&D and brand building, some companies have become more and more distant from their *shanzhai* beginnings (Tse, Ma, & Huang 2009). K-Touch, for example, has become a well-embraced domestic mobile phone brand and received the license for developing GSM and CDMA mobiles in 2006. In 2007, the removal of the licensing policy in mobile phone manufacturing which had been in place for 9 years further pushed the *shanzhai* manufacturers to find their way to the formal economy and accelerated market disruption.

Tse et al. (2009) argue that the *shanzhai* phenomenon emerged as a result of both “soft” factors (Chinese culture, history, and the policymaking/ regulatory context) and “hard” factors (market supply and demand). These include a “fearless experiment” mindset, the relatively weak, inconsistent/non-transparent industry policy-making, the evolving nature of the Chinese market, especially the underserved rural market and the lower middle class, industry incumbents’ inadequate understanding of local markets, as well as a strong manufacturing capacity within the ecosystem.

The *shanzhai* ethos has gone beyond the manufacturing industry and has diffused to other spheres including popular culture. As mentioned above, the generation born in the 1980s and the 1990s most identifies with *shanzhai* culture. Known for being “anti-authority, anti-monopoly, and anti-elite”, members of this demographic often view *shanzhai* as “a

manifestation of pursuing individuality and a mockery of mainstream culture” (Leng & Zhang 2011). *Shanzhai* movie stars have become instantaneous celebrities while existing celebrities have been conferred with grassroots status. This is especially evident in the online world. In fact, “*shanzhai*” was the most searched word in Google in 2008 (Canaves and Ye 2008). Most online activities have their roots in amateurs pursuing their hobbies rather than commercial interests. For instance, after being turned down three times by Lecture Room, a popular CCTV program which invites scholars to provide lecturers on various disciplines, mostly Chinese culture and history, a young scholar Han Jianguo came up with a *shanzhai* version of the program to challenge academic authorities and present his own views. The online video was well received by viewers.

The core to the success and diffusion of *shanzhai* culture is continuous adaptation and experimentation while disrupting the well-established rules or challenging the big players. Significantly, many *shanzhai* companies go from the informal to the formal with more investment in R&D and brand building once gaining scale. Those who view *shanzhai* as mere knock-offs or copies thus fail to recognize the inherent innovative spirit and the potential evolutionary path. Therefore the state policies that have allowed the development of *shanzhai* culture and have facilitated transformation from the informal to the formal are indeed promoting innovation.

New (Post) *shanzhai*

The resilience of the *shanzhai* industry is however facing new challenges coming from the formal economy. As mentioned earlier we characterised three spheres of interrelated activity: official, market and grassroots. A report published by Xinhua News Agency in March 2011 claims that approximately one-third of an estimated 3000 mobile phone sellers in Huaqiangbei, the *shanzhai* heartland in Shenzhen, have closed business operations owing to price cuts of branded mobile phones and in response to the Chinese government’s initiative to enhance IPR protection and develop indigenous innovation (Liu, & Wang 2011). In effect, the success of *shanzhai* has led to the restructuring in the formal market and in the policy sphere.

Shanzhai manufacturing is seeing the advent of a new post-*shanzhai* era. This evolutionary process illustrates what Simmie and Martin (2010: 33) call “panarchy”: “a process of continual adjustment in ecological, social and environmental systems”. In transferring the panarchy metaphor to the *shanzhai* economy of Shenzhen we note an adaptive cycle with two loops: the first is the “emergence, development and stabilisation” of the economic structure; albeit here the structure is predicated on informal copying; the second stage refers to consolidation and eventual decline of this informal growth path and the opening up of new potential types of activity. As enterprises close or move out of the region the degree of connectedness changes, opening up “the possibility for a second-release-reorganisation loop, characterised by innovation, experimentation and restructuring, as new types of activity begin to emerge.” (Simmie and Martin 2010: 34).

The emergent *shanzhai* culture may herald a new stage of open source innovation giving rise to strong, legitimate enterprises and new business models. Seeed Studio, an open hardware facilitating platform based in Shenzhen, is such an example. Extending the practice of open-source software, the platform provides modular electronics for quick prototyping and shares manufacturing documentation. By working with Seeed Studio, open hardware innovators can focus on design. They can send finished prototypes with manufacturing files to Seeed Studio, which integrates the resources in order to test, manufacture and distribute the products. Open hardware innovators can follow the process and collect the profits. The innovators can also interact with the community to get feedback on their designs and estimate the popularity of the products, or collaborate on projects.

One of the successful products is Bus Pirate, a hacking multi-tool that has the capability to interface with most bus protocols used in the electronics industry today. It eliminates much of the early prototyping effort in working with new or unknown chips. Bus Pirate is designed by Ian Lesnet at a company called Dangerous Prototypes. He is able to sell his original version through his partnership with Seeed Studio. Since it is an open source hardware design, others are free to make their own versions. Sparkfun, a retailer of electronics components for aspiring do-it-yourself electronic enthusiasts, opted to do so. According to Lesnet (2009), the sales at Seeed Studio made it possible to develop the hardware and firmware to the point where a “big company” like SparkFun started selling a clone. By working with hackerspaces or virtual community groups and leveraging the efficient manufacturing ecosystem in China,

Seed Studio has already become a profitable business while facilitating grassroots innovation.

While the hacker movement is on the rise across the world, it has only been emerging in China. Established in 2010, XinCheJian, is one of the first hackerspaces in China. In this user-led innovation (Von Hippel 2005) network, people can learn and tinker with technology, work in teams, and create new opportunities. Hacker ethics are well summarized by Himanen (2001) as working for passion, peer recognition with their respect for the individual and anti-authoritarian spirit. While hacker culture and *shanzhai* culture have some commonalities in terms of the user-led networked innovation and the anti-authoritarian spirit, *shanzhai* culture offers innovation opportunities to “the information have-less” rather than to the elites alone (Qiu 2009; Cartier, Castells, & Qiu 2005). This might have important implications for promoting social innovation for the people and by the people. More importantly, while fostering new mode of production and new forms of enterprises, *shanzhai* culture impacts not only technological development but also cultural participation.

Concluding remarks: Policy implications for the creative economy

The *shanzhai* phenomenon was a topic of considerable heated debate at the National People’s Congress in Beijing in March 2009 with some members condemning outright *shanzhai* goods as low-quality counterfeits which violate consumer rights. There were calls for stronger IP protection measures and product boycotting. In contrast, others recognized a differentiation between piracy and *shanzhai* and advocated more tolerance towards *shanzhai* culture owing to its innovation capacity. Sociologist Ai Jun pointed out that the *shanzhai* phenomenon is a period that China and other developing countries must go through in fostering their companies’ innovative capacities (Yang et al 2011).

With innovation increasingly coming from the grassroots level where *shanzhai* has become a subculture, such developments are critical in realizing the strategic goal of the state to transform China’s image from the world’s factory to a creative powerhouse with its own brands, to an innovation-oriented nation. Now that the cultural (and creative) industries are enshrined as key drivers of economic development in the 12th Five Year Plan, engendering

innovative capacity and nurturing creative talent are new “productive forces”. While China boasts a competitive advantage of cheap and abundant labour as the world’s factory, it is in danger of losing this “global advantage” to other emerging regions. Shanzhai culture is an opportunity to turn the tradition of respecting authority on its head and releasing the dormant creativity and anti-authoritarian spirit of the grassroots.

In addition, the evolution of *shanzhai* from manufacturing industry to the creative economy and consumer culture shows that it can be an energising force across different sectors. The equation is no longer simply “from Made in China to Created in China.” Both “made” and “created” converge. The policy implication for the government is therefore to facilitate a favourable environment for grass-root level innovation. A tolerant attitude towards *shanzhai*, and an understanding of its collaborative ethos, would seem to benefit new modes of production and new kinds of enterprises. Compared to the top-down state supervised cultural clusters that now promote a more open China, *shanzhai* culture is perhaps a new prototype for an innovative nation even despite its ongoing renegade status and intellectual property violations. In effect, *shanzhai* epitomizes a distinctive model of Web 2.0 innovation, where open sharing is the foundation of social transformation.

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