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# TRANSFORM FARMING WITH THE HELP OF SOCIAL MEDIA A PIONEERING CHINESE COMMUNITY SUPPORTED AGRICULTURE (CSA) FARM AND ITS MICRO BLOG USA

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# TRANSFORM FARMING WITH THE HELP OF SOCIAL MEDIA

## A PIONEERING CHINESE COMMUNITY SUPPORTED AGRICULTURE (CSA) FARM AND ITS MICRO BLOG USAGE

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### Abstract

*This study explores the role of social media technology, especially micro blogging technology in the introduction of a new agricultural business model in China. As the rapid urbanization process brings challenges such as loss of agricultural land and food safety problems, some people try to address the challenges through transforming farming with a new business model, i.e. Community Supported Agriculture (CSA). The CSA model emphasizes risk sharing, and requires significant trust between farmers and consumers. Yet the general public lack awareness of the model when it was first introduced, and trust among each other is quite low in the general public. Social media tools, such as the micro blogging technology, are adopted by the young CSA farmers to develop public awareness of the CSA model and cultivate consumers' trust toward the farm. Through content analysis of micro blog posts of the CSA pioneers in China, the study contributes to our understanding of the role of micro blogging technology in transforming farming and addressing complex societal problems.*

*Keywords: social media; micro blog; Community Supported Agriculture (CSA); farming; urbanization.*

## 1 Prologue

After around three-hour drive from the city center of Beijing, you will arrive in the Little Donkey Farm. The peaceful farmland is located at the foot of the Phoenix Mountain, presenting a great contrast with the skyscrapers and busy traffic in the metropolitan city. First comers to the farm are likely to be surprised by the farmers they see. Well educated young men and women who look like students and young professionals are busy working on the farm land. Their suntanned skin and skillful work prove their passion toward farming.



*Figure 1. Map of the Little Donkey farm and a photo the young farmers*

Beijing, the capital city of China, has been troubled with food safety problems. As an example, more than 20 tons toxic soybean sprouts were sold on the market daily (Global Times, 2014). This is just a miniature of what Chinese citizens are facing every day. Can the Little Donkey Farm provide any possible solution? What role do social media play? How does farming and social media technology connected? In the following, we start with an introduction of the social background and problems in the urbanization process. We then discuss the Community Supported Agriculture (CSA) model and its impacts on farming, on relationships between farmers and consumers, and challenges in CSA development. Then we examine the role of the micro blogging technology in addressing the challenges, which is the focus of the study.

## 2 Introduction

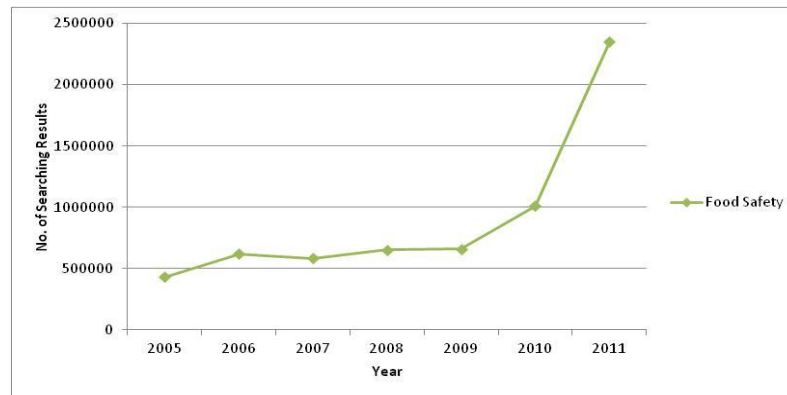
### 2.1 Challenges China Facing In the Rapid Urbanization Process

As one of the most vibrant economic powers, China is undertaking tremendous changes. The rapid economic growth and extensive urban construction bring many opportunities; as well as some inevitable challenges.

The first challenge is loss of agricultural land. According to statistics from Ministry of Construction of China (MCC), between 1978 and 2003, the urbanization level doubled, rising from 17.9% all the way to 40.5%. During the rapid urbanization process, the available arable land decreases. About 74% new urban land is converted from arable land, and the percentage would be even higher in smaller cities (Tan, Li, Xie, and Lu, 2005). Thus, the giant gap between the increasing food demand in urban areas and the decreasing arable land is quite hard to fill, and may cause serious problem (Chen, 2007).

The second challenge is food safety (Calvin, Gale, Hu, and Lohmar, 2006). After the massive media exposure of pesticide polluted agricultural produces, toxic milk, etc., more and more public attention is paid to food safety issues (Ortega, Wang, Olynk, Wu, and Bai, 2012). Apparent evidence is from searching statistics. Searching keywords “food safety” in Chinese through Google, we clearly observe the growing attention on food safety from the public, as shown in Figure 2. Consumers’ concerns

about food safety problems are also reflected in their willingness to pay more for quality food. Take dairy products as an example, in Beijing supermarkets, products with Hazard Analysis Critical Control Point (HACCP), a quality management label, are sold at a price premium of about 5% comparing to products without the label (Wang, Mao, and Gale, 2008).



*Figure 2. Growing Attention on Food Safety Demonstrated by Number of Google Searching Results Returned with the Keywords “Food Safety” in Chinese in 2005 - 2011*

There are various problems derived in the urbanization process. Since farming is exposed to various risks, such as natural disasters, increasing costs for fertilizers and pesticides, unstable market prices for agricultural produces (Hays, 2012; Huang and Zhan, 2008), more and more farmers leave their villages and go to cities. They become migrant workers who receive regular incomes (Ebenstein, Chen, McMillan, and Zhang, 2012; Hu and Zhao, 2011). Migrant workers provide labor force for business, but also bring a lot of social problems such as social inequalities, unattended “left-behind” children in villages (Gu, Zheng, and Yi, 2007).

The above challenges are crucial. Among the various endeavor to address the challenges, Community Supported Agriculture (CSA) is one possible solution.

## **2.2 Community Supported Agriculture (CSA) – A Possible Way to Address the Challenges**

### **2.2.1 What is CSA?**

Community Supported Agriculture (CSA) is relatively a new idea in farming. It brings together consumers who are looking for high quality food and farmers who are seeking stable markets. It removes middlemen, and aims at building long term partner relationships between consumers and farmers.

CSA involves an agreement between a farm and a group of consumers, who are considered as “members” of the farm (also known as shareholders or subscribers). At the beginning of a year, members pay for a share. Members may also need to work on the farm for their share. After the advance payment, members receive farm produce throughout the year (Groh and McFadden, 1998; Henderson and En, 2007).

For consumers, since most CSA farms adopt organic farming methods, food safety is ensured. For farmers, advance payments provide farmers with capital as well as a guaranteed market. Risk sharing is core to CSA’s advancement payment model. For example, if there is a poor harvest due to a heavy thunderstorm, members may not receive their shares of farm produce for a period. Members have to share risks with farmers.

Since CSA emphasizes risk sharing, the relationship between farmers and consumers are no longer simply selling and purchasing. Instead, consumers become members of the farm, and join the farmers as a community. “CSA consists of a community of individuals who pledge support to a farm operation so that the farmland becomes, either legally or spiritually, the community’s farm, with the growers and consumers providing mutual support and sharing the risks and benefits of food production.”

(Demuth, 1993). Figure 3 shows a comparison between the traditional farming model and the CSA model (Zhao, 2011).

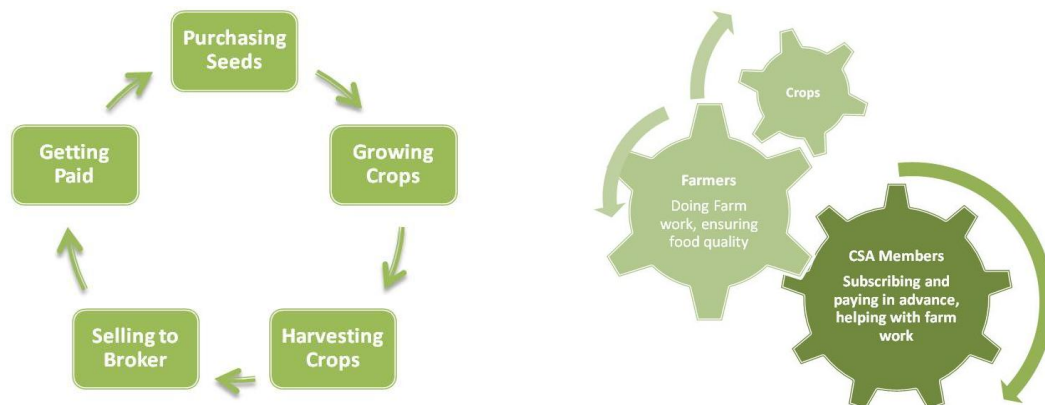


Figure 3. Traditional Farming Model vs. CSA Farming Model, Adapted from Zhao (2011)

### 2.2.2 CSA as A Possible Solution To The Problems In Urbanization

CSA can be considered as an integrative solution to the problems we identified (Liu, 2012).

**Food safety:** Most CSA farms adopt organic farming, and do not use chemical fertilizers or chemical pesticides. They provide safe and nutritious food to consumers.

**Urbanization of agricultural land:** CSA farms not only offer vegetables and fruits to urban residents, but also offer opportunities for the residents, especially the younger generation, to experience and appreciate the beauty of nature. As many current CSA farms are in the suburb of large cities, their existence challenges the stereotypes of mega-city and demonstrates to citizens the harmony between human beings and the environment.

**Uncertainties faced by farmers:** CSA adopts advance payments, and emphasizes risk sharing. Farmers no longer bear risk alone, and members share risk with farmers.

## 2.3 CSA Development and Challenges

### 2.3.1 CSA development around the world

The CSA concept was originally developed in Japan in the 1960s. Japan had gone through similar problems as nowadays China. At that time, a group of consumers who cared about food safety started collaboration with local famers. Farmers provide consumers with organic wheat, rice, vegetables and fruits; and consumers support farmers with money or farm work. They called this “Teikei”, which means “you could see the face of the farmers on the produces”. The collaboration emphasizes getting to know your famers and caring about each other. Similar collaborations started in Switzerland several years later (Henderson and En, 2007). In the mid 1980’s, CSA was introduced to the United States and the first CSA program in the States was at Indian Line Farm, Massachusetts, in 1985. Now most CSA farms in the States are located near urban centers in New England, the Mid-Atlantic state, the Great Lakes region, and the West Coast (Demuth, 1993).

### 2.3.2 CSA in China and the Little Donkey Farm

The CSA concept was introduced to China by scholars and students who focus on issues related to “famers, rural areas, and agricultural production”. Prof. Wen Tiejun and his students from Renmin University are among the early Chinese supporters for CSA. The first CSA farm, Little Donkey Farm (<http://www.littledonkeyfarm.com>) was founded in April 2008 as an experimental CSA farm. Since then, there are CSA farms in major cities in China, in Shanghai, Shenzhen, Guangzhou, etc..

Little Donkey Farm received support from Beijing’s Haidian District Government, Renmin University of China, and Green Ground Eco-Tech Centre. People at Little Donkey are devoted to sustainable



agricultural movement. They hope to involve local farmers, citizens, NGO's, and government into this social movement (Shi, Cheng, Lei, Wen, and Merrifield, 2011). Figure 4 presents a timeline of the Little Donkey Farm's development.

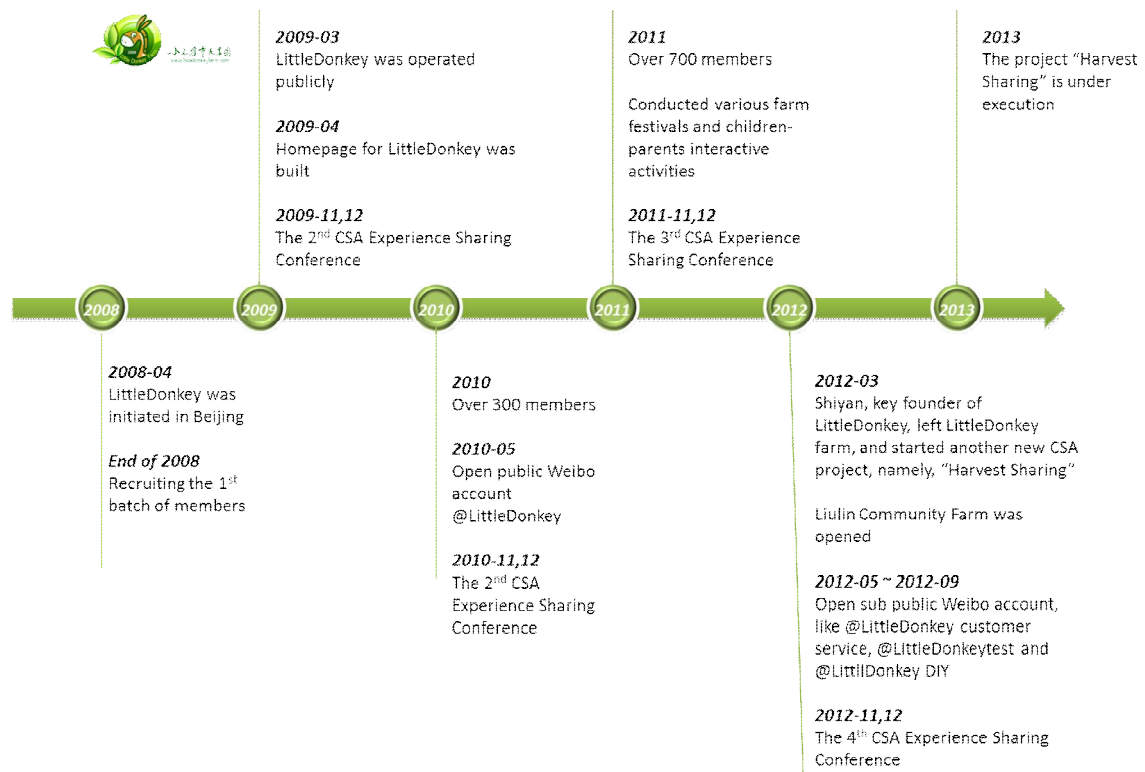


Figure 4. Timeline of Little Donkey Farm's Development

### 2.3.3 Products offered by the Little Donkey Farm and prices

The vegetable, fruit and meat from the Little Donkey farm are all produced through organic farming. Neither chemical fertilizer nor pesticide was adopted. Organic farming is labor intensive and time consuming. Since they do not use chemical pesticides, they need to adopt alternative ways, such as catching the worms by hand. They also prepare compost on their own. Hence, the price of farm products is higher than the usual market price, as shown in Table 1.

	Little Donkey Farm's Price	Market Price
Vegetable*	1200RMB/set	432RMB/set
Eggs	2.5RMB/unit	1RMB/unit
Chicken	120RMB/unit	30RMB/unit
Pork	45RMB/unit	30RMB/unit
* Around 20 kinds of vegetables and fruits are offered within a set, we calculate the market price by the public information from China government's portal page on agricultural produces pricing.		

Table 1. Price Comparisons between the Little Donkey Farm and the Market

The Little Donkey farm cultivates organic plants from spring to fall, and takes intensive care of their growth. Every Wednesdays, they collect, clean and package the vegetables; on Tuesdays, they deliver vegetables to locations designated by customers. A family with four to five members can get enough fresh vegetables during the whole week.

## 3. Challenges and the Role of Social Media

### 3.1 Challenges in Little Donkey Farm's CSA Development

Since CSA's development in China is still at its infant stage, citizens are not yet familiar with CSA farms. Citizens who care about environment and food quality are those most likely to buy organic produces and become CSA members (Cone and Myhre, 2000).

Yet CSA is more than exchange of money and quality food. CSA members and farms are expected to become partners, and they together become a community (Wells, Gradwell, and Yoder, 1999). CSA members are expected to share risk with farmers. In Little Donkey Farm's guidelines for members, it explicitly states, "*We do not 'regard consumers as god'. Each one of us is a part of this social movement. We and our members are not simply selling-purchasing agents, we are equal partners, and we trust each other.*"(Little Donkey Farm, 2012)

As members not only share harvest with farmers, but also share risks, trust is important in CSA community. For example, if any natural disaster happens and farms are influenced, members may not receive any delivery. Table 2 highlights the difference between traditional farming and CSA farming, in terms of relationships between farmers and consumers, and risk management.

	Traditional Farming	CSA Farming
Relationships between farmers and consumers/CSA members	Consumers simply pay and get food. Relationship building between farmers and consumers are not necessary, and in many cases impossible, as consumers get food from brokers and do not interact with farmers at all.	CSA members are part of the community. Members support farmers through various channels. They may pay in advance, or they work on farms, or they share CSA concepts with friends and encourage them to join CSA farms.
Risk management	Farmers bear risk solely. Neither brokers nor consumers share risk with farmers.	CSA members share risk with famers.

*Table 2. Comparisons between Traditional Farming and CSA Farming*

The core of CSA spirit is trust and risk sharing. Instead of using the term "trust" in its generic forms, we adopt the definition of trust from the seminal work of Mayer, Davis, and Schoorman (1995). Trust is defined as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party." (Mayer, Davis, and Schoorman, 1995) This definition has been widely used in both organization behavioral research and in information systems research, especially when investigation trust relationship in e-commerce buyers and sellers (McKnight, Choudhury, and Kacmar, 2002).

This definition of trust can be adopted in the context of CSA farming, and it describes the relationship between CSA farmers and members. CSA members are vulnerable to the actions of CSA farmers, and members do have expectations that farms will perform certain actions (i.e. take care of the crops appropriately, use organic methods to deal with pests), irrespective of members' ability to monitor or control farmers.

In trust building, the trustee's trustworthiness characteristics are important. Prior literatures on trust have identified various factors; Mayer et al. (1995) summarized them into three characteristics: ability, benevolence, and integrity.

Ability refers to a group of skills and competencies that enable a trustee to have influence within some specific domain. In our context, ability means that the CSA farmers have skills and competencies to run the farm according to the organic standards mutually agreed with the CSA members. Benevolence means "the extent to which a trustee is believed to want to do good to the trustor, aside from an egocentric profit motive". Benevolence is related to attachment, as CSA farmers and members are considered part of a community promoting sustainable agricultural movement, they are attached with



each other. CSA farmers shall also have intentions to do good to the members. Integrity means that trustor expects the trustee adheres to a set of principles that the trustor also thinks acceptable. It includes common values such as honesty, openness, and CSA specific values such as adherence to specific agricultural methods.

To form perceptions about farmers' ability, benevolence, and integrity, CSA members need a lot of information, which can only be acquired in interactions. Yet in reality, they could only spend limited time with farmers, as most CSA members have their own professions and visit the farm infrequently. If they rely on their personal observation during their short interactions with farmers, they may not obtain adequate information to evaluate how trustworthy the farmers are.

Lack of trust between consumers and farmers is partly a result of temporal and spatial separation. In Giddens' seminal work *The Consequences of Modernity*, he identified disembeddedness from specific time and space as a major character of modern society (Giddens 1990). And disembeddedness leads to challenges with trust. "*Trust is related to absence in time and in space. ... It has been said that trust is a device for coping with the freedom of others, but the prime condition of requirements for trust is not lack of power but lack of full information.*" (p.33, Giddens 1990)

Realizing the challenges for CSA members in information gathering, CSA farmers take the initiative to leverage technology to help members. Farmers have been trying to convey information to members and get members more engaged with the farm through various communication technologies (e.g. email, phone call, online forum), and micro blogging technology which gains popularity in recent years provide them with a new channel.

### **3.2. The Role of Micro Blogging Technology**

Micro blogging is an emerging technology in the last decade. The first micro blogging platform Twitter (<https://twitter.com>) was established in 2006, as of 2015, it has more than 316 million monthly active users and more than 500 million tweets per day (Twitter, 2015). Micro blogging platforms in China also gained popularity. There were more than 249 million micro blog users in 2011, a 295% growth compared to 63 million in 2010 (China Internet Network Information Center, 2012). Weibo (<http://weibo.com>), a Chinese micro blogging service which was created by SINA Corporation in 2009, has more than 20 million users, and pushed the corporation's online brand advertising revenues to a new high in 2011, exceeding \$100 million per quarter (SINA Corporation, 2011). Weibo's revenues further increased from \$65.9 million in 2012 to \$188.3 million in 2013 and to \$334.2 million in 2014. On April 17, 2014 Weibo.com went public (WB: NASDAQ). It had 175.7 million monthly active users and 80.6 million average daily active user in December 2014 (Weibo, 2015).

Comparing to other communication channels, micro blogging technology has the following features (Jansen, Zhang, Sobel, and Chowdury, 2009; Wikipedia, 2012):

**Openness/Accessibility:** Different from close-circle social networking tools such as Facebook which requires mutual consent for the two parties to get connected, micro blog user A can follow another user B without B's approval. Micro blogging platform is thus open; in the sense that one's post can be accessed by any other user.

**Social networking embedded:** micro blogging technology allows users to get connected with others through the following – being followed relationships.

**Freedom of choice:** On micro blogs, user can decide whom to follow. Following A's micro blog suggests the user is interested in A's posts, and is willing to be continuously updated. In this way, a user has choices about what to read.

**Convenience:** there are various micro blogging platforms, compatible with personal computers, tablet computers such as iPad, and smart phones. Users can browse and post almost anytime anywhere.

**Timeliness:** This is related to convenience of use. Since user can easily post on micro blogs through various devices, they can respond to events more timely.

Table 3 lists the advantages of micro blog comparing with other communication channels.

	Traditional Media (TV, Newspaper, etc.)	Web Portal, Online Forum	Micro Blog
Openness	Medium	High	High
Social networking	Low	Medium	High
Freedom of Choice	Low	Medium	High
Convenience	Low	Medium	High
Timeliness	Medium	High	High

Table 3. Comparing Micro Blogging with Other Communication Channels

## 4 Methodology and Findings

### 4.1 Methodology

We conducted a case study on Little Donkey Farm to understand how this pioneering CSA farm in China leverages micro blogging to communicate with its members and build trust. Since the context of the study is new to IS research, and the current study is exploratory, case study is an appropriate method (Benbasat, Goldstein, and Mead, 1987; Eisenhardt, 1989; Lee, 1989).

Little Donkey Farm has its official micro blog homepage, <http://e.weibo.com/chinacsa>. The first post was on August 16, 2010. It has 7,331 posts and 20,522 followers as of September 2015. A team of five farmers and students manage this micro blog account. We collected the micro blog posts as archival data, and analyzed how farms interacted with members and provided information to members about the farmers' trustworthiness, i.e. ability, benevolence, and integrity; shared CSA concepts and facilitated trust building.

### 4.2 Propositions

We performed content analysis for all the 2,074 posts from August 16, 2010 to September 20, 2012. The two year time period starts from the first day of Little Donkey's micro blog posting. Based on our analysis of the posts, we develop the following propositions.

First, we do not want to exaggerate the role of information technology. Through our observation, we note the core is the content of farmers' posts and the way farmers interact with members, such as how farmers address members' complaints and queries.

*Proposition 1 Micro blogging technology helps farmers convey information about farmer's trustworthiness quality (ability, benevolence, integrity). The content of posts and the way of interaction are important. Information technology plays a facilitating role.*

As we have explained, social networking function is embedded into the micro blogging platform, which is an open platform. In this way, micro blog allows farmers to reach a larger audience group.

*Proposition 2 Micro blogging technology allows farmers to reach a larger audience group, and hence more members will have opportunity to perceive farmers' trustworthiness quality through the micro blogging platform.*

Since using micro blog is very convenient through various electronic devices, and interactions on the micro blogging platform can be very timely, we propose:

*Proposition 3 Micro blogging allows farmers to interact with members conveniently and address members' concerns in a timely manner, and hence members will have more opportunity to perceive farmers' trustworthiness quality through the micro blogging platform.*

### 4.3 Examples

In the following, we use posts from Little Donkey Farm's micro blog to demonstrate how the farm cultivated members' trust toward farmers through the micro blogging platform Weibo.

#### 4.3.1 Demonstrating farmers' and members' ability, sharing experience with members

Ability is a crucial aspect of trustworthiness. The farm conveys information about its ability and expertise in organic farming through posts such as below. @Little Donkey Farm: “Uncle Yin is our expert for creating compost. He used kitchen waste to create compost and applied it to his land. He shares experience with many members, and you’re welcome to learn from him!”

尹叔是小毛驴的堆肥达人，家里几乎所有有机垃圾全部做成堆肥，并定期运到自己的菜地。他也帮很多成员指导堆肥技术，欢迎大家和尹叔交流！//@尹瑞庆:这种方法的成本比较高。//@小毛驴市民农园:家庭厨余堆肥，又好玩又环保，永远不是过时的话题。@尹瑞庆 @自然之友



Figure 5. Demonstrating farmers’ ability

@Little Donkey Farm: “Dear members, this year our fertilizer is of large shape and cannot be directly applied to the land. Please use the pre-made fertilizer water for your Chinese cabbage. Our famers will replenish the fertilizer. Autumn is coming, look forward to the harvest!”

各位劳动份额的亲！由于今年的麻渣都是大块，不便直接施于地头，所以请您取用麻渣水给白菜追肥。师傅们每天都会补充麻渣和水，肥力足够。秋天就要到了，丰收在望！



Figure 6. Sharing experience with members

#### 4.3.2 Conveying benevolence

Benevolence refers to the extent to which a trustee is believed to want to do good to the trustor, and CSA farmers need to demonstrate their willingness to benefit the consumers. The following example is from the discussion of the farm with other micro blog users regarding a delivery of tomatoes.

@Little Donkey Farm: “If you note any of the tomatoes are not in good shape, please contact us and we will try to arrange another delivery for you. Thank you for your support.” The farm expresses willingness to help and compensate consumers for potential loss before consumers contact the farm.



Figure 7. Conveying benevolence

#### 4.3.3 Addressing member's complaints, encouraging sharing and interaction among members

Micro blog enables the farm to address member's needs efficiently. A consumer @Walking Mizi posted at 21:20, August 22, 2012, and complained about receiving balsam pears for continuous weeks and getting tired of eating balsam pears.

@Walking Mizi: "The farm must have a big harvest this year; I have had balsam pears for several weeks! The balsam pears is much more bitter in Northern China, so it is better for us to first cut them into slices and then boil them in water for a short time. After that, we can cook the green pepper, meat slices and the balsam pears together with some salt, soy source and pepper."

At 21:33, i.e., 13 minutes later, the farm responded. @ Little Donkey Farm: "We feel a bit embarrassed (as we have continued to deliver the balsam pears for weeks). The balsam pears grow much better than the poor loofahs and carrots. It is not easy to love balsam pears (because of the bitter taste), so we welcome dear friends to share your own recipe. If you cannot bear the balsam pears anymore, please let us know and we will try our best to substitute with other vegetables for you."



Figure 8. Addressing member's complaints, encouraging sharing and interaction among members

Another consumer @leming responded to the farm's apology post, and shared a recipe. Within an hour, at 22:11 @ Little Donkey Farm commented on @leming's recipe: "@leming Your description is so detailed and the technique is so professional! Let us try balsam pears together! :)". @leming: This is not still good enough for cooking balsam pears (comment @Walking Mizi's recipe). Let me share a better recipe. Step 1, fry the meat until it changes color; Step 2, fry the balsam pears and chili together with the rest cooking oil until they all turn to yellow, then add salt, meat, green onions, ginger, garlic, soy source, cooking wine and some water; Step 3, stew for 5 minutes, and done!



Figure 9. Forwarding another member's recipe sharing to the public

#### 4.3.4 Preparing members for potential risk sharing

Farming involves considerable risks, some risks are due to extreme weather. In July 2012, there were heavy rain falls in Beijing. On July 21, the farm was seriously influenced, and a lot of vegetable lands were flooded. The farm notified consumers through micro blog post and attached a photo of the vegetable rescue scene.

#北京大雨# 菜苗被淹，大家正在奋力抢救，女将也上场了



7月21日17:16 来自S60客户端

转发(4) | 收藏 | 评论(7)

Figure 10. Preparing members for potential risk bearing

“#heavy rainfall in Beijing# flooded newly grown vegetables; we are working hard to save them. Ladies joined us in the rescue.” In this way, the farm gets members prepared for risks.

#### 4.3.5 Informing members about coming events

In response to a mother's query about visiting the farm, the farm replied. @ Little Donkey Farm: “Welcome! If you come tomorrow, you could pick peas, cherry potatoes, egg plants, green peppers, okra, water spinach, etc. You can also pick corns and peanuts at Little Donkey Liulin farm. Our canteen will provide cucumber and egg, pot-stewed fowl, balsam pear, lemon tea, etc. The autumn time is the best in Beijing, and we believe you and your family will have a nice weekend on the farm.”

您好！欢迎您来农场参观采摘！明天您来农场的话，可以采摘菜豆、小西红柿、茄子、青椒、黄秋葵、空心菜等等，在@小毛驴社区农园还可以采摘到玉米和花生。明天的食堂会提供黄瓜鸡蛋套餐、卤味拼盘、凉拌苦瓜、柠檬茶等等。北京正是秋高气爽时节，您和家人在凤凰岭下一定会有个愉快的周末。😊

@潘世小魔妈：@小毛驴市民农园 你好，我想明天带孩子去采摘，请问这个季节能采摘到什么啊。此外，明天中午食堂吃什么啊？😊

8月24日 10:48 来自专业版微博

转发(3) | 评论(2)

8月24日11:05 来自专业版微博

转发(2) | 收藏 | 评论(9)

Figure 11. Informing members about coming events

#### 4.3.6 Provoking, interacting with members to promote organic farming

Pricing is always a sensitive topic. Regarding the expensive prices of organic products, one consumer posted, “... I now we should support organic and healthy farming. But why is organic food so expensive?”

Another member posted, “after I went to farming on my subscribed land in Little Donkey for several times, now I understand why organic food are expensive. Forgoing chemical fertilizer and pesticide, you have put a lot of hard labor instead. Knowledge + labor, and I used a lot of gasoline as well during the transportation. It is not easy to have harvests.”

The farm responded, “Understanding is the best support!” In this way, the farm leverages the support from other members, and educates consumers about the production of organic products.

理解是最好的支持！//@musicJY2011:自从俺自己在@小毛驴市民农园 租地种菜后，终于明白有机蔬菜为什么贵了——无化肥无农药的劳动强度非常大，知识+体力的活儿，还有来来回回的汽油费，想收获放心菜真不容易啊！

@绿野：小时候大人上乡下赶场，总为了买新鲜又便宜的东西。今天一家人逛农园，来自北京周边各家农庄又似当初赶场的场景，不过价格决不再便宜甚至有点难接受。但这些人放弃工业化生产，摒弃化肥农药添加剂提供慢生活的有机健康食品，应该支持！可心里还是念叨为啥鸡蛋15一个，为啥豆腐20一小块



7月14日 20:49 来自iPhone客户端

转发(34) | 评论(26)

7月14日23:10 来自Android客户端

转发(6) | 收藏 | 评论(1)

Figure 12. Informing potential members about coming events

#### 4.3.7 Connecting with other CSA farms and farmers through micro blog

In addition to interacting with consumers, we noted the farm used micro blogging technology to connect with other farms or organizations involved in CSA farming and the organic farming

movements. Figure 13 depicts the current distribution of CSA farms in China. Up to 21 provinces or municipalities have CSA farms (Hong Kong SAR, Macao SAR and Taiwan district are not included). These CSA farms cover almost half of China land area and highly dispersed. However, though the Weibo platform, these farms communicate frequently to share experiences in management, discuss about the further directions of CSA, and organize cross country activities.

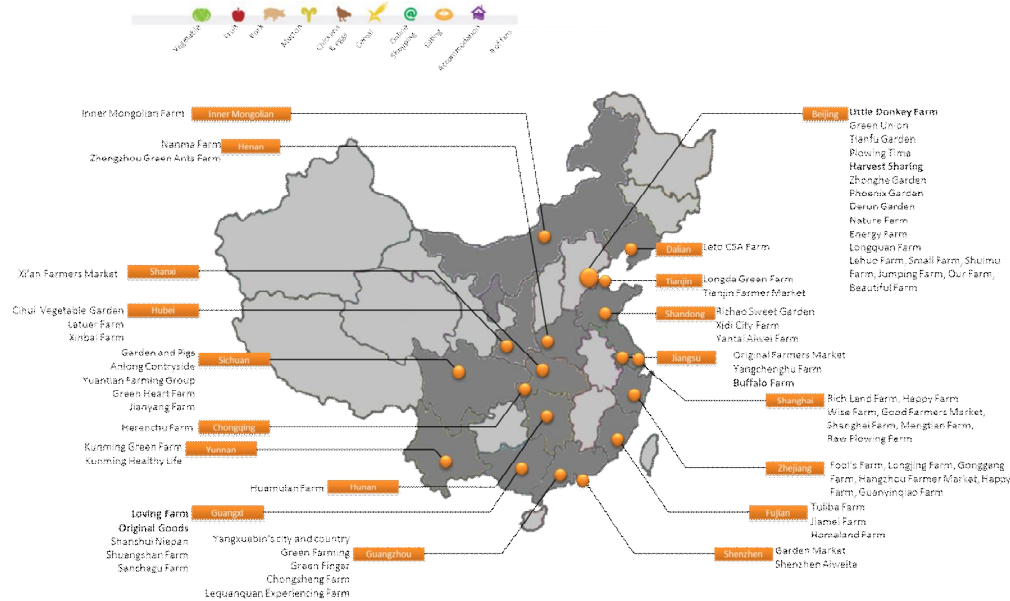


Figure 13. Distribution of CSA farms and Connections among them

Following is a post by Little Donkey after the festival for starting hoeing, i.e. starting of farm work in a year. As a co-coordinator for the festival, Little Donkey Farm publicly expressed gratitude to other CSA farms, and individual farmers. This post contained many @, in order to alert the parties involved in the events. “The festival for starting hoeing is now over, but the farming for a new year is just beginning. Many thanks to @Beijing Farmers Market @Liushu’s Home @Sanfendi Farm @...”

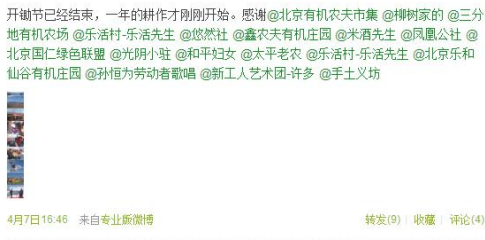


Figure 14. Connections among CSA Farms

## 5. DISCUSSION

As summarized in Table 4, we find the micro blog can effectively help the in information sharing, conveying benevolence and integrity, interacting with consumers and other farms, and fostering risk sharing. Litter Donkey is persistent in performing these activities in its micro blog usage.

Activities	Examples	Information Flow
Information Sharing	Demonstrating farmers’ and members’ abilities Sharing Experiences with members Informing members about coming events	From farmers members
Conveying Benevolence	Customer relationship management Addressing members’ complaints	From farmers to members Among members, facilitated by



and Integrity	Offering effective feedbacks or solutions Sharing knowledge	farmers through retweet
Interactions	Encouraging sharing and interaction among members. Connecting with other farms	From farmers to members From members to farmers Among members Among farmers
Risk Sharing	Preparing members for potential risks bearing Informing members about potential loss	From farmers members

*Table 4. Trust Building Activities*

Although Little Donkey's prices of farm products are much higher than the market prices, it succeeded in recruiting members. In 2009, Little Donkey Farms' recruited 54 members, mainly from acquaintances and friends. The number reached 300 in 2010, 700 in 2011 and over 1,000 in 2012. The micro blogging technology significantly facilitates information dissemination and trust building.

Trust is cultivated through interactions and information exchange. Micro blogging technology provides CSA farmers a platform to better communicate and interact with their members, who are willing to support sustainable agriculture, but may not have enough time to frequently visit farms. Micro blogging technology serves as a channel, and information flows between farmers and members. It provides opportunities for farmers and members to interact with each other.

Farmers update members about what they are currently doing on the farm, how they prepare organic fertilizers and pesticides, which vegetables are ready for harvest, etc. Through texts and photos, members obtain direct information about the farm. Micro blogging also enables farmers to deal with members' complaints in a more efficient manner. Members can approach farmers directly, and farmers can request photos or more detailed descriptions of the damage, and they can solve the problem efficiently. There are also many CSA members who are willing to share their own experiences with others through micro blog. They describe what they have learnt from farming, how they enjoy organic crops, how much fun their children had during visits to the farm. Farmers retweet such posts, educate the public, and help them to appreciate the essence of CSA farming concepts. Micro blogging technology provides the CSA pioneers in China with a channel to engage their members and develop the CSA community.

The micro blogging technology plays an important role in the development of CSA farming in China. Our study sheds lights on the role of micro blogs in transforming farming, and even in addressing some of the complex problems in the rapid urbanization in China. The study provides new insights in understanding the role of information technology in socio-economic related issues. In fact, practitioners are moving far ahead. Learning from the Little Donkey Farm, other CSA farmer also established their micro blog presences. Fu Rong, the founder of Huamulan Farm, which is a CSA farm located in Changsha, Hunan province, said, "CSA should actually be ICSA, and the letter 'I' stands for Internet. Without the Internet, it is too hard to maintain relationships with customers".

For future study, we intend to expand the sample and analyze usages of other social media platforms, and sample more CSA farms. It might be interesting to study CSA farms at different stages of maturity, and compare their micro blog usage strategies. Scholars who are interested in this area may also leverage survey methodology to gather members' and farmers' perceptions and socio-economic information, as they investigate micro blog's role in trust relationships. Since the examination of ICT's role in urbanization issues is still at its infant stage, we hope to see more colleagues pay attention to the area. When practitioners such as the CSA famers are trying to provide safe food and preserve the environment, we IS scholars may contribute with insights about ICT usage.



## References

- Benbasat, I., Goldstein, D. K., and Mead, M. 1987. "The Case Research Strategy in Studies of Information Systems," *MIS Quarterly* (11:3), pp. 369–386.
- Calvin, L., Gale, F., Hu, D., and Lohmar, B. 2006. *Food Safety Improvements Underway in China*. Retrieved from <http://www.ers.usda.gov/amber-waves/2006-november/food-safety-improvements-underway-in-china.aspx#.VHiAwE0cQ08>
- Chen, J. 2007. "Rapid Urbanization in China: A Real Challenge to Soil Protection and Food Security," *CATENA* (69:1), pp. 1–15.
- China Internet Network Information Center. 2012. *China Internet Development Statistics 2012*.
- Cone, C. A., and Myhre, A. 2000. "Community-supported agriculture: A sustainable alternative to industrial agriculture?," *Human Organization* (59:2), pp. 187–197.
- Demuth, S. 1993. "Defining Community Supported Agriculture,".
- Ebenstein, A., Chen, K., McMillan, M., and Zhang, J. 2012. "Chemical Fertilizer and Migration in China,".
- Eisenhardt, K. M. 1989. "Building Theories from Case Study Research," *Academy of Management Review* (14:4), pp. 532–550.
- Giddens, A. 1990. *The Consequences of Modernity*, Stanford University Press.
- Global Times, "Toxic bean sprouts suspected in Yanqing", Retrieved from <http://www.globaltimes.cn/content/891661.shtml>
- Groh, T. M., and McFadden, S. 1998. *Farms of Tomorrow Revisited: Community Supported Farms, Farm Supported Communities*, Biodynamic Farming and Gardening Association.
- Hays, J. 2012. "Problems Faced by Farmers in China and Threats to Agriculture,".
- Henderson, E., and En, R. Van. 2007. *Sharing the Harvest: A Citizen's Guide to Community Supported Agriculture*, Chelsea Green Publishing.
- Jansen, B. J., Zhang, M., Sobel, K., and Chowdury, A. 2009. "Twitter power: Tweets as electronic word of mouth," *Journal of the American Society for Information Science and Technology* (60:11), pp. 2169–2188.
- Klein, J. 2009. "Creating ethical food consumers? Promoting organic foods in urban Southwest China," *Social Anthropology* (17:1), pp. 74–89.
- Lee, A. S. 1989. "A Scientific Methodology for MIS Case Studies," *MIS Quarterly* (13:1), pp. 33–50.
- Little Donkey Farm. 2012. "Little Donkey's 2012 Guideline for CSA Members," Retrieved from [www.chinadevelopmentbrief.org.cn/userfiles/CSA.pdf](http://www.chinadevelopmentbrief.org.cn/userfiles/CSA.pdf).
- Liu, F. 2012. "Seeking a New Way to Farm," *Green Leaf*, Retrieved from [http://blog.sina.com.cn/s/blog\\_55a11f8e0102e7ty.html](http://blog.sina.com.cn/s/blog_55a11f8e0102e7ty.html).
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An Integrative Model of Organizational Trust. *Academy of Management Review*, 20(3), 09–734.
- McKnight, D. H., Choudhury, V., & Kacmar, C. (2002). Developing and Validating Trust Measures for e-Commerce: An Integrative Typology. *Information Systems Research*, 13(3), 334–359. doi:10.1287/isre.13.3.334.81
- Ortega, D. L., Wang, H. H., Olynk, N. J., And, L. W., and Bai, J. 2012. "Chinese Consumers' Demand for Food Safety Attributes: A Push for Government and Industry Regulations," *American Journal of Agricultural Economics* (94:2), pp. 489–495.

- Huang, P., and Zhan, S. 2008. "Migrant Workers' Remittances and Rural Development in China," In *Migration and Development Within and Across Borders: Research and Policy Perspectives on Internal and International Migration*, J. DeWind and J. Holdaway (eds.), , pp. 221–245.
- Gu, S., Zheng, L., and Yi, S. 2007. "Problems of Rural Migrant Workers and Policies in the New Period of Urbanization," *China Population, Resources and Environment* (17:1), pp. 1–6.
- Shi, Y., Cheng, C., Lei, P., Wen, T., and Merrifield, C. 2011. "Safe food , green food , good food: Chinese Community Supported Agriculture and the rising middle class," *International Journal of Agricultural Sustainability* (9:4), pp. 551–558.
- SINA Corporation. 2011. *SINA Reports Third Quarter 2011 Financial Results*, Retrieved from <http://corp.sina.com.cn/eng/news/2011-11-09/124.html>.
- Tan, M., Li, X., Xie, H., and Lu, C. 2005. "Urban Land Expansion and Arable Land Loss in China—a Case Study of Beijing–Tianjin–Hebei Region," *Land Use Policy* (22:3), pp. 187–196.
- Twitter. 2015. "Twitter Company Page," p. <https://about.twitter.com/company> (available at <https://about.twitter.com/company>; retrieved October 29, 2015).
- Wang, Z., Mao, Y., and Gale, F. 2008. "Chinese consumer demand for foodsafety attributes in milk products," *Food Policy* (33:1), pp. 27–36.
- Weibo. 2015. "Weibo Financial Report," (available at [http://www.sec.gov/Archives/edgar/data/1595761/000110465915030982/a15-2240\\_120f.htm](http://www.sec.gov/Archives/edgar/data/1595761/000110465915030982/a15-2240_120f.htm); retrieved October 29, 2015).
- Wells, B., Gradwell, S., and Yoder, R. 1999. "Growing food, growing community: Community Supported Agriculture in rural Iowa," *Community Development Journal* (34:1), pp. 38–46.
- Wikipedia. 2012. "Microblogging," Retrieved from <http://en.wikipedia.org/wiki/Microblogging>.
- Hu, Y., and Zhao, R. 2011, March 9. "Food security threat grows as farmers plow lonely furrow," *China Daily*, Retrieved from [http://www.chinadaily.com.cn/cndy/2011-03/09/content\\_12138654.htm](http://www.chinadaily.com.cn/cndy/2011-03/09/content_12138654.htm).
- Zhao, M. 2011. "Developing Opportunities of Community Supported Agriculture (CSA) in China".