



INSTITUTIONAL ENTREPRENEURSHIP IN THE INFORMAL ECONOMY: CHINA'S SHAN-ZHAI MOBILE PHONES

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During the last decade, Chinese shan-zhai mobile phones have steadily and deliberately evolved from an informal economy to a formal one. We draw on institutional entrepreneurship to study this evolution, focusing in particular on how informal Chinese entrepreneurs pursued change and the transition to a formal economy. We emphasize three strategies—framing, aggregating, and bridging—Chinese entrepreneurs employed to mobilize support, garner resources, and increase their amount and level of legitimacy. We also discuss implications for research on informal economies and institutional entrepreneurship. Copyright © 2014 Strategic Management Society.

INTRODUCTION

Informal economies are pervasive, creative, and significant to national development and entrepreneurship. According to Godfrey (2011) and Webb *et al.* (2013, among others, informal economic activity accounts for as much as 10 to 20 percent of annual gross domestic product in developed countries and as much as 50 to 60 percent in developing countries. Informal economies are often integrally bound up with, and complementary to, the formal economy, and they provide rich entrepreneurial opportunities to new ventures. Despite a growing body of empirical studies and cases about informal economies globally, little research exists on the informal economy in China, a nation where a strong and bureaucratized state, coupled with a large and rapidly growing formal economy, has encouraged legions of informal entrepreneurs to seek opportunities outside of state-sanctioned markets. To address

that gap in the literature, this study explores how China's *shan-zhai*¹ mobile phone sector developed during the period 1998 to 2008. Success among *shan-zhai* phones ultimately popularized 'shan-zhai' methods of production for counterfeit, imitated, low-cost, and do-it-yourself products in China and to 'the *shan-zhai* phenomena' in general (Barboza, 2009; Epstein, 2009).

Originally distributed within the stolen goods and parallel imports markets, the *shan-zhai* mobile phone sector began as a typical informal economy: illegal and yet accepted by certain social groups (Webb *et al.*, 2009), especially those operating at the bottom (or base) of the economic pyramid (BoP) (London and Hart, 2011; Prahalad, 2005). Over the last decade, this sector has evolved from being scorned for its opportunism and inferiority to being lauded as examples of entrepreneurship and innovation. This happened in large part because *shan-zhai* entrepreneurs actively contested the state's 'national

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¹ *Shan-zhai*—literally mountain (*shan*) fortress (*zhai*)—refers to the gathering of grassroots antigovernment rebels into fortresses located in remote, mountainous areas. The name *shan-zhai* in Chinese mobile phones has a double meaning: the first denotes that illegal phones originated from rebel strongholds, namely the informal economy; the second implies that rebels gathered in numbers large enough to challenge the status quo.

champion' policy that restricted competition in the mobile phone sector.² In October 2007, after years of suppression, negotiation, and bargaining, the Chinese state finally reached a compromise by abandoning its license control over mobile phones. This regulatory change enhanced not only the legitimacy of *shan-zhai* economic activities, but also their legal standing. The phenomenon is striking. *The Wall Street Journal* heralded *shan-zhai* as 'the sincerest form of rebellion in China' (Canaves and Ye, 2009), one that has spread with such vigor that, in the words of a *New Yorker* columnist, 'all of China is a knock-off' (Osno, 2009). This remarkable evolution prompted us to consider as our primary research question how China's *shan-zhai* mobile phone sector developed, grew, and interacted with the state.

To address this question, we draw on the concept of institutional entrepreneurship (Battilana, Leca, and Boxenbaum, 2009; Hardy and Maguire, 2008), which emphasizes the importance of skillful and effortful agency by institutional entrepreneurs who leverage resources for achieving institutional change and innovation. Institutional entrepreneurship's account of embedded agency and change process resonates with the challenges faced by informal entrepreneurs aspiring to reach beyond their institutional boundaries and act in concert with the formal institutions of the state. We consider Chinese *shan-zhai* entrepreneurs to be institutional entrepreneurs who proactively sought to enhance their legitimacy to generate momentum for regulatory change. As argued by Deephouse and Suchman (2008: 62), 'legitimacy can appear continuous . . . (and) vary in its *certainty* and *security*' (emphasis in original). As informal entrepreneurs become more firmly legitimate and become legitimate to more audiences, a state can eventually agree to confer legality or 'regulatory legitimacy' (Deephouse and Suchman, 2008; Scott, 2001). From this point, the transition from informal economy to formal economy, although not yet complete, progresses rapidly enough so as to seem inevitable.

² The most important state regulation was the ordinance 'Certain Opinions Concerning Accelerating the Development of the Mobile Telecommunication Industry' (also called Document No. 5), released by the State Council on January 1, 1999. This ordinance aimed to 'put mobile phone production in the state-guided plan' by controlling the licenses for production, the import of equipment, components, and parts, and the export of final products. The key to *shan-zhai*'s contestation was to remove this regulation (and its associated policies) and thereby create a level playing field in the mobile phone sector.

Our analysis of the Chinese *shan-zhai* sector uses qualitative procedures and emphasizes the strategizing activities of institutional entrepreneurship (Lawrence and Suddaby, 2006; Vaara and Whittington, 2012). We examine in detail what nascent Chinese entrepreneurs, manufacturers, and vendors actually said and did during their interactions with government policy, their mobilization of collective actions, and their exploitation of outside resources and technologies. Our examination emphasizes three kinds of strategic action—framing, aggregating, and bridging—and discusses how Chinese vendors used these strategies to bring about innovation and institutional change. Each of the strategies operates on a different logic, yet each allows institutional entrepreneurs to pursue change and innovation effectively. Framing offers explanations and justifications that appeal to the public; aggregating offers collective actions to draw support; and bridging offers alternative rules and practices with potentially novel applications.

The article proceeds as follows: first, we discuss the nature of informal economies and briefly review the literature on institutional entrepreneurship, focusing in particular on the range of strategies available to informal entrepreneurs intent on decriminalizing or legalizing their activities. Second, we explain our methodology and introduce our case. Third, we outline the strategies of framing, aggregating, and bridging by which Chinese *shan-zhai* mobile phone entrepreneurs managed their transition to the formal economy. We conclude by discussing the implications of our study for research on informal economies and institutional entrepreneurship.

THEORETICAL ORIENTATION

Informal economy

The informal economy refers to 'the set of illegal yet legitimate (to some large groups) activities through which actors recognize and exploit opportunities' (Webb *et al.*, 2009: 492). Activities are considered legal if they are defined and governed by formal institutions, including laws and regulations. Informal economy activities are illegal because they take place outside of formal institutions, but they can be legitimate to the extent that their products, methods, and practices are accepted by certain social groups, including, for example, immigrants, low-income people, ethnic neighborhoods, and religious

minorities. Thus, at its inception, the Chinese *shan-zhai* mobile phone sector was a typical informal economy: it was not supported by established state power but, instead, grew steadily through the black market for counterfeits, clones, and smuggled or stolen goods. Groups that supported this economy included (but were not limited to) poor workers, peasants, and those embedded in the BoP.

Legitimacy is critical to informal economy activities. Legitimacy is ‘a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions’ (Suchman, 1995: 574). Informal entrepreneurs usually seek three forms of legitimacy: pragmatic, moral, and cognitive (Suchman, 1995). Pragmatic legitimacy reflects judgments about whether a given informal activity benefits a certain group. Moral legitimacy reflects a positive normative evaluation of the informal entrepreneur and his/her activities. Cognitive legitimacy increases public comprehension and ultimately normalizes activities that were previously considered illegitimate. From the continuous view of legitimacy (Weber, 1978; Zimmerman and Zeitz, 2002), informal economy activities vary in the degree to which they are considered legitimate. Because legitimacy is always assessed with respect to multiple activities and practices, informal entrepreneurs can increase their amount and level of legitimacy and, in so doing, contribute to their transition to the formal economy.

Numerous motives and factors drive an economy’s transition from informal to formal (Webb *et al.*, 2013). A central one is the growth of informal ventures. On the one hand, entrepreneurial growth in the informal economy attracts attention from regulators which, in turn, motivates a formalized process. On the other hand, growth confers power to informal entrepreneurs, enhancing their own desire for change and transition. In addition, when informal institutions cease to provide benefits and opportunities, actors naturally move toward a formal economy. Informal entrepreneurs competing in emerging technologies, where institutional boundaries are unclear and the market potential is huge (Arthur, 1994), are also likely to be motivated toward change. Finally, the more that formal, effective, market-supporting, and law enforcing institutions develop, the more we can expect entrepreneurs to willingly pursue opportunities in the formal economy (Godfrey, 2011; Kus, 2010; North, 1990). This is particularly significant for China and other transitional economies, which

are characterized by ambiguous jurisdiction and conflicting interests among different levels of government, as well as by weak ownership protection, poor enforcement, and arbitrary corruption (Estrin and Prevezer, 2011; Tsai, 2006).

It is worth noting that regulators could move to shut down informal entrepreneurs despite their rise in popularity and market power; thus, even successful informal entrepreneurs are motivated to pursue formality. The central challenge associated with informal entrepreneurs’ transition into the formal economy is then achieving a ‘legitimacy threshold’ (Rutherford and Buller, 2007; Zimmerman and Zeitz, 2002). A certain level of legitimacy allows informal entrepreneurs to access the resources necessary to grow, which over time creates the self-reinforcing momentum of critical mass that is required to contest the state and change formal regulations or ‘the rules of the game.’ The next section introduces the institutional entrepreneurship perspective to study how informal entrepreneurs may strategically increase their level of legitimacy and ultimately affect institutional change.

Institutional entrepreneurship

Institutional entrepreneurship focuses attention on the micro-activities through which interested actors influence their macro-institutional contexts (Battilana *et al.*, 2009; DiMaggio, 1991; Hardy and Maguire, 2008; Maguire, Hardy, and Lawrence, 2004; Pacheco *et al.*, 2010). Instead of conforming to established institutional structures, institutional entrepreneurs—who can be organizations or groups of organizations (Garud, Jain, and Kumaraswamy, 2002; Greenwood, Suddaby, and Hinings, 2002) or individuals or groups of individuals (Fligstein, 1997; Maguire *et al.*, 2004)—leverage resources to create new institutions or to transform existing ones.

The institutional entrepreneurship perspective is particularly appropriate for the study of informal entrepreneurs’ transition to the formal economy. Indeed, concerned with linking existing management theories to the emerging study of informal economies, McGahan (2012: 8) explicitly noted that ‘institutional entrepreneurship—whether pursued by individuals or informal organizations such as Napster—is the study of informal economic activity precisely because it focuses on the processes that give rise to the regulatory framework for legitimacy and thus for formality.’ In the case of the Chinese *shan-zhai* mobile phone sector, institutional entrepreneurship

helps us focus on the microprocesses through which informal entrepreneurs brought about change in the regulatory framework (cf. Child, Lu, and Tsai, 2007; Ingram and Rao, 2004) and, thereby, achieved the possibility of legal standing.

Our choice to examine the transition of informal entrepreneurship through the lens of institutional entrepreneurship creates two significant implications for this study. First, we place an emphasis on human actors—entrepreneurs—with the capacity to reach beyond their informal boundaries to advance their interests. Institutional entrepreneurs frame issues, garner support, mobilize resources, and enable change in a strategic manner. Second, we emphasize that strategic action is not just about the economic processes of securing buyers and consumers, but involves social processes of building and enhancing legitimacy to challenge institutional pressures (Aldrich and Fiol, 1994). The transition of informal entrepreneurs to the formal economy is possible because acts of agency occur even in conflicting institutional centers (Seo and Creed, 2002) (i.e., formal institutions versus informal institutions) and institutional change processes (Beckert, 1999; Emirbayer and Mische, 1998). In considering how Chinese *shan-zhai* actors behaved as institutional entrepreneurs, we thus put particular focus on their strategies for garnering resources, increasing legitimacy, and, in so doing, achieving transition.

Strategies for changing formal institutions

Accounts of strategic action employed by institutional entrepreneurs vary widely, ranging from those concerned with a typology of strategic responses varying in the degrees of active agency (e.g., Oliver, 1991; Suchman, 1995; Zimmerman and Zeitz, 2002) to those emphasizing the skills and mechanisms that enable actors to change institutions (e.g., David, Sine, and Haveman, 2013; Fligstein, 1997; Greenwood and Suddaby, 2006; Hardy and Maguire, 2010; Hung and Whittington, 2011). To characterize the antecedents of institutional change, we follow this later stream of research with a particular focus on the mechanisms through which informal entrepreneurship enables transition to the formal economy.

We emphasize the strategies of framing, aggregating, and bridging, all of which are fueled by a need for resources and legitimacy. *Framing* is a cognitive mechanism, often involving the use of rhetorical devices, scripts, metaphors, and analogies to

motivate people (Chong and Druckman, 2007; Cornelissen, Holt, and Zundel, 2011). It generally serves the diagnostic, prognostic, and motivational functions (Benford and Snow, 2000) necessary to support practices that run counter to institutionalized codes or rules. *Aggregating* relies on the interaction and collaboration of different participants in the industry to build critical mass or scale (Rao, Morrill, and Zald, 2000; Wijen and Ansari, 2007). Collective mobilization is key to aggregating, often facilitated by geographical proximity and the cluster effect (Saxenian, 1994; Stuart and Sorenson, 2003). *Bridging* encompasses the importance of accessing outsiders for resource acquisition and mobilization. It involves translation or brokerage, which moves ideas or resources from one field to another (Greenwood and Suddaby, 2006; Hargadon and Sutton, 1997).

These three strategies are particularly important, both theoretically and empirically, for explaining the transition of informal economy ventures, as our case study will show. Entrepreneurs seeking transition to the formal economy need to change the meanings associated with their informal activity and manage severe resource constraints created by their informal status. They have to build new identities, win support, and garner resources to increase their level of legitimacy. Thus, framing, which enables informal entrepreneurs to cognitively redefine their social status, is a key process for transitioning institutional entrepreneurs. Also important is aggregating, in which informal entrepreneurs mobilize collective actions to generate momentum toward the legitimacy threshold (Rutherford and Buller, 2007; Zimmerman and Zeitz, 2002), beyond which regulatory pressures are less significant. Finally, resource constraints and the lack of state support may drive entrepreneurs to rely on bridging networks for access to new technologies and resources from outside the local industry context. As the remainder of our article will show, each of these three strategies—framing, aggregating, and bridging—were important factors in the legitimization and eventual legalization of Chinese *shan-zhai* mobile phones.

RESEARCH METHOD

Chinese *shan-zhai* mobile phones were born and developed without the state's blessing and in competition with national champions that the state defended. The processes by which these entrepreneurs emerged, grew, and achieved change in

unpromising circumstances have not been documented in the existing literature. This is due in part to the attitude of the Chinese state and its umbrella media, which were, at best, ignorant of the changes afoot and, at worst, complicit in suppressing news about *shan-zhai*'s informal activities. *Shan-zhai* efforts became, in effect, a 'black box.'

We employed a naturalistic case study (Lincoln and Guba, 1985), using inductive logic to trace and examine the development of *shan-zhai* mobile phones in their real-world context. Qualitative procedures were appropriate in this setting because Chinese *shan-zhai* mobile phones are a poorly understood phenomenon in which the power base of actors is obscure, event sequences are opaque, and causal dynamics are less than obvious. Our research focus was on developing a narrative account from a historical context, with categories and themes flowing from a rich set of qualitative data.

We divided the research process into two broad stages. The first stage was to become deeply acquainted with the context, particularly the first author, who has worked as a journalist for four years and has been a China observer since 2004. Although there is no public database covering Chinese *shan-zhai* mobile phones, we were able to retrieve secondary data about the period from the late 1990s to the late 2000s from a variety of sources, including: (1) market analyses about Chinese mobile phones derived from governmental agencies, industry associations, and market intelligence firms; (2) stories about *shan-zhai* mobile phones presented in analysts' reports and media accounts; and (3) narratives by the *shan-zhai* entrepreneurs, related primarily in media interviews and press releases. After carefully studying these documents, we were able to define the contextual background, make sense of the industry structure, and uncover relations between organizations in the industry.

In the second stage, we conducted in-depth, face-to-face interviews. The transient and anonymous character of informal actors in the industry led to the 'distributed' nature of agency (Battilana *et al.*, 2009; Garud and Karnøe, 2003) which, in turn, made it difficult, if not impossible, to identify leading institutional entrepreneurs. Accordingly, instead of focusing on searching for and interviewing leading actors (cf. Maguire *et al.*, 2004), we were comparatively flexible, opportunistic, and open about who to contact, what to collect, and how to conduct interviews, at least during the study's early stages. In total, the first author interviewed 31 individuals, as

detailed in the Appendix. Through networks of personal relationships, we initially chose informants who would be willing and able to provide information about the rise and transition of *shan-zhai* mobile phones. We then used a snowball technique, asking each informant for his/her recommendations as to who could best explicate the processes of interest. Our interviewees included: (1) key players in the Chinese mobile phone industry who laid the foundation for the formation of *shan-zhai* supply chains; (2) informants from governmental agencies and research institutes who were responsible for formulating mobile phone industrial policies; (3) *shan-zhai* entrepreneurs from different segments in the value chain; and (4) analysts and journalists who did in-depth analyses and wrote reports on *shan-zhai* mobile phones, at times acting as advocates for their legitimization. We explored a rich variety of interviewees to enhance reliability and reduce biases (Eisenhardt and Graebner, 2007).

Both the authors also paid several field visits to Shenzhen, where *shan-zhai* mobile phones originated, and to Shanghai and Beijing, where *shan-zhai* mobile phones were distributed. We also conducted numerous casual conversations with government officials and industry participants and observers to supplement the more formal interviews. Casual or informal interviews—especially in the form of lunch/dinner conversations—from time to time produced richer information, partly because of the sensitivity of this research topic and partly because of the Chinese's general preference for informal talks over formal interviews. We drew on the formal interviews, casual conversations, and subjective observations to produce about 138,000 Chinese words of written notes.

We triangulated this broad database to identify the sources and outcomes of contestation processes. To help organize the data, we developed a teaching case that was used several times in MBA/EMBA classrooms to collect feedback. Following an iterative process of cycling among theory, data, and the literature (Strauss and Corbin, 1998), we identified the strategies of framing, aggregating, and bridging, which are not only well-documented in the literature of institutional entrepreneurship and change (Battilana *et al.*, 2009; David *et al.*, 2013), but are also sensitive to the empirical context. We relied on these three strategies to recollect and reexamine the data, verify key events, and pull together the narratives from different actors and the documentary evidence necessary to create a 'thick description'

(Geertz, 1973). The validity of our story and narrative was enhanced through discussions with university colleagues, follow-up visits to key informants, and presentations to executive students in greater China.

BACKGROUND

The state (formal institutions)

As a late industrializer that inherited a strong state and a weak public sector from socialism, China has persistently pursued a developmental state (Moore, 2002). The backwardness of a late industrializer, as Gerschenkron (1962) argued in his exploration of German industrialization during the late 1800s, necessitates an active state role to overcome economic and institutional barriers. The economic 'miracles' of East Asia suggested that in order to compete with more advanced economies in technology- and capital-intensive sectors, the state needs to assist industry with its efforts to generate selective firms, or national champions, that can quickly build competitive advantages (Amsden, 1989; Johnson, 1982).

The Chinese version of the developmental state has been to support large state-owned enterprises (SOEs) in pillar industries. The state has been highly involved in these industries' evolution through the deployment of industrial policies; only the choice of pillar industries and the number of SOEs actively managed by the state vary. In 1999, the Chinese state chose the mobile phone industry as one of its pillar industries and kicked off a series of industrial policies to nurture national champions, including erecting protective walls, restricting foreign direct investment, limiting firm entry, and controlling production.³ By the end of 2003, the Chinese state had selected 24 SOEs as candidates for national champions and granted these candidates licenses—exclusive rights to produce and sell mobile phones in China. By using licenses as a means of negotiation, the Chinese state managed to facilitate technology

³ Following Document No. 5 (detailed in Footnote 2), the Fourth Plenary Session of the Ninth National People's Congress approved the 'Tenth Five-Year Plan' on March 15, 2001, which identified information industries as pillar industries—these include telecommunications, electronic informatics, and software. The mobile phone industry spanned telecommunications, electronic informatics, and software. The five-year plans were the master plans guiding Chinese economic development by a series of flagship initiatives targeting pillar industries in each period. The Tenth Five-Year Plan spanned 2001 to 2005.

transfer from foreign leaders to its national champions and created a window of opportunity for its national champions to catch up before protection walls were to be removed under China's accession to the World Trade Organization.

Jiang-hu (informal institutions)

The aim of Chinese industrial policy was to regulate the ways in which pillar industries were created and developed. In other words, it managed to shape the institutional path that Chinese industrialization was taking during market transition. However, other institutions were also at work, particularly the outsider *jiang-hu*⁴ that emerged from Chinese grassroots societies. In contrast to the state, which builds its legitimacy upon legality and social order, *jiang-hu* puts more emphasis on the grassroots, or BoP, and appeals to them with an alternative legitimacy accentuating fairness and justice (Ownby, 1996). As one of the extant ancient institutions in China, *jiang-hu* survived dynastic turnovers and revolutions, continuously absorbing what was excluded from the state. The absorption of dissidents was usually through a continuous and evolving process: from the formation of secret societies and the intrusion of these societies into formal societies, to the development of connections or *guanxi* networks to integrate them (Yu, 2006). Examples of these secret societies in contemporary China include the Tibetan government in exile as an opposition force (Houston and Wright, 2003), Falun Gong as an underground religion (Chang, 2004), and Hongmen as secret gangsters (Pan, 2011).

Jiang-hu granted dissidents pragmatic, moral, and cognitive forms of legitimacy (Suchman, 1995), each emerging from a different source and resting on a different behavioral logic. The secret society that formed the basis of *jiang-hu* helped unsanctioned actors garner pragmatic legitimacy through direct exchanges, mutual benefits, and other reciprocal relationships, while *jiang-hu* ethics helped unsanctioned actors increase their level of moral legitimacy by conforming to the values of grassroots, BoP consumers. The prevalence of counterfeits, for example, showed how unsanctioned actors managed to win

⁴ *Jiang-hu*—literally river (*jiang*) lake (*hu*)—originated from the Taoist book *Zhuang-zi* (ca. 300 BC), refers to the world of displaced persons who wander around rivers and lakes; it is extended in meaning as a way of life, a philosophy, or even an ideology followed by people who live outside of the realm of the state.

pragmatic and moral legitimacy by organizing informal value chains and appealing to the grassroots society with affordable products built on pirated technologies (Lin, 2011). Both types of legitimacy were embedded in an anarchic tradition that helped unsanctioned actors enhance their cognitive legitimacy by invoking the grassroots' distrust of the state and state policies.

At times, when institutional turbulence or institutional voids appeared, *jiang-hu* would arise to compete with the state to guide the direction of change. When there was a gap between what the state desired and what *jiang-hu* considered acceptable, conflict followed. Such a gap was particularly evident in the development of pillar industries, where the state intervened most proactively. Through strong intervention and regulation, the state confined the formal economy to a relatively small area in which only a handful of national champion candidates were allowed to participate. By so doing, the state was able to funnel scarce resources to the chosen firms and create monopoly rents for those firms to appropriate to nurture their capabilities. Excluding a large part of the economy from participation meant the state was also provoking dissent in the economy at large and generating sources of opposition. A large number of dissenters (including unchosen SOEs) qualified, but ineligible players in the private sector and unrecognized players from grassroots societies were thus expelled into the informal economy, where they sought *jiang-hu*'s support to break the state's control.

The state meets *jiang-hu*

The conflict between the state and *jiang-hu* made the informal economy a highly contested field, where the boundaries between formal and informal institutions were dynamic and shifted over time. The contestation mostly rested on market transactions that were illegal in the planned economy and, therefore, confined within informal institutional boundaries.⁵ During economic transition, these transactions were open to deregulation on their way to the market economy. However, rather than deregulating the

⁵ According to 'Several Instructions on Clamping Down Speculative Commercial Activities' promulgated by the Ministry of Trade in 1950, any individual conducting a for-profit business was considered to be committing the crime of 'speculative buying and selling,' which covered almost all types of market transactions, including trading, hoarding, speculation, and arbitrage.

informal sector in one stroke, the state adopted a gradual approach, targeting strategic market areas and favorable groups of actors. The state's aim was to maintain economic stability through selective yet discriminatory deregulation, in the words of Deng Xiaoping, the then-leader of China, 'letting a small part of population get rich first.'⁶ But the result was to exclude from participation a substantial number of areas and actors, mostly from grassroots societies.

Discriminatory deregulation justified the central state's efforts to control and occasionally purge the informal economy. At the same time, the political performance of local officials was evaluated by their area's economic growth rate, a system of 'GNPism' (Zweig, 2002) that created a powerful incentive to support local informal economy activities. The incongruence between China's national mission and the success of its local leaders led local officials to adopt an attitude of 'one eye open, one eye shut' (*The Economist*, 2011) toward illegal economic practices, thus providing more room for informal actors to grow their businesses, as well as to secure their legitimacy from *jiang-hu*.

Shan-zhai mobile phones

Shan-zhai mobile phones are among the best example of contestation from the informal economy. The Chinese mobile phone industry took off after 2000, with China becoming the world's largest mobile phone producer in 2002. From the state's point of view, this remarkable growth was a product of deliberate industrial policies designed and implemented by the state. The state erected protective walls, limited firm entry, controlled production, and cracked down on counterfeiters; as a result, some chosen SOEs succeeded at technological catch-up and became globally recognizable brand marketers. From *jiang-hu*'s point of view, however, China's telecom success was the product of a collective mobilization of informal actors who ignored, defied, and influenced state regulations to develop a new industry. Rising from the periphery, these actors started by selling counterfeit products in the black market; as they grew, intruding on value chains and penetrating emerging markets, they ultimately

⁶ This was from Deng's meeting with a delegation of CEOs from the U.S. organized by Time Inc. on October 23, 1985, as reported in the news of the Chinese Communist Party: <http://cpc.people.com.cn/BIG5/34136/2569304.html> (accessed 14 December 2013).

created a wholly new business model and earned a name of their own—*shan-zhai*.

It was estimated that in Shenzhen by 2008, 3,000 to 4,000 *shan-zhai* businesses had emerged, many with fewer than a dozen employees, operating in small apartments or basements of private homes but capable of organizing and competing with much larger firms (Farrar, 2009). These businesses collaborated across the entire value chain, from design and product solutions, sourcing, and manufacturing, to marketing and sales channels. Based on a shared belief in collaboration and competition, they allowed entrepreneurship and innovation to happen everywhere along the value chain. Small entrepreneurs who came up with novel product ideas, built new customer bases, or raised their first working capital could all trigger a new product cycle. They distributed costs as well as profits across the value chain and across a variety of niche products. As each small entrepreneur developed his/her own niche market, they collectively opened a vast range of niche markets based on different consumer preferences and product criteria.

Market disruption from *shan-zhai* mobile phones first appeared in tier-three and tier-four cities,⁷ where the market power of national champions was weakest. As the performance of *shan-zhai* mobile phones improved in terms of lower prices and wider variety, the disruption gradually moved up to tier-one and tier-two cities and threatened the market shares of China's national champions. In 2007, almost all of the national champions suffered declining sales and financial losses. The design, production, and marketing capabilities nurtured by *shan-zhai* enterprises were so strong that in October 2007, after eight years of negotiation and contestation, the Chinese state finally abandoned its license control on mobile phones, indirectly accepting the status quo of *shan-zhai* mobile phones. The next section will detail the microprocesses through which Chinese *shan-zhai* mobile phone participants acted as institutional entrepreneurs to bring about changes in their environment.

⁷ China's urban hierarchy is divided into tiers by population, but their size thresholds are rising with increased urbanization. The first four tiers by the latest criteria include: (1) tier one: extra-large cities with populations greater than 10 million, generally municipalities; (2) tier two: super-large cities with populations greater than five million, generally provincial capitals; (3) tier three: large cities with populations greater than one million, generally prefectural-level cities; and (4) middle-sized cities with populations greater than 500,000, generally county-level cities (NRDC, 2013).

STRATEGIES OF SHAN-ZHAI MOBILE PHONES

In considering the legitimization and formalization of *shan-zhai* mobile phones, we identified three strategies—framing, aggregating, and bridging—that Chinese entrepreneurs employed to spur collective actions for contesting the state. To discuss the relation of each strategy to contestation, we develop a narrative by selecting the most representative items from what these entrepreneurs actually said and did. Table 1 summarizes the narrative. We follow the story lines highlighted in this table to show how these strategies were deployed in their real-world context.

Framing

At the outset, unlicensed mobile phones were denigrated as 'black' mobile phones because of their illegal status and poor quality. Vendors of these phones often kept a low profile and sold black mobile phones secretly. As black market activities expanded, however, it became increasingly impossible for these vendors to sell their products without attracting state attention. Facing an imminent state purge, black market vendors were caught between two options: to hide better and flee faster or to join the camp of national champions.

A third option emerged when a group of vendors at Shenzhen set out to change the negative image of black mobile phones and justify their business. Their first attempt was to find a justification—a better name or 'a shared understanding of categorical identity' (Khaire and Wadhvani, 2010: 1283)—for their business. Inspired by the story of *Shui-Hu*,⁸ they called their factories *shan-zhai*, the mountain fortress where grassroots heroes built their revolutionary stronghold. The use of *shan-zhai* made a perfect match between black market entrepreneurs and *Shui-Hu* heroes: they both came from the grassroots, born without the state's blessing, and were entrepreneurial in the ways they contested the state to create new worlds. Both responded to a situation in which there was a huge gap between the state's desire and society's expectations.

⁸ *The Story of Shui-Hu*, also known as *Water Margin*, is one of the four great novels in Chinese literature. It is based on the story of the historical outlaw Song Jiang and his companions during the Song dynasty (AD 960 to 1279) and recounts the aggregation of 108 rebellious heroes in a *shan-zhai* (mountain fortress) to contest the dynasty.

Table 1. Strategies used by the Chinese *shan-zhai* mobile phones

Framing	<p>Renaming: Illegal vendors at Shenzhen changed the name of ‘black’ mobile phones to ‘<i>shan-zhai</i>.’</p> <p>Articulation: Ming-Kai Tsai, the CEO of Mediatek, promoted the slogan ‘Today’s <i>shan-zhai</i> (will be) tomorrow’s dominant design.’ Kai-Li Kan, a university professor, linked <i>shan-zhai</i> to indigenous innovation.</p> <p>Dissemination: Netease, a portal headquartered in the Shenzhen region, set up a forum to advocate <i>shan-zhai</i>. A-Gan, an engineer working in Shenzhen, wrote the hit book <i>Shan-zhai Revolution</i>. CCTV, China’s state-owned broadcaster, aired a special TV program about <i>shan-zhai</i>.</p>
Aggregating	<p>Convergence: Chaozhouese converged at Huaqiang North Street in Shenzhen. Real estate developers built Huaqiang North Street into a <i>shan-zhai</i> stronghold.</p> <p>Value chain formation: Division of labor appeared among <i>shan-zhai</i> participants, including vendors, integrators, industrial designers, suppliers, and producers.</p> <p>Cluster building: Huaqiang North Street became <i>shan-zhai</i>’s marketplace, while the eastern and western suburbs of Shenzhen became <i>shan-zhai</i>’s production and design centers, respectively.</p>
Bridging	<p>Outside marketers: <i>Sheng-bao</i> (provincial wholesaler) linked <i>shan-zhai</i> bosses and low-end marketers to promote clone phones.</p> <p>Technological partners: Taiwanese trade agent linked Tian-yu (<i>shan-zhai</i>’s key vendor) and Mediatek (<i>shan-zhai</i>’s key supplier) to develop total solution chipsets.</p> <p>Political linkages: <i>Shan-zhai</i> vendors took advantage of interest conflicts between SARFT (the State Administration for Radio, Film, and Television) and MIIT (the Ministry of Industry and Information Technology) to develop the TV mobile phone. Association of Mobile Communications at Shenzhen changed local government’s attitude toward <i>shan-zhai</i>.</p>

This new frame gave unlicensed or ‘black’ mobile phones an image and meaning beyond illegality and inferiority. First, *shan-zhai* inherited the spirit of *Shui-Hu* heroes, which was a call for the grassroots to rise up against injustice of the government, dating back to China’s imperial days. This spirit prevailed especially during the Cultural Revolution when Mao Ze-Dong, then the leader of China, promoted *Shui-Hu* for its resistance, its anti-authoritarianism, and its refusal to surrender (Dong, 2005). Second, *shan-zhai* reflected the adaptability and creativity of the grassroots in confronting challenges and opportunities. In exploring new business opportunities, *shan-zhai* entrepreneurs were willing to take chances on many possible ideas. If an idea worked, they replicated it right away; if it did not, they abandoned it and tried another. The conflicts between the state and *jiang-hu* were a major contributor to *shan-zhai*’s jus-

tification. Despite being illegal, these conflicts provided room for reinterpretation and helped *shan-zhai* entrepreneurs win popular support for their new venture.

However, framing is a continuous process. Once started, it needs to expand beyond its original context to seek support from a wider audience. This involves screening an audience’s relevant experiences to find areas of alignment with the proposed framing. Successful alignment generates resonance, which transmits the sense of relevance to a still-wider audience which, in turn, induces more alignment as well as more resonance. Therefore, as framing proceeds, there will be more resonance between the new venture and society at large.

In *shan-zhai*’s case, framing appeared to move from the defensive justification of the new venture toward the generalization of broader phenomena. The

original framing was to justify the illegality of the black market, but as framing proceeded, *shan-zhai* began to deliver more meanings, as well as justifications, than it originally conceived. Ming-Kai Tsai, the CEO of Mediatek, the key supplier of *shan-zhai* mobile phones, promoted the slogan 'Today's *shan-zhai* (will be) tomorrow's dominant design' (Tsai, 2009).⁹ He predicted that *shan-zhai* would eventually replace all the high-end products in the current market—the same had already happened in many other cases of disruptive innovation, such as when personal computers replaced minicomputers and mainframes—because *shan-zhai* was introducing new products, new markets, and new organizations, effectively rewriting the rules of the game in its industry. This slogan allowed some of *shan-zhai*'s illegal behaviors, such as unlicensed operation and piracy, to be portrayed as necessary evils for disruptors to survive in an unfavorable environment and also to legitimize *shan-zhai*'s intrusion into the territories of national champions and foreign mobile leaders.

Scholars who were sympathetic toward *shan-zhai*, meanwhile, linked *shan-zhai* to indigenous innovation,¹⁰ an imperative for the central government with the mission to promote China-based, China-owned innovation. Kai-Li Kan, a professor from Beijing University of Posts and Communications, was among the first to frame *shan-zhai* as 'grassroots' innovation based on the collective ingenuity of the grassroots—a message that ran counter to the state's focus on heroic breakthroughs from the scientific-technological elite (Yen and Hu, 2008). The salient feature of *shan-zhai*, he argued, was not its low cost, but its capability to innovatively and profitably serve low-income people, the so-called BoP (Prahalad, 2005). *Shan-zhai* mobile phones were usually sold at a fraction of the prices charged in the formal economy, and they could be customized to economically disadvantaged people in the countryside in even the smallest batch. Such innovation was essentially more 'indigenous' and benefitted the wider society.

⁹ From Ming-Kai Tsai's speech on 'Taiwan Technology and Beyond Conference,' held by Merrill Lynch and Taiwan Stock Exchange on March 21, 2009, Taipei.

¹⁰ Indigenous innovation was first addressed in 2007 at the National Congress of the Communist Party of China. The Congress, held every five years, is the nation's most significant political event because it nominally decides the leadership of the People's Republic of China. The 2007 Congress said promoting indigenous innovation would be among the highest priorities for national development strategies in 2008 to 2020. As such, it acts as an overarching principle that guides the action plans of ministries and governments at all levels.

These framing actions were then disseminated through communications media to appeal to the general public. NetEase, a portal headquartered in the Shenzhen region, for example, was among the first Web broadcasters that advocated *shan-zhai*. In 2007, it set up a forum to facilitate the discussion of *shan-zhai* mobile phones, attracting about 4,000 bloggers to post or follow up with comments.¹¹ The grassroots nature of *shan-zhai* fit perfectly with the Internet. Freelance writers, amateur reporters, or bloggers who were interested in writing *shan-zhai* stories found it relatively easy to investigate, understand, and interpret *shan-zhai* from their own perspectives as well as to get their stories posted, circulated, and reverberated on the Internet. The book *Shan-zhai Revolution* (2009) by the blogger A-Gan, an engineer working in Shenzhen, stirred up a furious cyberspace debate about whether *shan-zhai* was a destructive sabotage or a constructive revolution, drawing attention from intellectuals as well as policymakers. A-Gan first disseminated the content of his book through his blog, which then was posted and forwarded in discussion groups and columns in cyberspace and was finally published in book form, becoming one of the year's bestsellers. The most striking case of media support was from CCTV, China's state-owned broadcaster, which in 2008 broadcast a special report (CCTV, 2008) heralding the fact that *shan-zhai*'s domestic sales and exports had caught up with those of the national champions—a remarkable achievement made by anonymous actors. The broadcast could be interpreted as both an endorsement from the Chinese central state and as a successful framing action accomplished by *shan-zhai*.

To summarize, renaming, articulation and dissemination work together to facilitate framing, so as to enable Chinese *shan-zhai* entrepreneurs to develop, grow, and interact with the state. Renaming 'black' mobile phones '*shan-zhai*' helped illegal vendors justify their business. As this justification was articulated by sympathetic advocates and disseminated by the media, these vendors enhanced the public image of their business to the point that it was normalized in the eyes of the public. In other words, framing offered explanations and justification, with which *shan-zhai* entrepreneurs appealed first to their community, then to the public, and finally to the state.

¹¹ For more details, please see <http://tech.163.com/mobile/special/0011271M/hmfx.html> (accessed 26 June 2011).

Aggregating

The aggregating of *shan-zhai* began with a group of informal entrepreneurs, mostly coming from Chaozhou.¹² The underground or informal mobile phone sector was originally created by outliers who had difficulty accessing the formal economy because they lacked licenses and linkages to national champions. In contrast to the national champions, who occupied the best location in the formal economy, these outliers had to strive for a foothold in an environment that did not recognize their existence. They had to form alliances with other outliers, pool resources on their own, and nimbly change locations and operating times to avoid state purges. These purges were usually initiated by the central government and executed by local governments, ranging from small-scale spot check to large-scale wiping out and confiscation.¹³

The Chaozhouese chose Huaqiang North Street at Shenzhen, the largest electronics marketplace in the world, as their operations base to sell counterfeits and clones when mobile phones were emerging. Because of judicious timing, many of them made a fortune and their stories were soon circulated among their ethnic group. More Chaozhouese then flocked to Huaqiang North Street, gradually filling the whole block. In the Mingtung Digital Mall, a *shan-zhai* stronghold, it was estimated that 70 to 80 percent of the vendors were Chaozhouese (CJYCjiemi, 2012).

The convergence of the Chaozhouese in Huaqiang North Street was important to the aggregation of *shan-zhai*, particularly in the initial stage. The collective identity of Chaozhouese helped attract and mobilize sufficient actors and resources to carve a new territory and build a stronghold for *shan-zhai*. This stronghold was both the backdrop against which social events unfolded and the source of resources on which social events drew. This stronghold also contributed to the generation of agglom-

eration economies (Marshall, 1920), including the pooling of skilled labor or talents, the sharing of specialized goods and services, and the diffusion of knowledge and ideas. Agglomeration economies allowed the Chaozhouese to call more easily on their comrades, collect necessary resources, and circulate ideas because geographical proximity lowered the cost and increased the efficiency of collective mobilization. This proximity was particularly important for informal actors, who had low legitimacy and few resources.

As the *shan-zhai* camp grew, a division of labor appeared among its participants. Rather than selling whole sets of mobile phone, some began to specialize in certain segments of *shan-zhai* value chains. They together transformed Huaqiang North Street into *shan-zhai*'s one-stop shopping center, providing choices ranging from whole sets to parts, components, and accessories, to a variety of services such as printing, carving, and after-sales services and maintenance. By 2008, one three-block strip along Huaqiang North Street held at least five of these malls (SEG, Mingtung, Longsheng, Yuanwang, and Sunda), each comprised of five or six flats. Together they were capable of accommodating thousands of stalls and tens of thousands of vendors.

The deepening division of labor and the increasing complexity of the sector created opportunities for entrepreneurship in interstices of the value chain. By dividing existing segments and specializing in subsegments, entrepreneurs could always find niches to start their own businesses. Industrial design, for example, was formerly integrated in design houses and now increasingly became an independent segment. However, the increasing complexity of mobile phone functions spurred calls for integration. Some engineers, particularly those with design and manufacturing backgrounds, were becoming integrators. They worked as project managers presiding over the entire value chain: initiating product plans, generating concept design ideas, coordinating product design and manufacturing, and organizing marketing and sales channels.

All of these participants were aggregating resources to build Shenzhen a *shan-zhai* cluster. Among these builders, the most resourceful were real estate investors who constructed buildings to catch up with the speed of fast-growing *shan-zhai* businesses. Jianhua Lin, the founder of the Mingtung Digital Mall, is an excellent example. In 2005, he bought a poorly running department store and renovated it into a *shan-zhai* mall. Within three years, he

¹² Chaozhou refers to the linguistic and cultural region in the east coast of Guangdong. This region, origin of the dialect Chaozhou, is renowned for entrepreneurship and cohesiveness. Popular slang references to the Chaozhouese include 'rather starve than work for others' and 'where there are tides (opportunities) there are Chaozhouese,' implying that Chaozhouese are born entrepreneurs.

¹³ It is worth noting here that, due to the complicity of local officials, informal entrepreneurs were often informed before state purges were executed. In order not to be caught, they either changed their location or shut down their business temporarily; by so doing, they retained the marketplace and stayed in business.

had bought the adjacent building and combined the two to accommodate more than 6,000 stalls.

The real architects behind the cluster, however, were the numerous *shan-zhai* bosses who ran all manners of *shan-zhai* business, from cloning newly released Nokia products to developing a feature phone with 25 speakers. These bosses bore all forms of uncertainty, including the risks of bearing bad debts and of being purged by the state. As employers and examples, they were continuously attracting to Shenzhen people of their kind: the most entrepreneurial and adventurous of the younger generation from all over China. As explained by one *shan-zhai* boss,¹⁴ *shan-zhai* communities considered those older than 30 to be 'too old:' by that age, those bound for success had either become bosses or moved on, and laggards had been let go. These bosses also facilitated knowledge spillovers through their dense social networks, in which ideas were initiated, produced, and replicated within a few months and sometimes even a few weeks. This lowered the cost of developing a new product or starting a new firm which, in turn, helped make more *shan-zhai* bosses and attracted more followers.

In the end, *shan-zhai*'s aggregation appeared to move from the erection of a temporary marketplace toward the development of a full-fledged cluster. Huaqiang North Street, which was originally a marketplace for selling electronics products, increasingly became a *shan-zhai* stronghold spanning several blocks filled up with *shan-zhai* roadside stands, shopping malls, and office buildings. The peripheries of Shenzhen, particularly its eastern and western suburbs, were also transformed into *shan-zhai* production and design centers. Different types of actors aggregated in different areas at Shenzhen, such as *shan-zhai* bosses and marketers at the Huaqiang North Street, *shan-zhai* design houses at the eastern suburb, and *shan-zhai* suppliers and contract manufacturers at the western suburb. They together built a *shan-zhai* cluster within Shenzhen, growing side by side with the original cluster.

To summarize, convergence, value chain formation, and cluster building work together to facilitate aggregating, so as to enable Chinese *shan-zhai* entrepreneurs to initiate, assemble, and advance collective actions. Convergence of the Chaozhouese attracted the first group of *shan-zhai* entrepreneurs, while value chain formation invited more followers;

together they built Shenzhen into a *shan-zhai* cluster. Overall, aggregating accrued a critical mass for collective mobilization which, in turn, sparked quasi-autonomous processes of accumulation that gave collective mobilization a self-reinforcing momentum.

Bridging

The bridging of *shan-zhai* appeared when *shan-zhai* entrepreneurs began to seek resources from outside in supporting their framing actions or fueling their aggregating projects. Collective mobilization in a given context, however successful, has its limitations. Local markets might be saturated very soon. 'Localized capabilities' (Gordon and McCann, 2000; Maskell *et al.*, 1998) that enable embedded actors to continuously combine and recombine resources to generate new ideas and innovations run the risk of stagnating. Over time, embeddedness might become a disadvantage when embedded actors become locked-in within densely connected local networks. To overcome this limitation, a group of intermediaries, called '*sheng-bao*' (literally, provincial wholesaler), emerged to reach across Shenzhen and their home provinces to link *shan-zhai* bosses with numerous, dispersed retailers-cum-marketers. They served both as purchasing agents for outside marketers and as sales representatives for *shan-zhai* bosses by pooling market demand from the former and distributing product information for the latter. Through *sheng-bao*'s bridging efforts, *shan-zhai* entrepreneurs were able to introduce new product types in which outside marketers saw market potential and profit opportunities.

The 'clone phone,' for example, was the outcome of a bridging effort made by *sheng-bao*. It was designed to clone market leaders' newly released products and push the clones to market while the new release was still being promoted, a process dubbed 'following the wind,' meaning to free ride marketing campaigns (the wind) made by global brand marketers.¹⁵ By cloning, *shan-zhai* entrepreneurs were able to offer almost the same product at a fraction of its original price, and by following the wind, *shan-zhai* marketers were able to lure consumers who desired but could not afford the original. Samsung's W629 was a good example. Samsung released this new type of mobile phone in late 2007 and it hit the market rapidly. It took only several

¹⁴ From No. 28 in Appendix.

¹⁵ From No. 31 in Appendix.

months for *shan-zhai* entrepreneurs to launch a clone at one-tenth the price of the original; it was just a few more months until the market hype faded and *shan-zhai* entrepreneurs reached a sales volume of two millions sets.

The role of *sheng-bao* was to arbitrage regional differences by building linkages between *shan-zhai* bosses and outside marketers. The critical ability for *sheng-bao* was not only to reduce the cognitive distance between *shan-zhai* bosses and outside marketers, but to translate their capabilities and resources as well as benefits and opportunities for cooperation to each other. Such translation often started with linkages with short cognitive distances, in which both ends of a linkage had much to share in their languages and symbols as well as in their codes of conduct. A low cognitive barrier made translation easy and more likely to succeed. However, as the contestation of *shan-zhai* proceeded, the cognitive distance increased, as did the sophistication of translation. Early bridging like *sheng-bao* usually works in the business circle where partners on both ends of a linkage share the same jargon, gossip, and references. The cognitive distance in such circumstance mainly derives from geographical differences in markets and customers. Late bridging has to look beyond the business circle to seek liaison opportunities from other circles. It has to translate interests from other circles into business opportunities and make strategic alliances that favor both parties.

In *shan-zhai*'s case, bridging expanded from the more homogeneous business circle to more heterogeneous outer circles. The bridging with the technological circle was one example, accomplished mainly through design houses and trade agents who travelled back and forth to help *shan-zhai* bosses and outside suppliers find suitable technological partners. The match of Tian-yu, 'King of *Shan-zhai*' (Tseng, 2009), and Mediatek, 'Godfather of *Shan-zhai*' (Fang, 2008), was the outcome of a bridging effort by a Taiwanese trade agent, WPG Holdings.¹⁶ Through the bridging of this trade agent, Tian-yu and Mediatek were able to strategically ally to bring out a variety of *shan-zhai* product innovations. Like any other *shan-zhai* vendor, Tian-yu was looking for simpler product solutions than what were available from Europe, the U.S., or South Korea. For Tian-yu and others, illegal as well as legal, the key to developing a new type of mobile phone was to integrate a lot of chips, software, and hardware, and then solve

any problems between them. The number of interfaces could easily exceed several hundred, which made product development not only time consuming, but also costly. Mediatek, a Taiwanese chip design firm from the DVD player industry, was the first to provide a solution that promised to solve interface problems once and for all. It integrated several chips into a chipset and bundled software and hardware solutions with the chip. Product developers needed only to follow Mediatek's recipe to 'cook' a variety of new mobile phones, eliminating the need to select and test numerous software applications, hardware parts, and components. The collaboration of Tian-yu and Mediatek appeared to be mutually beneficial: on the one hand, it helped Tian-yu make product development quicker and cheaper and, on the other hand, it provided Mediatek with valuable testing data to improve and upgrade its chipset faster than its rivals.

The bridging with the political circle was more complicated, as seen in the example of the TV mobile phone. Developing the TV mobile phone in China required collaboration between two ministries: the State Administration for Radio, Film, and Television (SARFT) that presides over TV broadcasting networks, and the Ministry of Industry and Information Technology (MIIT) that supervises mobile phone networks. However, the planned economy left a legacy of parallel hierarchies of command and control that segregated the state into columns (ministries) and rows (levels of government). On the one hand, the segregation impeded horizontal and vertical coordination and integration but, on the other hand, it promoted the formation of interest groups around columns and rows, with conflicts of interests between them (Townsend and Womack, 1986). SARFT was the first to build a mobile TV broadcasting system that covered all major cities in China. However, instead of adopting this network, MIIT developed its own network and requested that all mobile phone operators run on it, even though it was not ready.¹⁷ The ministries jockeying for power led the TV mobile phone to a dead end—with two supposed mobile TV broadcasting networks (based on two different standards) but no mobile phone users able to receive and watch them. *Shan-zhai* entrepreneurs saw this opportunity and developed a 'workable' TV mobile phone by integrating SARFT's broadcasting network and MIIT's

¹⁶ From No. 21 in Appendix.

¹⁷ From No. 20 in Appendix.

mobile phone network.¹⁸ They introduced their products during the Beijing Olympic Games and were overwhelmingly successful in the market. They also won support from SARFT because they helped SARFT win its competition with MIIT.

Overall, the bridging of *shan-zhai* increased in scale and scope and involved more complicated and sophisticated tasks. The Association of Mobile Communications at Shenzhen, for example, was a bridging that involved image building, agenda setting, and lobbying. This association was a spontaneously organized association formed by *shan-zhai* entrepreneurs and their supporters. It strived to differentiate *shan-zhai* from other illegal products that were low in quality and harmful to users and to persuade local governments to direct state purge programs toward the latter. Through the bridging effort of this association, the city government made a rapid, 180-degree turn on its attitude toward *shan-zhai*, changing from a suppresser that implemented central government purge programs to eradicate *shan-zhai* mobile phones and their production sites to a supporter that justified and legitimized *shan-zhai* as one of the major contributors to local economic development. The change in the attitude of the city government was especially apparent when Shenzhen's exports plummeted during the financial crisis of 2008. In the view of the city government, *shan-zhai* helped diversify Shenzhen's export-oriented economy that had depended too much on the U.S. By diverting exports to other parts of China and other parts of the world, particularly to emerging markets, *shan-zhai* offered an alternative development model for sustaining Shenzhen's export momentum.

To summarize, the Chinese *shan-zhai* entrepreneurs bridged disparate groups of actors to introduce

new resources, ideas, and technologies that extended beyond their ethnic community and local industry. Bridging outside marketers helped *shan-zhai* entrepreneurs tap outside markets, while bridging technological partners opened *shan-zhai* entrepreneurs to outside product solutions; leveraging political linkages to the central and local governments allowed *shan-zhai* entrepreneurs to look for opportunities beyond the business circle. Together, these external connections spurred *shan-zhai* entrepreneurs to unlock path dependence and overcome resource constraints.

DISCUSSION AND CONCLUSION

Our objective in this study was to examine how Chinese *shan-zhai* mobile phone entrepreneurs emerged, grew, and pursued opportunities beyond their informal community. To the best of our knowledge, our study is the first of its kind to explore the *shan-zhai* phenomenon, now spreading commonly in (and sporadically outside of) China. The case of Chinese *shan-zhai* mobile phones was a successful attempt to gain formalization for informal activities in spite of a set of severe institutional and resource constraints.

We show that Chinese informal entrepreneurs adopted a strategic approach to contest political pressures, increased their level and scope of legitimacy, and thereby formalized their economic activities. Three kinds of strategic actions were emphasized: framing, aggregating, and bridging. Chinese informal entrepreneurs renamed and redefined their products through linguistic framing to earn trust and credibility. They relied on aggregating with other partners to build a unified industrial momentum. Bridging enabled them to network with other actors outside the immediate industry to introduce innovation and resources. We show how different kinds of strategy occurred in parallel to enable change. These strategies differ in the ways they target resources and legitimacy. They can be complementary, as well. For example, aggregating and bridging require informal entrepreneurs to frame their businesses to motivate the potential participants and audiences (Benford and Snow, 2000; Fligstein, 1997). Framing and aggregating need bridging to overcome structural inertia when entrepreneurs become locked-in within redundant frame systems and social networks (Greenwood and Suddaby, 2006; Purdy and Gray, 2009). Together, these three

¹⁸ According to a professor at Tsinghua University who led a national project on mobile TV (No. 17 in Appendix), two reasons can explain why it was *shan-zhai* and not others that pushed the TV mobile phone to market. First, MIIT required the TV mobile phone to run on the 3G network, which was not ready until 2011. Second, the jockeying between SARFT and MIIT made the price of a TV mobile phone unreasonably high. Licensed makers had to develop the TV mobile phone with two standards and pay licensing fees to both standard owners, which increased the price by \$100 per phone. On the contrary, *shan-zhai* makers could run on the 2G network and choose one standard without paying any licensing fee (by pirating). Besides, to promote its network, SARFT did not charge any subscription fee before 2009. This, in turn, opened a window of opportunity for unlicensed makers like *shan-zhai* who could sell their products to end users directly.

processes enabled the Chinese *shan-zhai* entrepreneurs with humble origins and limited resources to increase their legitimacy and thereby attain a legal status.

Informal ventures in transition

Our study adds to work on the informal economy by addressing how informal entrepreneurs pursued the transition to the formal economy. We consider the type of informal economy occurring outside formal institutional boundaries but within informal institutional boundaries, as delineated by Webb *et al.* (2009). Entrepreneurs in this type of informal economy might use illegal means to pursue illegal ends, but both their means and ends must be legitimate in the sense that they must be accepted by large groups in society. In China, *jiang-hu* drew a line that separated the informal economy like *shan-zhai* from the renegade economy like arms trafficking or prostitution. Therefore, despite violating license control, evading taxes, and infringing on copyrights, *shan-zhai* was able to gain legitimacy from *jiang-hu* via its emphasis on fairness and justice (of BoP). Informal institutions as sources of legitimacy and the importance of legitimacy in entrepreneurship in the informal economy have been highlighted in prior research (Bruton, Ireland, and Ketchen, 2012; Webb *et al.*, 2009; Webb *et al.*, 2013), particularly in terms of how legitimacy provides opportunities to be exploited, and the mechanisms through which informal entrepreneurs overcome operating outside formal institutional boundaries. Building upon this research, our study further explores the transition of the informal economy to show how informal entrepreneurs increased their level of legitimacy and, thereby, made their transition to the formal economy.

It is important, nevertheless, to recognize that legitimization in the informal economy has its limits. The informal economy simultaneously encompasses aggressive entrepreneurs and defenseless consumers, celebrated innovation and notorious piracy, creative liberation and destructive sabotage; above all, it may infringe on socially accepted norms, values, and beliefs (Castells and Portes, 1989). At one end, it is informal institutions that set a moral 'bottom line' for illegal practices, and at another, it is formal institutions that continuously assimilate and coopt legitimate practices. Therefore, legitimization is to be caught within a limited operating space bordered by informal and formal institutions. In *shan-zhai*'s case, it seems that *shan-zhai* was losing its distinctiveness

(and also attractiveness) once it got formalized. Without the symbolic power and the status associated with contestation, *shan-zhai* was becoming no more than a substitute for low-end products in the white market. It is not surprising then that *shan-zhai*'s disruption (or disruption from the informal economy in general) did not make as big an impact as those from the formal economy.

The limits on legitimization add some nuances to research on the transition of the informal economy, particularly in moral terms. First, among the three types of legitimacy identified by Suchman (1995), it is obvious that increasing moral legitimacy is more complicated in the informal economy than in the formal economy. It is not only a matter of the quantity of moral legitimacy gained, but also of the nature and quality of that legitimacy, because there is a gap in moral values between formal and informal economies supported by formal and informal institutions, respectively (Epstein, 1994). In *shan-zhai*'s case, the enhancement of moral legitimacy seemed to follow an evolutionary process, from complying with the moral values of marginal social groups such as poorer workers and peasants to those of mainstream social groups such as governmental officers and the elite. In other words, it is a 'moralizing' (Rosenblum, 1994) process that changes the social meaning of morality of *shan-zhai* from what is right for the BoP alone (affordability) to what is right for the general public (indigenous innovation). Over time, the latter may overwrite the former and become widely accepted by the general public, as happened with *shan-zhai*.

Second, acquiring moral legitimacy is more controversial in the informal economy. No one advocates immoral over moral activities, but morality is defined differently by diverse social groups or in diverse cultural contexts (Harrison, 2000). The discrepancy in the social meanings of morality sometimes makes it difficult to tell right from wrong in the informal economy and may give rise to the dark side of the informal economy. In *shan-zhai*'s case, the dark side included smuggling, counterfeiting, pirating, evading taxes, and manufacturing harmful products, which was tolerated by the BoP, but deviated from the moral values of society at large in China and globally. This deviation might set a limit on how much society can tolerate the informal economy and how far legitimization of the informal economy can proceed. While *shan-zhai* activities did not exceed the moral 'bottom line' set by *jiang-hu*, *shan-zhai* might undermine its own success as it moves

forward in the formal economy, particularly when *shan-zhai* goes global.

Institutional entrepreneurs and their strategies

In many respects, our analysis of how Chinese *shan-zhai* entrepreneurs pursued transition and changed state policy is very consistent with other work on institutional entrepreneurship concerned with the process of how actors change institutions (Garud, Hardy, and Maguire, 2007; Hardy and Maguire, 2008). In terms of comparison and application, the Chinese *shan-zhai* mobile phone sector was characterized by a 'highly institutionalized, fragmented field,' in which embedded agency was 'distributed' across a network of nascent entrepreneurial actors (Battilana *et al.*, 2009). The sector was institutionalized to the extent that its industrial policy was manifestly regulated and competitors were strong and blessed by the state. Although the sector was highly institutionalized, it grew out of a fragmented national system that has historically separated formal institutions governed by the state from informal institutions governed by *jiang-hu*. Agency and its power to make change, from time to time, tend to be distributed among disparate groups of informal entrepreneurs whose dispersed actions accumulate over time to create the conditions necessary for a policy shift to occur. Our analysis of the three strategies—framing, aggregating and bridging—are generally consistent with other work on the mechanisms of institutional entrepreneurship (Battilana *et al.*, 2009; Pacheco *et al.*, 2010).

There are two distinct insights from our findings that deserve particular mention. First, we offer a novel perspective on conditions that may be exploited by institutional entrepreneurs seeking change and innovation. We emphasize institutional conflicts and ambiguities as a source of concern for strategic responses to institutional pressures. In our case study, conflicts often arise not only from the disagreement between the state and the society at large, but also from different ministries and different levels of government. These conflicts create ambiguities which, on the one hand, undermine legitimacy from the state but, on the other hand, provide alternative ways for institutional entrepreneurs to legitimize their otherwise illegal ventures. To take advantage of institutional conflicts, for example, informal mobile phone entrepreneurs in China framed their ventures in terms of *shan-zhai* and indigenous innovation to win societal support; they made informal strategic

alliances with ministerial agencies to develop products; they sought support from the Shenzhen city government to build a cluster. Our analysis confirms the insight from institutional entrepreneurship that institutional conflicts provide a source of embedded agency (Jarzabkowski, Matthiesen, and Van de Ven, 2009; Marquis and Lounsbury, 2007; Seo and Creed, 2002). A central tenet of our findings, however, is that the state created these conflicts when it imposed constraints on entrepreneurs while at the same time opening a pathway for actors to seek agency. In other words, we identified the Chinese government, with its insistence on defining the industry and choosing national champions, as the primary reason why Chinese *shan-zhai* players formed a desire to be formalized and were then driven to become institutional entrepreneurs.

Second, we identified three distinct phases of actions—framing, aggregating, and bridging—that informal entrepreneurs pursued during their transition to the formal economy. We highlight how these strategies unfolded over time, a point that is understudied in the literature. We show that, in general, Chinese entrepreneurs began their framing activities by co-opting the name of a culturally shared and supported category, *shan-zhai*. They then articulated their activities as being disruptive and indigenous innovation and disseminated stories to widen these perceptions in the industry and in society at large. In terms of aggregating, we find the informal economy actors converged at Huaqiang North Street in Shenzhen during their early years and once a stronghold was built, they moved to form an integrated value chain, leading eventually to a successful industrial cluster. For bridging, the Chinese entrepreneurs extended their networks of connection from intermediaries of various kinds to the Taiwanese firms and political actors.

Overall, then, our account of Chinese *shan-zhai* mobile phones shows that certain strategies for institutionalization are liable to shift actors' focus from the particular (product description, ethnic convergence, and inner circles) to the general (wide publicity, cluster building, and external circles). In contrast, Navis and Glynn (2010) argued in their analysis of the U.S. satellite radios that institutionalizing a new sector likely shifts actors' attention from the collective whole to the differentiation of firms within that whole—from a general context to an individual one. While Navis and Glynn's research (2010) obviously concerns formal economic activity, our study addresses the transition of informal

economy ventures. Thus, the contrast between formal and informal economic activities may help explain why actors in U.S. satellite radio increasingly narrowed the scope of their attention while Chinese *shan-zhai* mobile phone entrepreneurs did exactly the opposite. Once stabilized and widely accepted, the creation of the U.S. satellite industry enabled economic actors to focus on individual differentiation as a source of competitive advantage, without the threat of an illegitimacy discount. In contrast, where particularization is likely to trigger attention and enforcement actions, the move toward a generalized context is especially important for informal entrepreneurs who might want to deemphasize their self-image and emphasize instead the collective attributes and areas of alignment with the environment and with society as a whole. As a German proverb says: ‘the tallest blade of grass is the first to be cut by the scythe.’ Further research is needed to verify our speculations and explore in more detail the difference between formal and informal economies as they relate to informal entrepreneurs’ strategies for building legitimacy and pursuing transition.

Final words

Our analysis is subject to the limits of a single case study. The setting of *shan-zhai* mobile phones includes a number of unique features, including strict government regulation due to licensing and industrial policy, the prevalence of underground economy activities in response to government regulation, market volatility created by product and technological changes, and the agglomeration of institutional entrepreneurs in a specific region. Even so, studying Chinese *shan-zhai* mobile phones offers advantages that enhance the generalizability of our findings in other informal economy settings in China and perhaps in other developing and transitioning economies as well.

First, because of *shan-zhai*’s rapid growth, we were able to observe it changing from its inception to its maturity as a new industry. Second, the processes and underlying strategies we observed are ‘natural experiments’ happening in a real-world context that may be generalized with a high degree of confidence when aspects of legitimacy building involve the growth and transition of informal economy ventures. Other examples in contemporary China might include town and village enterprises in southern Jiangsu in the 1980s, informal computer vendors at

Beijing’s Zhongguancun in the 1990s, and private finance in Wenzhou during late 2000s and early 2010s. These sectors were common in that they competed with state-sanctioned actors in fast-emerging markets where technology volatilities and institutional voids provided room for the development of the informal economy, but they differed in their origin and entry timing that prescribed their resource base, their political constraints, their opportunities for mobilization, and sometimes even their fate.¹⁹

So far, we have known very little about the actual strategic and managerial activity involved in the formalization of the informal economy in China—a phenomenon both theoretically complex to explain and empirically hard to access. Our study offered important new insights by analyzing how *shan-zhai* mobile-phone entrepreneurs took action to overcome institutional barriers in China and pursue transition to the formal economy. We hope that future research will explore how these processes play out in other economic sectors in China, as well as in other countries, to develop a more complete picture of grassroots entrepreneurship in the shadow of state control.

REFERENCES

- A-Gan. 2009. *Shan-zhai Revolution (Shan-zhai Ge Ming)*. China Citic Press: Beijing, China.
- Aldrich HE, Fiol CM. 1994. Fools rush in? The institutional context of industry creation. *Academy of Management Review* 19(4): 645–670.
- Amsden AH. 1989. *Asia’s Next Giant: South Korea and Late Industrialization*. Oxford University Press: New York.
- Arthur WB. 1994. *Increasing Returns and Path Dependence in the Economy*. University of Michigan Press: Ann Arbor, MI.
- Barboza D. 2009. In China, knockoff cellphones are a hit. *New York Times*, 27 April. Available at: http://www.nytimes.com/2009/04/28/technology/28cell.html?_r=0 (accessed 20 April 2013).
- Battilana J, Leca B, Boxenbaum E. 2009. How actors change institutions: towards a theory of institutional entrepreneurship. *Academy of Management Annals* 3(1): 65–107.

¹⁹ Informal computer vendors at Zhongguancun, for example, were largely scientists and engineers from prestigious universities and research institutes. They began with smuggling and assembly in an informal marketplace like *shan-zhai*, but ended up becoming a showcase for China’s high-technology industries. Several of them, including Lenovo, later became national champions.

- Beckert J. 1999. Agency, entrepreneurs, and institutional change: the role of strategic choice and institutionalized practices in organizations. *Organization Studies* 20(5): 777–799.
- Benford RD, Snow DA. 2000. Framing processes and social movements: an overview and assessment. *Annual Review of Sociology* 26(1): 611–639.
- Bruton GD, Ireland RD, Ketchen DJ. 2012. Toward a research agenda on the informal economy. *Academy of Management Perspectives* 26(3): 1–11.
- Canaves S, Ye J. 2009. Imitation is the sincerest form of rebellion in China. *Wall Street Journal*, 22 January. Available at: <http://online.wsj.com/article/SB123257138952903561.html> (accessed 18 April 2013).
- Castells M, Portes A. 1989. World underneath: the origins, dynamics, and effects of the informal economy. In *The Informal Economy: Studies in Advanced and Less Developed Countries*, Portes A, Castells M, Benton LA (eds). Johns Hopkins University Press: Baltimore, MD; 11–37.
- CCTV. 2008. Uncovering the mysteries of shan-zhai mobile phones. CCTV, 20 June.
- Chang MH. 2004. *Falun Gong: The End of Days*. Yale University Press: New Haven, CT.
- Child J, Lu Y, Tsai T. 2007. Institutional entrepreneurship in building an environmental protection system for the People's Republic of China. *Organization Studies* 28(7): 1013–1034.
- Chong D, Druckman JN. 2007. Framing theory. *Annual Review of Political Science* 10: 103–126.
- Cornelissen JP, Holt R, Zundel M. 2011. The role of analogy and metaphor in the framing and legitimization of strategic change. *Organization Studies* 32(12): 1701–1716.
- CJYCjemi. 2012. Chaozhouese Huaqiang North, Phoenix New Media's blog, 13 April. Available at: <http://blog.ifeng.com/article/17308163.html> (accessed 15 December 2013).
- David RJ, Sine WD, Haveman HA. 2013. Seizing opportunity in emerging fields: how institutional entrepreneurs legitimated the professional form of management consulting. *Organization Science* 24(2): 356–377.
- Deephouse DL, Suchman M. 2008. Legitimacy in organizational institutionalism. In *The SAGE Handbook of Organizational Institutionalism*, Greenwood R, Oliver C, Suddaby R, Sahlin K (eds). SAGE Publications: London, U.K.; 49–77.
- DiMaggio PJ. 1991. Constructing an organizational field as a professional project: U.S. art museums, 1920–1940. In *The New Institutionalism in Organizational Analysis*, Powell WW, DiMaggio PJ (eds). University of Chicago Press: Chicago, IL; 267–292.
- Dong ZH. 2005. *Mao Ze-Dong Read the Story of Shui-Hu (Mao Ze-Dong Du Shui-Hu Zhuan)*. Shanghai People's Press: Shanghai, China.
- Economist, The. 2011. China's economy: bamboo capitalism. 12 March: 13.
- Eisenhardt KM, Graebner ME. 2007. Theory building from cases: opportunities and challenges. *Academy of Management Journal* 50(1): 25–32.
- Emirbayer M, Mische A. 1998. What is agency? *American Journal of Sociology* 103(4): 962–1023.
- Epstein G. 2009. China's black market boom. *Forbes*, 16 February. Available at: <http://www.forbes.com/global/2009/0216/014.html> (accessed 12 April 2013).
- Epstein RA. 1994. The moral and practical dilemmas of an underground economy. *Yale Law Journal* 103(8): 2157–2177.
- Estrin S, Prevezer M. 2011. The role of informal institutions in corporate governance: Brazil, Russia, India, and China compared. *Asia Pacific Journal of Management* 28(1): 41–67.
- Fang N. 2008. Ming-Kai Tsai, the godfather of shan-zhai: the secrets of Mediatek's rapid rise in ten years. *Nandu Daily*, 15 October. Available at: <http://tech.qq.com/a/20081015/000196.htm> (accessed 24 April 2013).
- Farrar L. 2009. China's 'bandit phones' making big scores. CNN, 3 August. Available at: <http://edition.cnn.com/2009/TECH/07/29/china.fake.phones/> (accessed 15 July 2011).
- Fligstein N. 1997. Social skill and institutional theory. *American Behavioral Scientist* 40(4): 397–405.
- Garud R, Hardy C, Maguire S. 2007. Institutional entrepreneurship as embedded agency: an introduction to the special issue. *Organization Studies* 28(7): 957–969.
- Garud R, Jain S, Kumaraswamy A. 2002. Institutional entrepreneurship in the sponsorship of common technological standards: the case of Sun Microsystems and Java. *Academy of Management Journal* 45(1): 196–241.
- Garud R, Karnøe P. 2003. Bricolage versus breakthrough: distributed and embedded agency in technology entrepreneurship. *Research Policy* 32(2): 277–300.
- Geertz C. 1973. *The Interpretation of Cultures*. Basic Books: New York.
- Gerschenkron A. 1962. *Economic Backwardness in Historical Perspective*. Belknap: Cambridge, MA.
- Godfrey PC. 2011. Toward a theory of the informal economy. *Academy of Management Annals* 5(1): 231–277.
- Gordon IR, McCann P. 2000. Industrial clusters: complexes, agglomeration, and/or social networks. *Urban Studies* 37(3): 513–532.
- Greenwood R, Suddaby R. 2006. Institutional entrepreneurship in mature fields: the big five accounting firms. *Academy of Management Journal* 49(1): 27–48.
- Greenwood R, Suddaby R, Hinings CR. 2002. Theorizing change: the role of professional associations in the transformation of institutionalized fields. *Academy of Management Journal* 45(1): 58–80.
- Hardy C, Maguire S. 2008. Institutional entrepreneurship. In *The SAGE Handbook of Organizational Institutionalism*, Greenwood R, Oliver C, Suddaby R, Sahlin K (eds). SAGE Publications: London, U.K.; 198–217.

- Hardy C, Maguire S. 2010. Discourse, field-configuring events, and change in organizations and institutional fields: narratives of DDT and the Stockholm convention. *Academy of Management Journal* **53**(6): 1365–1392.
- Hargadon A, Sutton RI. 1997. Technology brokering and innovation in a product development firm. *Administrative Science Quarterly* **42**(4): 716–749.
- Harrison LE. 2000. Introduction: why culture matters. In *Culture Matters: How Values Shape Human Progress*, Harrison LE, Huntington SP (eds). Basic Books: New York; xvii–xxxiv.
- Houston S, Wright R. 2003. Making and remaking Tibetan diasporic identities. *Social & Cultural Geography* **4**(2): 217–232.
- Hung S-C, Whittington R. 2011. Agency in national innovation systems: institutional entrepreneurship and the professionalization of Taiwanese IT. *Research Policy* **40**(4): 526–538.
- Ingram P, Rao H. 2004. Store wars: the enactment and repeal of anti-chain-store legislation in America. *American Journal of Sociology* **110**(2): 446–487.
- Jarzabkowski P, Matthiesen J, Van de Ven AH. 2009. Doing which work? A practice approach to institutional pluralism. In *Institutional Work: Actors and Agency in Institutional Studies of Organizations*, Lawrence TB, Suddaby R, Leca B (eds). Cambridge University Press: Cambridge, U.K.; 284–316.
- Johnson C. 1982. *MITI and the Japanese Miracle*. Stanford University Press: Stanford, CA.
- Khaire M, Wadhvani RD. 2010. Changing landscapes: the construction of meaning and value in a new market category—modern Indian art. *Academy of Management Journal* **53**(6): 1281–1304.
- Kus B. 2010. Regulatory governance and the informal economy: cross-national comparisons. *Socio-Economic Review* **8**(3): 487–510.
- Lawrence TB, Suddaby R. 2006. Institutions and institutional work. In *The SAGE Handbook of Organization Studies* (2nd edn), Clegg S, Hardy C, Lawrence T, Nord WR (eds). SAGE Publications: London, U.K.; 215–254.
- Lin Y-C. 2011. *Fake Stuff: China and the Rise of Counterfeit Goods*. Routledge: New York.
- Lincoln YS, Guba EG. 1985. *Naturalistic Inquiry*. SAGE Publications: Newbury Park, CA.
- London T, Hart SL. 2011. Creating a fortune with the base of the pyramid. In *Next Generation Business Strategies for the Base of the Pyramid*, London T, Hart SL (eds). FT Press: Upper Saddle River, NJ; 1–18.
- Maguire S, Hardy C, Lawrence TB. 2004. Institutional entrepreneurship in emerging fields: HIV/AIDS treatment advocacy in Canada. *Academy of Management Journal* **47**(5): 657–679.
- Marquis C, Lounsbury M. 2007. Vive la résistance: competing logics in the consolidation of community banking. *Academy of Management Journal* **50**(4): 799–820.
- Marshall A. 1920. *Principles of Economics* (8th edn). Macmillan: London, U.K.
- Maskell P, Eskelinen H, Hannibalsson I, Malmberg A, Vatne E. 1998. *Competitiveness, Localised Learning and Regional Development: Specialisation and Prosperity in Small Open Economies*. Routledge: London, U.K.
- McGahan A. 2012. Challenges of the informal economy for the field of management. *Academy of Management Perspectives* **26**(3): 12–21.
- Moore TG. 2002. *China in the World Market: Chinese Industry and International Sources of Reform in the Post-Mao Era*. Cambridge University Press: New York.
- Navis C, Glynn MA. 2010. How new market categories emerge: temporal dynamics of legitimacy, identity, and entrepreneurship in satellite radio, 1990–2005. *Administrative Science Quarterly* **55**(3): 439–471.
- North DC. 1990. *Institutions, Institutional Change and Economic Performance*. Cambridge University Press: Cambridge, U.K.
- NRDC. 2013. *National Guidelines on Promoting Healthy Development and Planning for Urbanization 2011–2020 (cujin chengzhenhua jiankang fazhan guihua 2011–2020)*. National Reform and Development Commission: Beijing, China.
- Oliver C. 1991. Strategic responses to institutional processes. *Academy of Management Review* **16**(1): 145–179.
- Osno E. 2009. Chinese pirate unmasks. *New Yorker*, 5 March. Available at: <http://www.newyorker.com/online/blogs/evanosnos/2009/03/a-chinese-pirat.html> (accessed 17 August 2010).
- Ownby D. 1996. *Brotherhoods and Secret Societies in Early and Mid-Qing China: The Formation of a Tradition*. Stanford University Press: Stanford, CA.
- Pacheco DF, York JG, Dean TJ, Sarasvathy SD. 2010. The co-evolution of institutional entrepreneurship: a tale of two theories. *Journal of Management* **36**(4): 974–1010.
- Pan L. 2011. *Old Shanghai: Gangsters in Paradise*. Marshall Cavendish: Singapore, Singapore.
- Prahalad CK. 2005. *The Fortune at the Bottom of the Pyramid: Eradicating Poverty Through Profits*. Pearson Education/Wharton School Publishing: New Delhi, India.
- Purdy JM, Gray B. 2009. Conflicting logics, mechanisms of diffusion, and multilevel dynamics in emerging institutional fields. *Academy of Management Journal* **52**(2): 355–380.
- Rao H, Morrill C, Zald MN. 2000. Power plays: how social movements and collective action create new organizational forms. *Research in Organizational Behavior* **22**: 239–282.
- Rosenblum NL. 1994. Civil societies: liberalism and the moral uses of pluralism. *Social Research* **61**(3): 539–562.
- Rutherford MW, Buller PF. 2007. Searching for the legitimacy threshold. *Journal of Management Inquiry* **16**(1): 78–92.

- Saxenian A. 1994. *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*. Harvard University Press: Cambridge, MA.
- Scott WR. 2001. *Institutions and Organizations* (2nd edn). SAGE Publications: Thousand Oaks, CA.
- Seo M-G, Creed WED. 2002. Institutional contradictions, praxis, and institutional change: a dialectical perspective. *Academy of Management Review* 27(2): 222–247.
- Strauss A, Corbin J. 1998. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (2nd edn). SAGE Publications: Thousand Oaks, CA.
- Stuart TE, Sorenson O. 2003. Liquidity events and the geographic distribution of entrepreneurial activity. *Administrative Science Quarterly* 48(2): 175–201.
- Suchman MC. 1995. Managing legitimacy: strategic and institutional approaches. *Academy of Management Review* 20(3): 571–610.
- Townsend JR, Womack B. 1986. *Politics in China*. Little, Brown: Boston, MA.
- Tsai KS. 2006. Adaptive informal institutions and endogenous institutional change in China. *World Politics* 59(1): 116–141.
- Tsai M-K. 2009. Speech at the Merrill Lynch and the Taiwan Stock Exchange Taiwan Technology and Beyond Conference, Taipei, Taiwan.
- Tseng K-F. 2009. The king of *shan-zhai* wants to challenge Nokia. *People's Daily Online*, 24 February. Available at: <http://mobile.people.com.cn/GB/113028/8856144.html> (accessed 24 April 2013).
- Vaara E, Whittington R. 2012. Strategy-as-practice: taking social practices seriously. *Academy of Management Review* 6(1): 285–336.
- Webb JW, Bruton GD, Tihanyi L, Ireland RD. 2013. Research on entrepreneurship in the informal economy: framing a research agenda. *Journal of Business Venturing* 28(5): 598–614.
- Webb JW, Tihanyi L, Ireland RD, Sirmon DG. 2009. You say illegal, I say legitimate: entrepreneurship in the informal economy. *Academy of Management Review* 34(3): 492–510.
- Weber M. 1978. *Economy and Society (Vol. 1): An Outline of Interpretive Sociology*. University of California Press: Berkeley, CA.
- Wijen F, Ansari S. 2007. Overcoming inaction through collective institutional entrepreneurship: insights from regime theory. *Organization Studies* 28(7): 1079–1100.
- Yen T, Hu Y-H. 2008. Kai-Li Kan attacks MIIT's purge on *shan-zhai*. *National Business Daily*, 23 December. Available at: <http://www.nbd.com.cn/articles/2008-12-23/133085.html> (accessed 27 October 2010).
- Yu Y. 2006. *Jiang-hu China: The Rise of an Informal Institution in China*. Contemporary China: Beijing, China.
- Zimmerman MA, Zeitz GJ. 2002. Beyond survival: achieving new venture growth by building legitimacy. *Academy of Management Review* 27(3): 414–431.
- Zweig D. 2002. *Internationalizing China: Domestic Interests and Global Linkage*. Cornell University Press: Ithaca, NY.

APPENDIX

Formal research interviews

Types of interviews	No.	Jobs of interviewees	Time	Length (hrs)	
Major industry players	1	Vice general manager, China headquarters, Accton	2004/04/08	5	
	2	Vice general manager, China headquarters, DBTel	2004/04/17	2	
	3	Manager, China headquarters, Darfon	2004/04/21	0.5	
	4	Vice general manager, China headquarters, Accton	2004/05/07	3	
	5	Director of mobile phone R&D, China headquarters, Quanta	2004/05/17	3	
	6	Marketing manager, China headquarters, BenQ	2004/05/25	1.5	
	7	Marketing general manager, China headquarters, BenQ	2004/06/04	2	
	8	Project manager, Mobile Phone Business Group, Foxconn	2004/06/06	0.5	
	9	Vice general manager, China headquarters, DBTel	2004/06/12	1	
	10	Former general manager, Liteon	2004/07/06	1	
			2004/07/15	2	
		11	Chief operations officer, China headquarters, Compal	2008/01/23	2
		12	Project manager, Panel Display Business Group, Foxconn	2008/01/24	1
		13	Founder, Spreadtrum	2009/08/21	1
		14	Manager, Global R&D, Lenovo	2010/07/12	1
	Governmental agencies and research institutes			2011/07/03	2
15		Chief scientist, China Mobile Research Institute, China Mobile	2011/07/25	1	
16		Senior expert, Beijing Research Institute, China Telecom	2011/07/29	1	
17		Head of national mobile TV project, Tsinghua University	2008/10/23	1.5	
18		Head of national mobile telecommunication project, Tsinghua University	2008/10/27	1	
19		Director, Information Division, Department of High & New Technology Development & Industrialization, Ministry of Science & Technology, PRC	2008/10/27	1	
Shan-zhai entrepreneurs	20	Deputy chief engineer, China Academy of Telecommunication Research, Ministry of Industry & Information Technology, PRC	2011/07/20	1	
	21	Executive vice general manager, Mediatek	2008/10/15	2	
	22	General manager, Tian-yu	2008/10/23	1.5	
	23	Former technical manager, ZTC	2009/12/15	1.5	
	24	General manager, anonymous system integrator	2009/12/15	1.5	
	25	Manager, anonymous marketer	2010/07/09	3	
	26	Project manager, anonymous design house	2010/07/09	3	
	27	Owner, anonymous wholesaler	2010/07/10	1	
Analysts and journalists	28	Boss, anonymous vendor	2010/07/11	2	
	29	Editor, Caijing Magazine	2009/01/21	1.5	
	30	Vice dean of Management School, Graduate School of Chinese Academy of Sciences	2009/08/12	1.5	
	31	Lead reporter, Digtimes	2009/10/14	2	
				Total: 55.5hrs	