

Centralized Agricultural Networks and Changing Agrarian Power Dynamics in the Platform Economy

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The ascendancy of e-commerce has transformed agricultural supply chains in rural China. It has been accompanied by the reshuffling of power dynamics among local agricultural stakeholders. This study interrogates the social impact of agricultural e-commerce as an institution on agrarian power dynamics. I drew on a case in which e-commerce became constitutive in the local agriculture sector. I observed centralized networks of agricultural production that differ from traditional practices. I developed a conceptual tool to analyze power dynamics. In centralized agricultural networks, information elites occupy the central nodes and bridge between online markets and offline production. The incipient form of differentiation emerged among small independent farmers and grew to substantial differentiation between information elites and those who were peripheral in the network. The formation of these centralized agricultural networks originated in the digital platform economy. Those who can take better advantage of digital platform rules and cater to platform needs are more likely to succeed. The networked digital economy sprawls to rural agricultural communities with the sweeping force of platform expansion and grassroots energy.

Keywords: information and communication technologies, agriculture, e-commerce, platforms, power dynamics

The growth of e-commerce in China has been spectacular. In 2018, the retail sales of e-commerce reached 9.01 trillion RMB (1.31 trillion dollars)¹ (Department of Electronic Commerce and Informatization, 2019) and is expected to surge to 1.7 trillion dollars in 2020 (Goldman Sachs, 2017). The potential of e-commerce in the agriculture sector has incentivized the Chinese government to stipulate facilitating policies. As the helmsman of China's agriculture sector, the Ministry of Agriculture aims to deepen the integration of agriculture and e-commerce. In the "Nationwide Plan for Agricultural Products Processing and the Integration of Three Industries in Rural Areas (2016–2020)" released by the Ministry of Agriculture (2016), agricultural e-commerce was proposed as a key instrument of rural economic development.

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¹ The exchange rate of RMB against the USD on December 31, 2018 was used.

The phenomenal visibility of e-commerce in agriculture has intrigued researchers across a wide range of disciplines. The majority of existing research focuses on shoring up the superiority of e-commerce and how to overcome bottlenecks in developing agricultural e-commerce (e.g., Liu, Zhang, Qin, Shi, & Cao, 2017; Zhou & Wang, 2015). These bottlenecks include inadequate infrastructure, lack of policy support, and lack of knowledge about the Internet. The assumption of these studies is that e-commerce guarantees agricultural development. Nevertheless, the following questions have not been addressed: Is e-commerce an elixir for all agricultural stakeholders? Does everyone in the agricultural community benefit from agricultural e-commerce equally? What is the social impact of agricultural e-commerce?

In another strand of studies on rural China, mainly from sociologists and political scientists, the spotlight has been on the class composition of China's agricultural producers. Most of these studies, however, do not reckon with how information and communications technologies (ICTs) might affect local power dynamics. Therefore, there is a gap between the popular debate on the social composition of the agriculture sector and the ICTs literature.

In this article, I interrogate the social impact of agricultural e-commerce as an institution on local power relationships, or what I term as agrarian power dynamics, from a class perspective. I see agrarian power dynamics as the power relations among different agricultural stakeholders. First, I view agricultural e-commerce as an institution, not just as a tool. This institution reflects itself in not only e-commerce technologies, but also infrastructures consisting of policy arrangements, delivery systems, technician teams, and other supporting structures. In my case, this institution unfolds in the political economy of "networking China" (Hong, 2017) and grows out of a digital platform economy where the state facilitates platform expansion.

Second, I conceive the focus of my research from a class perspective. Following Vincent Mosco's (2014) advocacy, I focus on "*relational* and *formational* conceptions of social class" (p. 19, emphasis in original). I categorize the social actors in the local agricultural community into small farmers, agribusiness, and other, and examine their relationships with a conceptual tool. This conceptual tool extends a materialist understanding of class power to more dimensions. My accounts also echo the formational sense of class as I document the formation of information elites and non-elites in the digital platform economy.

In this study, I draw on a case in which e-commerce became constitutive in the local agriculture sector. In my case, I found a new form of organizing agriculture-centralized networks. The incipient form of differentiation emerged among small independent farmers and grew to substantial differentiation between information elites and those who were at peripheral positions. This article highlights the social implication of digitally driven development in rural China. The networked digital economy sprawls to rural agricultural communities with the sweeping force of platform expansion and grassroots energy.

ICTs, E-commerce Platforms, and Agrarian Power Dynamics

Courtesy of ICTs, previously scattered regional economies now span distances and are connected to each other. Power among different social groups has been complicated by the rising dominance of ICTs and the social institution revolving around ICTs. Who owns the labor of communication, who uses

information gathered from communication exchange, and what are the legitimate interests remain open questions. The answers emerge in the changing relations of capital, ownership, and labor, which together reshape social relations. My research adds to empirical studies on the social impact of ICTs. I am concerned with how technology access and usage get materialized in social consequences.

Scholars have been interested in the use of ICTs in agriculture, and two perspectives prevail in their studies in this area. The first is the developmental perspective, which celebrates the potential of ICTs for modernizing agriculture and enabling relatively backward regions to leapfrog into advanced production. This orientation rests on the taken-for-granted view that ICTs can empower agricultural producers and stimulate agricultural development (e.g., Heeks, 2010; Nayak, Thorat, & Kalyankar, 2010). The second perspective, institutional economics, shifts from development to market equilibrium as its object of inquiry (e.g., Jensen, 2007). Like the development view, this institutional economic approach, despite a more nuanced measurement system, does not attend to the social consequences of ICTs ownership and labor either.

The power dynamics among different social groups in the agriculture sector are understudied. Exceptions are few. For example, Alexander G. Flor (1993) highlights the rise of white-collar agricultural workers under informatization and the relative deprivation of farmers who directly conduct farming labor. Jabir Ali and Sushil Kumar (2011) find that those farmers who have bigger farms, are better educated, are in socially higher classes, and earn higher income can take more advantage of ICTs in decision making. Rajendra Kumar and Michael Best (2006) reveal that farmers who are young, are male, are better educated, and have higher incomes tend to use telecenters more often than the other users. Therefore, they have a mixed conclusion about telecenters: Telecenters may sustain existing inequalities while opening up new space for progressive change.

Studies on China's Agricultural E-commerce and Platforms

In a review article, Yiwu Zeng and his collaborators (2017) summarize the topics of more than 60 articles in English on agri-food e-commerce, of which studies on China constitute a third. The major themes include the adoption of agri-food e-commerce at both firm and regional levels. At the firm level, attention goes to the factors affecting firms' adoption of agri-food e-commerce, firms' strategies, and how to assess their e-commerce performance. At the regional level, these studies identify different modes of e-commerce development. In general, the assumption of most of the studies reviewed in Zeng and colleagues' (2017) article is that e-commerce is a constructive tool in facilitating agricultural development. This is why these studies try to find the factors affecting e-commerce adoption and propose solutions accordingly.

Similarly, articles on agricultural e-commerce written in Chinese focus on explaining the advantages of e-commerce and how to overcome bottlenecks in developing agricultural e-commerce (e.g., Liu et al., 2017; Zhou & Wang, 2015). These bottlenecks are inadequate infrastructure, lack of policy support, and lack of knowledge about the Internet, among others. The assumption of these studies is that e-commerce guarantees agricultural development. In addition, most of these studies view rural agricultural communities as homogenous. They regard agricultural communities as being in opposition to urban communities and ignore the internal variations in rural agricultural communities.

Nevertheless, the following key questions have not been addressed: Can everyone benefit from agricultural e-commerce? Does everyone in the agricultural community benefit from agricultural e-commerce equally? What is the social impact of agricultural e-commerce? In the literature on e-commerce in China's rural areas, there are a few studies on the different responses of local stakeholders to e-commerce. For example, different groups might appropriate e-commerce differently, and new roles and relationships would emerge (Leong, Pan, Newell, & Cui, 2016). Those who take initiative and can better tame e-commerce rules are able to take the lead. In Leong and her colleagues' (2016) words, there are new "self-organizing ecosystems." In comparison, discussions on the social impact of agricultural e-commerce as a specific type are scant, although discussions on agricultural e-commerce strategies abound. Little attention goes to how agricultural e-commerce might influence the relationships among local groups.

Extending Platforms to Local Rural Agricultural Communities

Inquiries into the social impact of agricultural e-commerce are situated in platform studies (e.g., Jin, 2015; Nieborg & Poell, 2018; Srnicek, 2017). In the current landscape, digital platforms are avenues where the regime of capitalistic accumulation thrives. As Dal Yong Jin (2015) states,

Platforms are known as digital intermediaries, and they have influenced people's daily activities. In the era of globalization, platforms have especially gained significance for capital accumulation, which turns platforms into some of the most important technologies in the digital economy and digital culture. (p. 177)

The disparity between a handful of countries that create and provide digital platforms and the rest of the world has widened. China is one of the few countries where indigenous platforms survive. In China, some digital applications, including WeChat and Alibaba's Taobao, have grown into platforms that become online and offline infrastructures.

Digital platforms are necessary, useful, and available to small sellers. E-commerce giants are celebrated as liberating forces in connecting small sellers to a vast online market. This study attempts to extend the existing scope and situate the power question in a local agricultural community in China. Besides highlighting the online infrastructures of digital platforms, this study investigates the materialization of the platform economy in a local agricultural community. E-commerce platforms are intermediaries, enablers, and rule makers. Local agricultural producers practice new forms of organizing agriculture within the framework constructed by e-commerce and social networking platforms and local governments. These practices and the changing relations constitute the inquiry of this study. Under platform expansion and governmental pull, how would local agricultural producers respond to opportunities and constraints? What are the social consequences? Answering these questions requires an understanding of the literature on rural China studies. Scholars in this field debate on the class composition of China's agricultural producers. Most of these studies, however, do not take into account how ICTs might affect local power dynamics. The next subsection introduces these studies.

Differentiation Between Agribusiness and Small Farmers

The descriptions of the class composition of the agriculture sector in China vary. Philip Huang (2012) and Xuefeng He (2013) assert that smallholding household farming still constitutes most of the agriculture sector. They highlight the resilience of smallholding household farms in China. Other scholars see agribusiness winning. Hairong Yan (2015) argues that the capitalization of China's agriculture is accompanied by proletarianization. Family farms do develop, but they are vulnerable, too. Hairong Yan and Yiyuan Chen (2015) think the state has been facilitating the distinction among peasants and even eliminating small farmers. Hangying Chen (2015) finds that small farmers bear the risks of farming, which capital intentionally avoids. Under this circumstance, a disruptive gap between capitalists and farmers surfaced.

Agrarian change in China thus far has been the subject of critical public review. Rather than approach agriculture as a closed, single set sector, I intend to model the power dynamics among different social groups across the spectrum of production and supply chain networks of agriculture. To further explore how power dynamics change in agriculture, I develop a conceptual tool to explain what power means and how I assess power dynamics among different stakeholders in local agricultural communities.

A Conceptual Tool to Analyze Agrarian Power Relations

Power is multifaceted and multidimensional. Different scholars have approached and analyzed power in varied ways (Lee, 1995). Two lenses are widely adopted in explicating power. The first perspective, led by Marx and Weber, highlights coercive relations between two social groups, although the bases of power are debated (e.g., Bernstein, 2010; Marx, 1975; Weber, 1958). The second lens, represented by Foucault, accentuates the fluid and pervasive nature of power (e.g., Foucault, 1990, 1995).

This project starts with the dominating role of material bases and then incorporates Foucault's disciplinary focus on discourses. I use material relations to interpret production and circulation. Also, I analyze the controlling workings of discourses revolving around ICTs in alternating the power flow. In this section, I develop a conceptual tool to analyze power dynamics based on my dual theoretical lenses. I examine agrarian power dynamics in the local agricultural community across the different stages of the whole supply chain. To clarify the several phases in the supply chain for agricultural products, I am using Jabir Ali and Sushil Kumar's (2011) framework (Figure 1): production planning (preproduction), cultivation practices (production), and postharvest management and marketing (postproduction).

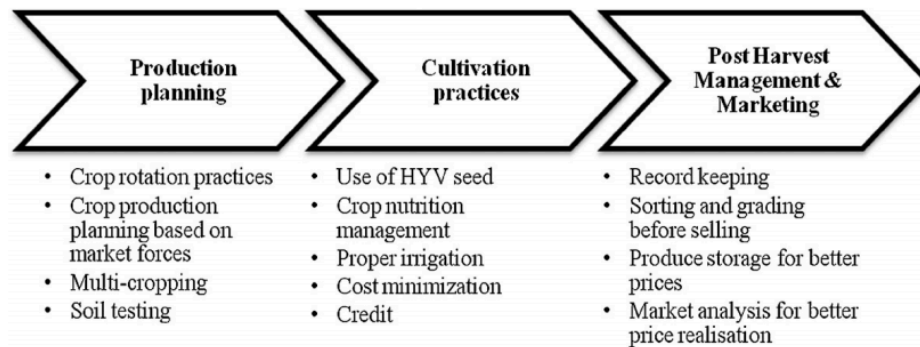


Figure 1. The agricultural supply chain.

This framework is designed to delineate how crops are planned, produced, and transacted. In my case, I use this framework to describe the supply chain of poultry and pig farming. My approach to the power relations in agricultural activities is inspired by Bernstein (2010), who poses four questions that “concern the social relations of production and reproduction”: “Who owns what? Who does what? Who gets what? What do they do with it?” (pp. 22–23).

Bernstein’s (2010) conceptualization dovetails with the agricultural supply chain perspective. Combining Bernstein’s key questions, the supply chain perspective, and the discursive construction of power, I highlight the following dimensions of power dynamics in my inquiry: preproduction decision making; the division of labor in the production stage; market access in the postproduction stage; uncertainty management; digital visibility; and official endorsement (Figure 2). The politics of agricultural practices are revealed in these dimensions.

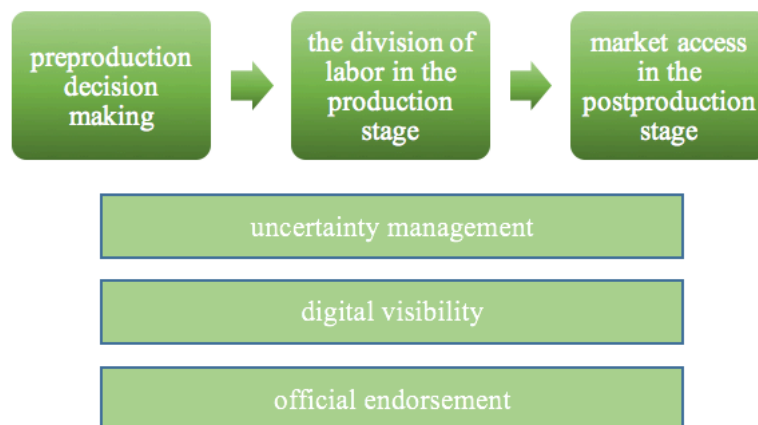


Figure 2. The conceptual tool to analyze agrarian power dynamics.

This conceptual tool addresses the “relationships” among different social groups and how these relationships come to form. The rationale of proposing such a conceptual tool and each dimension will be elaborated in the data analysis section.

Methods and Data

To obtain in-depth knowledge of the social impact of agricultural transition centering on e-commerce, I decided to look at a particular case. After conducting the first round of fieldwork in which I visited two villages in Hunan and Anhui provinces, I chose the site in Anhui province because of better access to informants.

First, I looked at government documents from the state council, the Ministry of Agriculture, and the Ministry of Industry and Information Technology, and media reports to map out policies on agricultural e-commerce. I uncovered whose interests were attended to in the formation of these policies. I asked why certain options were selected, what else could have happened, and why the project of agricultural transition appeared as it did in public representation.

Second, I conducted in-depth interviews with local bureaucrats, local small farmers, and agribusiness. From 2016 through 2019, I did several in-depth interviews with Chen Guan (thereafter, Guan),² the key person in a network. I interviewed nine people in Guan’s network who developed business relationships with him. I interviewed three local officials. Meanwhile, I did six interviews with small farmers who were not involved in this network but lived in the same area that Guan’s business spanned.

In the first stage of my research, I visited several other sites to explore how agricultural informatization was practiced. A significant case was found in Hunan, where I observed how a centralized network emerged in this new agricultural practice. In that village, I interviewed six people who were involved in the network, centralized around a key person who was the node in the network. The next sections introduce the case covered in this article and analyze how power relations unfolded in centralized networks in local agricultural communities.

Centralized Networks in the Local Agricultural Community

Fengyi township³ is located in Nanban county,⁴ Anhui province. It is about eight miles from the county town. It has a population of approximately 20,000. In late 2016, the township party committee and government established the Fengyi branch of Nanban County E-Commerce Association. The signature paper-making industry and local government are mutually supportive. Fengyi township spearheaded Nanban’s e-commerce development. More than 10 delivery services covered every village of this township.

² This is a pseudonym.

³ This is a pseudonym.

⁴ This is a pseudonym.

Fengyi town is surrounded by mountains, and its industries are not well developed. The environment is generally regarded as *yuanshengtai* (natural). The beauty of the area appears to be in harmony with expectations of quality products. Logically, one does not necessarily imply the other. However, quality poultry and meat do come from the area. Guan, a successful agricultural e-commerce pioneer, turned these associations into a robust, local informatization project. He became a local role model for agricultural e-commerce.

My case reflects a different, alternate type of state–business relationship. Different from local state corporatism (Oi, 1999), this type of institutional arrangement features government response to the needs of local development. The local township government and the county government worked together to bestow on Guan—this returned-home, educated former urban dweller—some titles to reward his business success. This encouragement I call the “responsive state.”

The rural entrepreneurial economy depends on digital platforms controlled by the major Internet companies, mainly Alibaba, Jingdong, and Tencent. The delivery system that Guan and other farmers relied on is also an element of the rapidly growing e-commerce that is provided by and extends from these major companies. In Guan’s case, what the government has been doing is to respond to the bottom-up momentum, further the expansion of agricultural networks, and fuel a platform economy. Farmers took advantage of the platform-based digital infrastructures and released entrepreneurial energies. The social dimensions and power relations of the resulting bottom-up political economy are the subjects of the following sections.

Networks in the Information Age

It is hardly novel to point to various networks in the agricultural sector. Since the dissolving of the self-sufficient small peasant economy, agricultural practices are integrated into big farms’ networks. Contract farming, a prevailing practice, dictates the prominence of networks as well (e.g., Gatto, Wollni, Asnawi, & Qaim, 2017). What I have found novel here is, first, the self-formed relationships between those who have exclusive access to online markets and offline supporting structures, and those who provide contracted and uncontracted products. Second, the networks are centralized around information elites, and they bridge between online markets and offline networks. In Guan’s case, he accumulated about 60 partners, 10 of whom were large-scale managerial farms, and the rest family farms. It applies to my case in Hunan province as well: Networks are formed around those who occupy central positions through successful e-commerce marketing.

I describe the practice as centralized agricultural networks. The metaphor of “network” has been evoked frequently in studies about digital communication. The best known term is *network society*, developed by Manuel Castells (2010). The social e-commerce-based networked economy in my case features the networks resulting from a combination of government commands, existing relationships, and market-driven collaborative networks. These networks are characterized by “inherent flexibility and adaptability” (p. 1) that Castells (2001) highlights. Nevertheless, these networks are neither horizontal nor decentralized; they are centralized. There is this network centering on Guan, representing the information elites, and it expands to his suppliers.

Information Elites and E-commerce Literacy

Everett Rogers (2003) spearheaded the diffusion of innovation studies. He categorized technology users as innovators, early adopters, the early majority, the late majority, or laggards (Rogers, 2003). Leong and her coauthors (2016) argued that e-commerce enables the “reconfiguration of interdependencies” and “the emergence of grassroots leaders” (p. 479). After these leaders brought local e-commerce ecosystems into shape, more villagers followed their path into e-commerce.

My investigation of the institution of agricultural e-commerce in this case has found similar differences among small farmers in appropriating e-commerce, agricultural e-commerce in particular. The information elites, as I define them, are those who competently appropriate information technologies to their advantage and assume critical roles in the networked forms of agricultural practices. Advantage comes from an agent’s ability to maneuver information technologies.

The major factor that elevates a person into part of information elites in this networked agriculture is e-commerce literacy. I develop this concept based on the term of *media literacy*. Following Sonia Livingstone’s (2004) synthesis of media literacy, I define e-commerce literacy as ability to create content, interact with customers, and deal with digital platforms. E-commerce literacy is digitally activated cultural capital (Bourdieu, 1986), not equal but related to education. A high level of cultural capital might be translated into solid e-commerce literacy. Guan is a good example of how e-commerce literacy contributes to the success of his business.

As a college graduate, Guan was knowledgeable about different media tools. In the initial stage of his small-scale family farm, he wrote diaries of his farming experiences in the mountains and posted them on his personal blog. These diaries catered to the mentality of urban consumers who craved organic and green food. After familiarizing himself with the ranking system of Baidu, he added keywords to his online diaries to make them appear on the main search page for Internet users. When Guan started his Taobao store, he registered his own brand and created an appealing collection of photos, videos, and text descriptions of his products. As his business expanded, he moved the head office to the county town and hired a team of professionals to help create content for consumers.

In 2014 and 2015, Guan also established a second office in Yiwu, Zhejiang province, which pioneered e-commerce development. As he said, “[in Yiwu], I was operating my online business. The main [purpose] was to learn something, to learn how to operate them.” His skill set was further honed in Yiwu. Guan’s ability to deal with customer reviews was also impressive. Some customers would leave challenging comments, questioning whether his products were truly “organic.” He selectively replied to these customers and debunked their misconceptions. In this process, if he encountered problems that he could not answer, he would consult his local “experts” for convincing answers.

What bonded Guan and his suppliers paralleled the ties of contract farming, in a less formal and more ambiguous way. Some of his suppliers were his relatives or fellow villagers. He would also help the local government with poverty alleviation. As Guan said, “The township-level government said there were poor households who had products to sell, then I help them sell the products.” The process of Guan’s seeking

partners multiplied new connections between him and other farmers. Some of Guan's collaborative relationships were forged through conventional market searching. As he got to know some people who were raising large quantities of poultry, he would reach out to them and ask to form a collaboration. With these relatively large-scale partners, Guan would sign contracts.

The power relations among different players that manifested in the networked agriculture are complicated. I develop a conceptual tool to understand what power is and how I approach agrarian power dynamics in this case of a government-encouraged, corporate-platformed, and socially tied rural political economy. The next section applies my conceptual tool to illuminate the changing power relations at my field site.

Changing Power Relations in Local Agricultural Networks

Preproduction Decision Making

Sound decision making about agricultural planning in the preproduction stage is critical to successes in later stages (e.g., Ali & Kumar, 2011; Smith & McDonald, 1998). In crop agriculture, the planning for multicropping and alternation of crops is important. In poultry farming, the amount and breed of poultry, the location, and other factors must be taken into consideration (e.g., Prabakaran, 2003). My interviews reveal the influence of Guan on his suppliers. As he told me, for some of his business partners, he would make orders, similar to contract farmers taking orders from agribusiness.

When Guan and I visited some of his suppliers, we took a tour to view the animals. Zhang,⁵ one of Guan's business partners, pointed to several dozen of a rarely seen breed of ducks and told me that these ducks were ordered by Guan. Zhang had his own pool of customers on WeChat, and his products were popular among them. When his customers needed his products, they would send him messages, detailing product information. He then prepared products and mailed them out. Transactions took place on his personal WeChat account, so his customers primarily came from personal relationships. In contrast, Guan not only had customers on WeChat, but also had an unlimited pool of customers on Taobao, as long as his Taobao store was visible and searchable. Zhang would take lucrative orders from Guan, particularly for some special breeds that were not commonly seen in local areas.

From Guan's perspective, Zhang was a capable partner whose expertise matched his needs for high-quality animals, particularly the special breeds that were challenging for regular farmers. Six years of e-commerce experience made Guan a veteran in preproduction decision making. Not only had he developed a seasoned ability to predict and evaluate customer needs, but he also could well appropriate the resources in his offline networks.

Guan contributed to the poverty alleviation campaign through collaboration with the local government in helping households below the poverty line. He gifted these households baby chickens or

⁵ This is a pseudonym.

ducks. Eventually, he would purchase back the grown chickens or ducks to serve his customers online. In these cases, he acted as a careful planner in pairing business ambition with sociopolitical deliberation.

The Division of Labor in the Production Stage

Guan's products feature "manual labor" and yuanshengtai (natural), so it is important to ensure that the level of chemicals and mechanization used in the production process is minimal. Therefore, the way in which they organize farming mimics natural raising. At the very beginning, Guan chose a mountainous area in his hometown for production; he said, "Why I chose the mountain? I wanted to find a truly organic and great environment, zero pollution. I want to make quality products." In chicken farming, for example, the first stage requires intensive human labor in ensuring the health of baby chickens. After baby chickens grow to a stage at which they can sustain themselves, these poultry farmers can relax a bit regarding everyday care, except for feeding them and sheltering them at night.

When Guan first started his business, he and his parents had to meticulously attend to every step of production. His parents were farmers whose income was low. Given this background, when he started, his family had to rely on diligent work. From purchasing feeds, to feeding the animals, and from sheltering animals to keeping them healthy, his family was fully engaged. After several years of hardships, Guan's business grew. Then he hired three to four people to take care of the animals along with his father. Meanwhile, he established an agricultural company and built a head office in the industrial park in the county town. Most of the time, he commuted between the office and the field. In the office, he hired an accountant, two e-commerce specialists, and an administrative person.

Among Guan's suppliers, production tasks remained the same, or even surged because of their collaboration. The smallholding farmers still conducted production without hiring wage labor. They were the actual producers. When he asked some people for specific orders, he was also contracting the labor part onto them. For smallholding poultry farmers, Guan would collect chickens from them, and the packing was done in his head office. For large-scale farmers, he would ask them to pack and mail out the products, and he attended only to order management. The outsourcing of labor in the production process became one characteristic of this networked production.

Although more knowledgeable about farming than most of his peers, Guan was still a newbie who was not able to answer many of the questions on yuanshengtai agricultural products when he first started the business. He leveraged his ability to accumulate information from his network. He accumulated the knowledge of local experts and translated it into the knowledge base of his online store, firmly establishing his own brand of yuanshengtai agricultural products. At the early stage of starting up the business, his parents were his troubleshooters. Another key person, Ge,⁶ who helped Guan with pork management, also played a significant role in branding Guan's yuanshengtai products. He had been engaged in the pork industry since he was very young because his whole family made their living from it. He was a relative of Guan's father's. Guan found Ge and persuaded him to form this partnership. Ge said that during the early years of Guan's business, Guan was unfamiliar with the characteristics of yuanshengtai pork. When Guan

⁶ This is a pseudonym.

encountered problems from customers on yuanshengtai pork, he would seek help from Ge; Ge never failed to generate satisfactory answers, as shown in the following conversation:

Ge: When he started this, I taught him how to answer customer service questions.

Guan: I didn't know. I knew nothing at first.

Interviewer: For example?

Guan: For example, many parts. . . "tuzhu" contains more fat than "siliao zhu."⁷ We didn't know.

Ge: Sometimes, they [customers] asked questions that he was not able to answer. He had to ask me. I helped him with the answers.

Guan's ability to translate indigenous expertise on yuanshengtai agricultural products into an established brand online was fundamental in his business world. He consolidated resources from his network and was able to transform local-bounded resources into unbounded online visibility. Guan's role changed from that of a wholesale provider-laborer to an order taker, manager, and capital provider.

Market Access in the Postproduction Stage

Most studies on agrarian change in China stay in the farming, or "production," phase. Hangying Chen's (2015) article is a good example that directs our attention to the arena of agricultural transactions. My study is aimed at analyzing the power dynamics among different social groups across the whole supply chain. In my case, the centralized networks of agriculture participated in all the stages of the chain. Market access becomes the determining factor, as Qian Forrest Zhang (2012) noticed:

Thus, in China's case at least, it is market access that poses the greater obstacle to family producers' shifting to commoditized agriculture. As a result, although the inability to meet the requirements of skill, labor, and capital has certainly forestalled the transition to commoditized agriculture in some rural areas, the ways through which direct producers gain market access are the main dimension that creates diverging local patterns of commoditized agriculture. (pp. 8–9)

This was the key as to why Guan's agricultural business developed. E-commerce unprecedentedly expands the market for those who are capable of mastering e-commerce literacy. From Guan's side, his ability to maneuver an assemblage of e-commerce skills escalated his small family farm to a large-scale agricultural enterprise. For other people, lack of media literacy created barriers to furthering their market size.

Zhou,⁸ who used to work in the local paper mill, was among those who lacked e-commerce literacy. When he started raising poultry, he began with the local county town market. He sold products in the county

⁷ The literal translation of *tuzhu* is "soil pig." It refers to a breed of pig raised in the traditional style of farming; this is a preferred alternative to *siliao zhu* (fodder pigs), which are pigs raised by intensive commercial farming.

⁸ This is a pseudonym.

town and accumulated a handsome number of customers. Meanwhile, through friends' networks, he was connected to a few restaurants in Shanghai that needed locally raised chickens. When they asked him to send chickens, he would mail processed chickens to Shanghai. According to him, it didn't take much effort. The major way in which he appropriated e-commerce was through social e-commerce on WeChat. In most cases, managing a WeChat account for product selling is easier than managing an official Taobao account. WeChat's Moments function is used to market the products. Agricultural producers post the photos, not necessarily fancy ones, with certain textual descriptions. Meanwhile, WeChat was used to communicate with producers' customers about the details of orders and deliveries. Zhou was good at communicating with his customers on WeChat. WeChat became a tool for him to get in touch with customers as far away as Shanghai. However, for Zhou, managing a Taobao account was beyond his skill level. This meant that his business would not be searchable by the sea of consumers on Taobao, the largest e-commerce platform in China.

With impressive successes, Guan became well known among farmers in his hometown and adjacent villages. Poultry farmers came to him for help with posting and sales; he was also approached by others to help with selling products online. Zhai,⁹ a relative of Guan's, was among them.

After driving for a paper mill for several decades, Zhai had to quit driving because he was too old to renew his commercial driver's license. His sons wanted him to withdraw from the exhausting driving career. However, he was unsatisfied with a dull postretirement life. He shifted to farming on a total of 20 mu land,¹⁰ cultivating crops and raising chickens. In 2016, he was raising close to 500 chickens. The major market for his chickens was the local county town.

Besides selling chickens to the local market, Zhai also decided to sell eggs online. He asked Guan for help. He told me that Guan "knows how to market." They had known each other long before their partnership took off. Zhai was Guan's father's cousin, so he quickly learned that Guan was doing well in agricultural e-commerce. Quite a number of the poultry farmers in the neighboring area were informed of Guan's prosperous business. When asked if helping others to sell products would be too much trouble, Guan said, "We are from the same place. We can sell our things at a higher price when the market booms. If the market is tough, we can help each other. This is mutual."

From Zhai's perspective, the advantage of Guan's ability to master the Internet was a key factor contributing to his business success. Zhai himself was sorely lacking Internet knowledge. He admitted,

For e-commerce, I don't know the Internet. I can only make calls and answer calls on this phone, and I don't know other things. I don't know. [If I can] market them out, [then I can] make money. Such as the flat peach, those people coming back from Shanghai said the price was over 30 RMB per jin,¹¹ but my price is only 8 RMB at home. If I were young, knowing the Internet and how to market, I could have done this business online, delivering my products.

⁹ This is a pseudonym.

¹⁰ 1 mu is approximately 666.667 square meters.

¹¹ Chinese weight, 1 jin = 500 g.

As a senior in his 60s, Zhai was leading on many fronts. His experience as a driver enabled him to be better informed than his peers in the same village. For example, he chose to grow the flat peach, which was a popular fruit scarcely found in the local areas, because he acquired the information through acquaintances from his driving career. Therefore, he purchased some nursery stocks and taught himself growing techniques. The flat peaches, as he expected, were well received.

His knowledge, however, did not translate into a digital, networked information advantage. The obstacles included age and lack of experience with smartphones. He was typical of his generation and faced a socially constructed environment that did not encourage older workers or laborers to venture into new technologies.

Flexible Accumulation and Uncertainty Management

The economic crisis in the 1970s revealed the fragility of the Fordism regime, shattering the delicate balances prudently maintained in the post-WWII Western societies. The juggernaut of neoliberalism overhauled economic practices. The flexibility that characterized post-1970s capitalist industrial production retooled the institutional assemblages in the capitalist world (Harvey, 1990). One often-discussed topic is the legitimized contract labor practice. Although most literature on flexible accumulation has focused on the manufacturing sector, the concept itself applies to contemporary agricultural practices as well. As mentioned earlier, contract farming established itself as a prevailing phenomenon in some areas by powerful transnational companies (Watts, 1992). It is constructed to be a win-win situation for both small producers and contractors. The instability of farming, through contract processes, is aggregated into a guaranteed stability for agribusiness.

New media technologies have become important tools in capitalist regimes (Menzies, 1999). Networks enabled by digital technologies facilitate the popularization of flexible spatialization. The most cutting-edge digital innovation furthers the frontiers of flexible accumulation. For example, the sharing economy, predicated on mobile platforms, enables technology companies to draw on an unprecedentedly large militia of service providers and to serve literally anyone who is registered for the service. Uber, one of the largest technology companies in Silicon Valley, to some degree resembles the flexible contract laboring practice. Uber provides customers for drivers and itself as the platform cashes in on the aggregated "stability" of contracting or "sharing."

Centralized agricultural networks represent a newly developed form of flexible accumulation, with an intertwinement of existing social relations and technological advancement. In Guan's case, the uncertainties associated with production were largely mitigated because of dispersed production. Guan accumulated a network of about 60 collaborators or suppliers. In this network, the business fluctuations of an individual supplier would not affect Guan that much. The accumulated pool of products remains relatively stable.

Digital Visibility

Guan's Taobao store has been established as a successful brand. For every search of a specific product, Taobao listed some brands. Guan's brand was among the top 199 brands that Taobao listed for

"local eggs" or "organic eggs" (benjidan 本鸡蛋), which demonstrated Taobao's recognition of his brand. This pushed Guan's brand to the forefront of the e-commerce sphere of fresh and "local" agricultural products. For the Taobao website, he presented a high-quality collection of photos and videos for his products. This collection appeared as proof of the authenticity of his products. On his WeChat moments, he shared photos and videos of the animals and crops for the same purpose. Although Guan's products sold online also came from other suppliers, the reviews that appeared on Taobao website and WeChat moments were all credited to Guan. Guan's brand gained fame and recognition, while his suppliers were invisible to consumers. When his customers made comments, they would address "the retailer" (Dianjia 店家; Maijia 卖家) or "the boss" (Laoban 老板), which referred to Guan's online store or Guan himself, as shown in the following examples of customer reviews:

It was my third time [buying its pork]. I am very satisfied. Thanks to the retailer's service.

The cooked pork smelled great. The meat texture was great. The package was very nice.
The boss was responsible. [You can] purchase this assuredly. You can get what you pay for. It is worth it.

These reviews demonstrate that the products and services that customers received were automatically attached to Guan, as an entrepreneur or a company. Nevertheless, these products and services, from the offline origin, come from an integrated network where Guan stood at the center node.

Meanwhile, media presence heightened his visibility. Last year, Guan was featured in a program about successful young entrepreneurs produced by the official television of the prefectural city. Through the official propaganda, he was endorsed as a role model for the post-80 and post-90 demographic group.¹² The discourses constructed Guan as a successful, tech-savvy agricultural producer.

Official Endorsement

In the first stage of Guan's business, he was independent in expanding businesses. As mentioned, he mastered the media tool to boost the visibility of his products and accumulated a steadily growing pool of customers. After he moved the management office to a location by the main road, his business was better known by local people, including local officials. From then on, Guan's business obtained more recognition by the local government, which brought him policy bonuses. He was granted an award in leading local e-commerce development. His company was selected by the local agricultural bureau as the prefectural-level role model for agricultural companies. This award came with a cash bonus and elevated his status in the local business sphere.

With the state's poverty alleviation campaign, Guan volunteered to help several households under the poverty line to nurture their small businesses. His participation strengthened his relationship with the local

¹² The post-80 group includes those who were born between 1980 and 1990. The post-90 group includes those who were born between 1990 and 2000.

government. He was appointed the vice chair of the township-level E-commerce Association. With regard to his role in this association, he said, "We would communicate (our experience on e-commerce) when we attend meetings." In a conventional sense, he was a young entrepreneur in his 20s. But his business success as a veteran agricultural e-commerce entrepreneur legitimized his status in that association.

Guan's business expansion, together with his connections with the local government, led to the establishment of an agricultural e-commerce industrial park in the county town. In the groundbreaking ceremony, a selected crew of government officials made keynote speeches and congratulated him on his achievements. He was celebrated as an exemplary figure in advancing the integration of ICTs into the agriculture supply chain. The official rhetoric also endorsed his role in encouraging more small farmers to use e-commerce for selling local agricultural products to a broader online market. In a report by the prefectural branch of the party committee, Guan was praised as a pioneer in propagating policies on rural development to those people who collaborated with him. Power dynamics within the network surrounding Guan connected country and city people, products, and purchase. To make all this work, a new form of social differentiation emerged between Guan, representing information elites, and other agricultural producers. An information elite was becoming central to shaping agribusiness into the networks of the rural political economy.

A New Form of Differentiation

Views differ about the class composition of the agriculture sector in contemporary China. In my case specifically, the differentiation did not result from the government's intervention, as argued by some scholars, nor did the initial differentiation occur between agribusiness and small independent farmers. The incipient form of differentiation emerged among small independent farmers. Guan, representing the more competent players in the networked agriculture, started off as a small farmer. He and his parents managed a family farm, participating in farming and marketing. At the beginning, Guan and the other farmers could all be categorized as smallholding farmers. The differentiation between Guan and his suppliers grew, however. Guan was able to master e-commerce skills and accumulate a large number of customers online. His ability to summon resources, including labor, his indigenous knowledge, and official support all contributed to his business expansion.

As Guan's business flourished, he expanded his farm and employed wage laborers, managers, and e-commerce specialists. He developed a network of suppliers and business collaborators. He gained more say in preproduction decision making than his suppliers in the same network. The division of labor tilted toward Guan because Guan himself could leave production to the other small suppliers. He shifted from a whole-supply chain laborer to the role of manager. He accumulated expertise and redistributed orders in the network. He managed to control market access in the postproduction stage. Because of the dispersion of production and supply chains, Guan could mitigate uncertainties in his own agricultural enterprise. Meanwhile, he obtained both digital and official visibility and endorsement. Therefore, a substantial gap divided Guan and his suppliers. This type of differentiation emerged between information elites and those who were in peripheral positions in this networked agriculture. Information elites, on the other hand, have to depend on digital platforms, including e-commerce and social media services. They have to conform to the rules set by these platforms.

Conclusion

This study examines the social impact of agricultural e-commerce from a class perspective that pursues ties among structure, agency, and technology. I analyze how agricultural e-commerce becomes institutionalized, and there I investigate how agricultural e-commerce develops and in turn affects social structures. In this way, the structural view of technologies is complemented by social change enabled by technologies and the agentic potential of social actors. My study illustrates how agricultural practices become organized in a new form. This new form differs from traditional ways of organizing agriculture. This mode of appropriating ICTs to sell agricultural products emerged at this place where smallholding farmers were the major producers.

The established digital platforms, along with corresponding offline infrastructures, constitute a conducive environment for some agricultural producers to reach a larger market of urban consumers who are willing to overpay for authentic “organic” agricultural products. The predominance of social e-commerce platforms, such as Taobao and WeChat e-commerce, facilitates building infrastructures by nurturing the participation of small farmers in developing and expanding networks. Those who are competent in e-commerce have enjoyed a higher probability of business success. I describe them as the “information elites,” who competently appropriate information technologies to their advantage. They conform to the rules set by major e-commerce and social networking platforms. The key factor to their success is e-commerce literacy, which I define as the ability to create content, interact with customers, and deal with platforms.

The differentiation among small farmers in this case did not result from government intervention, as argued by some scholars, nor did the initial differentiation occur between agribusiness and small independent farmers. This incipient form of differentiation emerged among small independent farmers and grew to substantial differentiation with a growing gap between information elites and those who were at peripheral positions in this networked agriculture. This differentiation originated in the platform economy. Those who can take better advantage of platform rules and cater to platform needs are more likely to succeed.

My case was found in an area where platform oligopolies direct economic development through attracting and enabling the participation of small farmers. In the local community, the small farmers in centralized networks depend on the centralized node, who belongs to information elites. As Hairong Yan (2015) and Yiyuan Chen (2015) have found, small family farms are vulnerable in the supply chains of agriculture. They are integrated into information elites’ networks. They directly conduct farming, bear the risks of production, and have to rely on information elites’ resources. However, at the discursive level, they remain underrepresented.

Beyond the local community, information elites are dependent on e-commerce and social media platforms. When Guan first started to sell products, he used Taobao as the primary marketplace, just as many other small agricultural producers were. According to him, Taobao was quite friendly to small businesses at that time, providing appealing promotions. However, Taobao became less inviting to small sellers. As Anthony Li (2017) observed,

Some media reports have already suggested that Taobao has altered some policies unilaterally at the expense of rural e-tailers. After all, the e-commerce platform managed by Alibaba is by no means “neutral” but rather is embedded in the listed company’s urge for profit maximization. (p. 59)

Recognizing the limit with Taobao, Guan looked for ways to circumvent it, and he was thinking about developing a new application exclusively for himself to sell products. In either case, with Taobao or a new exclusive application, the importance of platforms is self-evident to platform-connected producers and markets.

The differentiation between information elites and smallholding farmers unfolds in a digital landscape where government preferred, private platform interests drive economic interests and frame developmental schemas. Following this line, those who are able to productively appropriate platform rules can outperform those who are not capable of doing so. There emerges the cleavage among local small farmers within the possibilities and constraints of digital platforms. Thus, I witness new forms of inequality, reflected in the hierarchy among platforms, information elites, and peripheral farmers. Besides highlighting the online infrastructures of platforms, this study investigates the materialization of the platform economy in a local agricultural community. E-commerce platforms are intermediaries, enablers, and rule makers. Local agricultural producers practice new forms of organizing agriculture within the framework constructed by e-commerce and social networking platforms and local governments. These practices and the changing relations constitute the inquiry of this study. The social implication of digitally driven development in rural China speaks to broader questions about technology, empowerment, and inequality. The digital economy penetrates into rural agricultural communities and asserts its force in agrarian power dynamics.

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