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Street level tinkering in the times of 'Make in India'

Maitrayee Deka

abstract

The paper discusses the future of Delhi's electronic bazaars in the wake of the 'Make in India' (MiI) program. MiI aims to develop a home-grown manufacturing base that, among its many goals, also targets the same popular market sector that the bazaars currently operate in. However, there is virtually no consideration of the role of bazaars and the informal economy within the MiI program. Rather, this initiative, along with similar efforts to render the economy formal and transparent, sees the bazaars with their reliance on cash transactions and their scant respect for intellectual property rights as part of a regressive grey economy. This paper initiates a discussion on what could be the consequences of following the present route of disregarding the informal economy that, in fact, has hosted the most industrious model of production in the country.

Introduction

There has been much enthusiasm associated with the 'Make in India' (MiI) program that was launched in September 2014 (Kala, 2015; Khedekar, 2014). The program targets 25 core sectors to make India a manufacturing powerhouse. In a country that did not develop a robust manufacturing base post-independence, (Roy, 2012; Sanders, 1977), the MiI wants to make a significant contribution in that direction. Growth in manufacturing is expected to garner revenue and create employment opportunities for a large section of the population. The program was seen as particularly timely in relation to the slowdown of the Chinese economy.

Resource-rich India with low labour costs could compete with the Chinese hegemony in world manufacturing (Zhong and Kala, 2015)¹.

I want to issue a caveat early on, namely that this paper does not discuss MiI in its totality, nor does it go into an in-depth discussion on the various schemes undertaken so far. Instead, the paper focuses more on the discourses surrounding MiI in relation to the electronics industry. The paper is a speculation on the future of local cultures of tinkering, as large-scale programs make headway into the informal economy that has characterised much of the Indian market for low-cost consumer electronics.

As far as the electronics industry is concerned, the MiI program wants to go beyond the \$65 billion domestic market for electronics and make India a competitive actor in the \$2 trillion global market. The turnover of the Indian electronics industry (including consumer electronics, electronic components, industrial electronics, computer hardware, communication, broadcast equipment, and strategic electronics) is currently at \$6 billion or less than 0.5% of the world market. To increase the share of Indian electronics in the global market, the government has welcomed investments from foreign companies such as Samsung, Eriksson and Foxconn (Seth, 2015; Thevar, 2015). These initiatives are primarily geared towards export. In the immediate future, however, the MiI intends to support manufacturing and foreign investment that addresses the domestic market (D'costa, 2015). The ASSOCHAM and EY report (2016: 12) estimates, 'around 50-60% of the demand for electronic products is fulfilled through imports, while nearly 70-80% of the electronic components market is import-dependent'. MiI is keen to meet the internal demands for electronics as well as make the domestic market attractive to foreign investors.

As a manufacturing plan, with its eye on the domestic market and local innovation cultures, MiI could collaborate with bazaar actors. However, to the extent that bazaars are considered in MiI, they are expected to wither away and their participants become a reservoir of cheap labour for the formal economy (Bhattacharyya and Verma, 2016; Green 2014; Karnik, 2016). Other aspects of the bazaars such as their understanding of the local consumers, their practices of market-friendly technical fixes, and their industrious nature are ignored.

The rest of the paper analyses the foreseeable links that MiI could have with the informal economy, and how its present agenda of limiting its interaction with

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ASSOCHAM (The Associated Chambers of Commerce and Industry of India) and EY (Ernst and Young) report (2016) states that as of 2014, the average manufacturing labour cost per hour in India was US\$0.92 as compared to US\$3.52 in China.

formal actors and institutions could play out in the larger context. To this end, I describe the role that bazaars have played historically as an important place for disruptive improvisation, and how the bazaars have always experimented with electronic products. Through empirical examples, I analyse the everyday improvisation that makes the bazaar an important player in the domestic market of electronics in India. I further depict the type of consumers that are dependent on the bazaars for their purchases of cheap electronics. In the final section, I show how, historically, the bazaar-like mode of transactions and the accompanying survival instinct has been part of the manufacturing process in India, and how the hasty and one-dimensional approach that MiI seems to be undertaking, is foolhardy when it comes to dealing with the informal economy. A large part of the population became involved in state-led modernising programs by semi-legal routes. In order for MiI to truly reach the bulk of the people, first there needs to be an understanding of bazaar level conditions and then a willingness to make real changes in the MiI agenda to involve people who do not have elite privileges.

Electronic bazaars and improvising²

Traditionally, the bazaars have played a crucial role in the domestic market for electronics. They are places for selling products, and for tinkering with them, creating new kinds of cheap and accessible products. The bazaars are part of a transnational network of 'globalization from below', where semi-legal goods and crisscrossing trade networks have made electronics accessible to growing sections of the urban underclass, whether in original (often recycled) or in counterfeit versions. Gordon Mathews and his colleagues contrast this to the

high-end globalization, governed by the multinational corporations whose names everyone knows, from Apple to Nokia to McDonald's to Coca Cola to Samsung, and by institutions such as the World Bank, the IMF and the WTO. It is globalization as championed by nation-states, as well as by mainstream media outlets as The Wall Street Journal and The Economist. It operates, at least in theory, in a legal and transparent way. 'Lower-end globalization' on the other hand, operates under the radar of the law. It may involve obtaining knock-off goods, whose logos have been appropriated from the brands of 'high-end globalization', and smuggling those goods across borders for sale by street vendors in cities across the globe. (Mathews and Yang, 2012: 97-98)

While speaking about Delhi's bazaars, Lajpat Rai market, Palika Bazaar and Nehru Place, Ravi Sundaram (2010) sees them as part of a 'Pirate Kingdom', which describes the other side of India's postcolonial existence. Sundaram maps out

² The terms 'improvising' and 'tinkering' are used interchangeably to contrast bazaar level technological fixes with the top down 'innovation' models that are more respectful of intellectual property laws as well as institutional training and research.

Delhi's Masterplan of 1962 that privileges the vision for the future from the elites' perspective (politicians, technocrats and the burgeoning section of bureaucrats). The modernist plan laid the grounds for the zoning of the city into residential, commercial and industrial zones.

The displacement of 'noxious' trade and 'non-confirming industries' outside the city, along with private dairies and gwalas, which were to be removed to designated areas. Slums were to be subject to clearance and renewal based on a survey and classification of slum areas. (Sundaram, 2010: 46)³

As the process of ordering the city along the lines of the Delhi's Masterplan began, the bazaar became one of the few places where a less disciplined life existed and flourished. In the Mughal era and in colonial times, bazaars were open places, a meeting ground for merchants and tradesmen from villages and towns (Bayly, 1998; Fanselow, 1990; Yang, 1998). Sundaram (2010) argues that Delhi's Lajpat Rai market, Palika Bazaar and Nehru Place are an extension of the 'secret' life of the bazaars of the eighteenth and nineteenth century – a diverse range of commodities sold face-to-face via messy networks of people, products and power alliances.

Lajpat Rai market, Palika Bazaar and Nehru Place were built in the early decades of the country's independence to largely rehabilitate Sikh and Hindu partition refugees. Lajpat Rai market in the old Delhi area, overlooking the Historic Red Fort was developed in the 1960s as a wholesale electronics market. Over the years, the market has sold a host of products: transistors, switchboards, wires, TVs, music cassettes, bulbs, and video games to name a few. Palika Bazaar located in the central district of Delhi was the first underground air-conditioned market in Delhi. Established in the 1970s, it came to host a number of traders from the neighbouring areas. The dome-shaped building with a number of concentric circles is a retail market selling clothes, electronics, food, toys, and books, among other things. In the 1970s, town planner Jagmohan imagined Nehru Place as a kind of European 'piazza' where cultural and intellectual life would mix with commerce. By the 1990s, Nehru Place had become one of the important markets in Asia, selling computer hardware, assembled computers, and pirated software/video games. The market also has a number of corporate offices, computer showrooms and repair centres.

Sundaram (2010) and Liang (2010) described the urban bazaars as vibrant places that throw light on ordinary lives and their politics. The chaotic physical landscape

³ 'Gwalas' means 'herdsmen' in Hindi. The urbanization schemes made them marginal and many of them gave up their traditional trade in favour of pursuits more suitable for an urban context.

and commercial exchanges paved the way for the presence of media goods in forms unanticipated by their original creators. In his analysis of counterfeited brands in Tamil Nadu, Constantin Nakassis (2013) used the words 'surfeits' to include the grey domain in which products circulate outside of authorised consumption. Nakassis places the discourses and practices of 'surfeits' in the world of fake brands and copies that has opened up a whole world of negotiation for the non-elites to legitimise global brands.

Apart from providing access to consumer products, Sundaram (2010) observes that the labyrinth *like* bazaars provide protection to people who have been displaced by the urban plans, such as groups of migrants, slum dwellers and labourers. Sundaram shows how the dense and crowded shops in Palika Bazaar help traders to evade police raids by retreating to the interior parts of their shops.

Pointing out the relation that bazaar-like places develop with commerce and legality, Liang (2010) uses Partha Chatterjee's distinction between a civic and political society to show how the non-elites' relation to state laws and policies is different to how 'citizens' perceive it. As he puts it:

In India, for instance, the creation of the category of the citizen subject demanded a move away from the oversignified body of the individual marked by religion, gender, caste, and so on to an unmarked subject position, 'the citizen', a category based on equality and access and guaranteed rights within the constitutional framework. But the majority of the people in India are only precarious who often do not have the ability to claim rights in the same manner as the Indian elites do. Instead, the manner in which they access the institutions of democracy and 'welfare' is often through complex negotiations and networks and often is marketed by their illegal status. (Liang, 2010: 360)

Gulshan Kumar, a fruit seller in the Daryaganj market established the T-Series Music and Film production company by recording popular Hindi film songs with lesser-known artists. Taking advantage of the 'fair use' clause of the Indian copyright Act, Kumar was able to circulate his cassettes to every nook and cranny of the country. His story represents how ordinary people use loopholes in the legal systems and form lucrative alliances to get past their own limitations of wealth, or education (Liang 2005).

In Liang and Sundaram's work, 'piracy' is synonymous with the bazaar way of life. The different practices of 'counterfeiting, copying, smuggling, and trafficking' create sources of livelihood for people who could not take part in the modernising project in India through official channels (Dent, 2012: 29). With its decrepit infrastructure and open networks of traders, distributors and importers, Delhi's bazaars create new media forms testing the legal and aesthetic limits of urban existence.

Improvising, from a fieldworker's point of view

In this section, I use empirical examples to describe how the traders tinker with the hardware of video games. Street level tinkering is significantly different from the systematic way in which innovation is imagined in formal spaces such as corporations and public institutions. While many of these innovations anticipate profits through patents, it is the lack of a proprietary regime that gives the bazaars the opportunity for tinkering. Needless to say, these disparate approaches to intellectual property laws come from completely different motives. While for formal actors, they communicate with an existing market, in most cases for the informal actors the pressure is to constantly create a market for 'small profits', which suit the needs of low level consumers.

I first visited Delhi's bazaars towards the end of 2012 and conducted a year-long ethnographic study that lasted from September 2012 to September 2013. I spent time interacting with the traders. I had structured interviews with them and casual conversations on a day-to-day basis. At times, I also interviewed consumers and distributors who came to the shops. I went back to the markets in January 2015 and later in the months of March and April 2016. I focused mainly on the traders of video games, seen by some scholars as an information product per excellence (Dyer-Witheford and Sharman, 2005; Dyer-Witheford and de Peuter, 2009). I was interested in finding out what happens when a sophisticated video game enters the culture of backyard innovation in the bazaars.

In Lajpat Rai market, I spoke to close to 18 traders of video games. Most of the shops were small, having enough space to accommodate a trader and his assistant. A few of the shops were more spacious with organized displays on the walls. While makeshift shops kept appearing and disappearing at regular intervals, by the time I was well into my fieldwork, I had established good contacts with five shops that I regularly visited, at least once a week. With other shops, my visits were contingent on the trader's willingness to talk to me on a given day. During the time that I spent in Lajpat Rai, I saw the shops not just as places for selling products, but also as places where a single product could be broken down into different parts based on the needs of the market. A shop would have a 'Made in China' handheld video game, but also circuit boards, parts of which were sold loosely or used for repairing. There would be cartridges, original and pirated DVDs, knock-off and original consoles. On top of that were the abandoned consoles, parts of which were used for repair. The possibility of a product to be a finished good and a raw material at the same time created the spirit of tinkering. As long as the assemblage or dismantling of a product created new consumer bases, it was worth exploring in the markets. To quote from field notes:

Harish is a distributor who comes every other day to Lajpat Rai. He acquires TV games from local manufacturers and sells them to the traders at a wholesale rate. The local manufacturers import component parts such as circuit boards from China and package the final product in India. In this way they are able to save custom duties and can also provide a novelty to the product (by way of packaging and attractive covers). In July 2013, I was at Bharat's shop when Harish approached him with new TV games. While dealing with locally assembled consoles, they started talking about the skills that bazaar actors have. Both were in agreement; putting together different parts produced in China needed one to have basic knowledge about electronics. However, the skill and knowledge of Chinese workers were much higher than Indians. Their analysis attributed the gap in Indian workers' knowledge to a lack of opportunity and resources. Bazaar actors do not get to work on sophisticated machines, unlike their Chinese counterparts. They also pointed out that any innovation, even grey ones, received appreciation from the Chinese government. In contrast, the Indian government did not support bazaar level solutions.

In Palika Bazaar, I interviewed 20 traders and shop assistants. Many of these traders were from small business families in Delhi. A few traders were also migrants in the city. Coming from the surrounding states of Delhi, these traders had started their businesses by chance. Ramesh, a trader, recollected how in the late 1990s, he was a delivery person with the popular gaming franchise *Milestone*. On his many visits to the markets, he realised the possibility of having his own shop there. After negotiating with an existing trader in one of the shops, he was able to acquire a small corner. From there he started selling original and contraband video games. Most of the shop assistants were migrants in the city. They travelled from neighbouring states such as Uttar Pradesh and Bihar looking for job opportunities in Delhi. Many of them had similar stories of how they had found a job in the market by simply wondering around and interacting with the existing traders.

The shops at Palika have original DVDs and consoles, second-hand and pirated DVDs, refurbished consoles and gaming accessories. The second-hand economy of games attracted a range of consumers to the market. With an ingenious trader buying a used DVD from a consumer, it opened up the market for used games. Simply by packing old DVDs with transparent paper and putting price tags on the back (to give the impression of a new DVD), many traders found ways to resuscitate their trade, foraying into areas the formal economy did not take into account. The repairing and *modding* of gaming consoles are among the activities that create a niche market.

Lalit is a repairperson of video games in Palika Bazaar. In early January 2015, he bought an expensive 'reballing' machine from China costing him about ₹200,000. He has been making a living out of cracking PlayStation and Xbox consoles since the 1990s. He knew how to fix new hardware to the motherboard, enabling old consoles to play new DVDs of video games. However, he has found it to be a good

strategy to invest in 'reballing' machines. He believes that there is going to be more work in the line of repairing IC boards of gaming consoles. According to him, companies such as Sony and Microsoft are unable to create sound integrated circuit boards, as they have to cram a number of functions into a tiny chip. The result is that some of the solder balls get damaged. With the reballing machine, he is able to fix the damaged solder balls. Lalit points out that it is a very delicate operation. He took a week's training from a person in Bombay to understand all the nitty-gritty of reballing. Lalit recollects that it was very difficult to find someone working in this particular area. He says, even after finding the right person, it took much persuasion to convince the person to train him. He paid ₹30,000 for just a week's training. Lalit thinks that it was a worthwhile investment. He points out that the New Sony PlayStation 4 is about ₹50,000. It is beyond the capacity of the average person in India to afford such an expensive machine. Gamers are more likely to repair their old consoles than to invest in new ones. This creates the space for someone like Lalit to use his reballing skills and revive damaged IC boards. He is willing to spend hours meticulously heating the chip to remove it from the motherboard. Then carefully remove the old solder and replace it with new solder balls. For Lalit the test is both physical as well as mental. A successful reballing procedure takes him close to six hours and requires ₹1200 worth of electricity. Lalit thinks considering everything else, it is turning out to be a lucrative investment. He gets approximately ₹2500 for each reballing job.

In Nehru Place, I interviewed approximately 50 street vendors of pirated software and games. About 90% of them came from the Madanpur Khadar Resettlement colony⁴. Many of them grew up close to the market, and the market was like an after-school playground. Seeing friends and acquaintances selling software and games, the young men started as street vendors from a young age. They kept in their stock pirated DVDs/CDs of computer games and other kinds of pirated software. The DVDs/CDs were illegally downloaded in the Chandni Chowk area in old Delhi. On most days, a delivery person arrived in the early hours with the pre-ordered stock and distributed them to the different groups of street vendors.

The market picked up in the 1990s, and along with it, the trade of pirated software and computer games. What was at that time seen as a luxury product, a single DVD of Adobe, sold for close to ₹5000, but the pirated versions of them were available for ₹500. The street vendors sold only pirated computer games and none of the console games. A reason quoted for this was that their consumers did not have enough money to buy a console. Most of them did not even own a personal computer. The consumers that the street vendors encountered were likely to buy an assembled computer and they bought gaming DVDs/CDs as an additional purchase. The traders mentioned the consumers' first interest was to download

The Delhi Development Authority relocated the residents from slums in Nehru Place, Nizamuddin, Sarojini Nagar, Hauz Khas, Chanakyapuri, and Kalkaji to the Madanpur Khadar Resettlement colony (Batra and Mehra, 2008).

the pirated version of Microsoft word. If the gaming DVDs piqued their interest, they also bought them.

The place of the bazaars in today's consumer society

The last section analysed empirical examples of everyday improvisation in the bazaar. This section develops how everyday improvisation connects video games to the mass consumer in India. I describe the place of the bazaars in the contemporary consumer society in India, taking into account the new middle class as a harbinger of a new kind of consumerist aspiration.

The rise of a consumer society in India has received attention. The early 1990s were the watershed years, when the country embarked on an era of economic liberalization. Since then scholars have noticed marked changes in consumer behaviour. Leela Fernandes (2006), for instance, argues that in the decades following the country's independence, frugality was a dominant trait of consumers. However, she argues that the attitude changed dramatically following the 1990s:

In the 6os and 7os this whole bit of accumulation of wealth was still suffering from a Gandhian hangover. Even though there were a whole lot of families who were wealthy all over India in the north and south, if you notice, all their lifestyles were very low key. They were not exhibitionists or they were into the whole consumer culture. Now I see that changed completely... You want to spend on your lifestyle. You want your cell phone. You want your second holiday home, and earlier, as I said, people would feel a sense of guilt – that in a nation like this, a kind of vulgar exhibition of wealth is contradictory to Indian values. I think now consumerism has become an Indian value. (Fernandes, 2006: 29)

The changes in consumer habits are tied to the celebration of the middle class. Even within the amorphous middle class, it is the urban English educated professionals, the so-called 'new middle class' that has been the harbinger of the consumer economy in India. Seen by some as the poster children of India's neoliberal ambition, this class of upwardly mobile professionals spends substantially on clothes, gadgets and cars, placing them on a par with a global consumer class (Butalia, 2013).

Although the middle class and the new middle class have directed the consumer economy, the number of people who purchase consumer goods is difficult to measure. One of the problems is the gap between people's perception of belonging to middle class and their actual income level (Bhattacharya and Unnikrishnan, 2016). Studies have noted that a large number of people think that they belong to the middle class, although their income level is much lower to that of the median

group. The 2011-12 India Human Development Survey (IHDS) jointly conducted by the National Council of Applied Economic Research (NCAER) and the University of Maryland suggests that the Indian middle class composes 6% of the total population. An annual income of 2.7-13.4 lakh was taken as the benchmark. The same survey found out that about 49% of the population perceived themselves as belonging to the middle class, although their monthly income was close to ₹5000, much lower than the average income of ₹22,000 (Kundu and Rathore, 2016). A Pew Research Centre Study puts the global middle class estimation at \$10-20 per capita daily income and defines a lower income group as earning between \$2-10 dollars daily. According to these estimates, only 2% of the population in Indian fall into the middle class category. Most people are in the lowincome category: they rank much closer to the lower limit of \$2 dollars rather than \$10 (Venkataramakrishnan, 2015).

If we take into account consumer behaviour per se, the IHDS study shows that 90% of the time, people had only one of the following consumer durables: a motor vehicle, a computer or laptop, a TV set, a cooler or an air conditioner, and a refrigerator. In most cases, people owned a TV set and not the others. Moreover, a household having all of the five assets belonged to the top 2.75% of the entire population (Kundu and Rathore, 2016). These studies highlight that the rich and the new middle class constitute only a small part of the entire population (Anand and Thampi, 2016). Most people are in the low-income group or poor, surviving with a daily income of \$2 or less.

The bazaars remain places that cater primarily to people who have consumer desires but might not have the resources to translate them into reality. Many people who came to the markets in 2013 were from low-income group and the diverse middle class. In Palika Bazaar, a category of consumers was urban professionals, people working in the corporate sector as either technological or managerial professionals. Another popular category was school students who came accompanied by their parents and guardians. A third category was buyers who made home deliveries of games to individual customers. Finally, there were gamers from lower and middle-income groups that came to repair consoles.

Being primarily a wholesale market, the main type of buyer in Lajpat Rai market was the distributor who made deliveries to shops in the urban periphery, or to other cities, small towns and villages in India. The individual consumers who came to the market were mostly parents who wanted to give their children affordable handheld games. The consumers coming to the Nehru Place were mostly young men who bought pirated computer games. Much like the street vendors, the consumers were immersed in the informal economy. Some of them worked as

delivery boys or as shop assistants in parts of Delhi and in the national capital region.

I encountered many young gamers in Nehru Place who were unemployed or were in odd jobs. They liked to play combat games such as *Mustapha* on their cell phones. The gamers downloaded pirated versions of different games on their phones and approached their friend networks to acquire cheap DVDs. The markets were attractive to people who could have the experience of playing games like *Counter-Strike* on the assembled PCs they had bought in the market. Many of them came to know of games by playing them in popular gaming cafés.

This section described the role of the bazaars in the contemporary consumer economy particularly with respect to the outreach of the bazaar to mid- and low-level income consumers. The next section analyses how bazaar practices have historically resulted in a particular model of capitalism. Within this model, manufacturing did not develop into a full-blown industry, but was characterised by small ventures. The small and medium level enterprises were an outcome of capital being diverted from industrial investments to speculative practices in the bazaars.

Bazaars' role in India's manufacturing journey

This section describes the relationship between the growth of a native manufacturing base and bazaar practices. Particularly in the nineteenth century, bazaar level transactions began to form an important part of capitalist organization and thus determined the shape that manufacturing and industrialization would take in independent India. Historically, India's manufacturing base was made up of artisanal and craft units. In order to integrate the dispersed production units into the market, there were informal arrangements. Tyabji (2015) argues that the lack of plantation-like arrangement made it difficult for the colonial powers to transform traditional household units into a large-scale industrial base. An exception to this was tea plantation. The spatial location of labour in tea gardens made it relatively easy to build industrial units, similar to the way industrialization began in England. However, with most other businesses including those of cotton and jute it was difficult to attain the same level of organization. As Tyabji (2015) suggests, this led to the development of intermediaries and practices of speculation that prevented the growth of an industrial culture.

Even after independence, major industrialists diverted capital from industries to speculative practices. Profits were not kept aside for further investments but were used to speculate in the bazaars, based on the rise and fall of global prices and local

production. It was the physical bazaars, where credit operators worked that were the centers of commerce. In an economy characterized by high credit risks at the base, the bazaars represented a set of financial methods, which effectively exploited the poverty of population and the uncertain seasonal agricultural conditions (Tyabji, 2015: 9).

In India, we have seen a move from merchant to speculative capital without full-fledged development of industrial capital (Arrighi, 1994). The bazaars, combining the ethos of semi-legal transactions and a physical market place had an important role in the growth of a unique culture of manufacturing.

The intermixing of institutional and traditional practices in the manufacturing scene continues to this day. The ASSOCHAM and E&Y (2016) report points out that small-scale units dominate the manufacturing scene in India. Most of the time, they do not have the necessary resources and networks to complete production in a single industrial unit (Raj and Sen, 2016). This results in small-scale firms subcontracting parts of the production process to the informal economy (Moreno-Monroy et al., 2014).

The closest that the MiI has come to considering the informal economy is by foraying into the start-up economy. In fact, the ASSOCHAM and E&Y (2016:20) report identifies start-ups as possible partners 'to bring out the real spirit of the "Make in India" initiative'. In order to 'mix local production and assembly of parts', the report states the 'focus needs to be on indigenous product conceptualizing to manufacturing'. Start-ups are considered as agents that are able to build lucrative enterprises amenable to the prevailing environment.

However, starts-ups have a completely different ecosystem from the bazaar and the only way they can incorporate the informal economy is by transforming its participants into a new kind of 'platform labour' (Srnicek, 2017). Start-ups have a more systematic approach to intellectual property laws and innovation in general and their ethics do not necessarily fit into the flexible improvising that bazaars are known for. Aggregators, such as Ola and Uber, have an institutional culture that uses algorithms to manage their business models and at the same time have a traditional hiring process in which people are recruited by word of mouth (Sakthivel and Joddar, 2006; Padmanabhan, 2016).

Conclusion

Bazaar actors are now caught in an environment where the only real form of collaboration they see is through meeting the labour requirements of the burgeoning start-up economy (Chakravarty, 2015; Crabtree, 2016; Lerche, 2015;

Sethi, 2015). Otherwise they find themselves marginalized, as there is an urgency for the government to formalize the informal economy. The spread of bank accounts, the Aadhaar scheme, as well as the demonetization of 2016 are attempts at tracking black transactions and formalizing credit exchanges (Ghosh, 2016; Rai, 2016)⁵. Moreover, e-commerce businesses are targeting the same market for cheap and second-hand goods, previously provided by the bazaars. It appears that if an ambitious program like MiI does not see bazaar level economic practices as more than a regressive grey economy, the infrastructure and knowledge of popular consumers might be lost.

However, the loss is not one-sided. Outside of the corrupt networks, bazaars embody an industrious way of life that is unique to India. The difficulty in building a homogenous manufacturing base cannot be blamed only on self-interested corrupt industrialists. The fact that India is a country with many small and medium level enterprises shows that the problem is much wider than corruption alone.

If we talk of Wittfogel's (1957) thesis of oriental despotism, building on Karl Marx's notion of an Asiatic mode of production, then we need to take seriously the hypothesis that unequal distribution of power was an integral part of productive activities in the sub-continent. The centralized power that rulers held through control over the canals that circulated water paved the way for large governable communities. Moreover, colonial power did not establish its domain in an egalitarian society. One of the reasons that colonial power succeeded was that it fuelled the rivalries of princely states and later built a land tenure system that empowered the landlords to collect taxes. Compared to the elites, the masses face many constraints, not only economic, but cultural and religious as well, mainly through the caste system and communal tensions. Things like professional training, knowledge of the English language, access to capital and intellectual property protection benefit mostly the elite knowledge workers.

If it were not for the bazaar-like places, different knowledge systems, and obsolete products, the spirit to turn constraints into opportunities would not exist. This is where MiI falters: it is unable to understand its own population and their everyday struggles. It is constructing a completely new infrastructure of factories and shop floors. Probably a more fulfilling exercise would be to continue conversations on both sides: create new infrastructure and alliances with formal actors as well as reach out to informal actors, include their popular knowledge and creative spirit.

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Aadhaar is a 12-digit unique-identity number that is tied to an Indian citizen based on his or her biometric and demographic data. This scheme has been criticized on privacy grounds as it permits greater control over individual movements.

The bazaars have always included more people and products, most of which are otherwise rejected as excess as in the case of the urban poor or obsolete goods. Most importantly, bazaars have an ecosystem, which allows the gainful employment of a large number of people with a heterogeneous set of technical skills and limitations.

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the author

Maitrayee Deka is a lecturer in Media and Social Theory the Department of Sociology, University of Essex.

Email: Maitrayee.deka@essex.ac.uk