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Leveraging Micro Blogging to Build Trust
by Community Supported Agriculture (CSA) Pioneers in China

Student Paper

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Abstract

Similar to regions which undergo transformation from developing to developed economy, China has been facing various problems during the rapid urbanization process: loss of agricultural land, threatened food safety, and problems caused by migrant work force. Community Supported Agriculture (CSA) is a possible solution to some of the problems. CSA is a sustainable agriculture model, and emphasizes partnership between farmers and members – citizens who are willing to become part of the farming community. In CSA model, members support the farm through advance payment or working on the farm and they share risks with farmers.

In risk sharing, it is crucial to build trust between farmers and members. However, most members do not have enough information to evaluate farmers’ trustworthiness as they cannot visit farms frequently. Micro blogging technology offers farmers a new channel to communicate and interact with members. Since micro blogging platform is open, and various mobile devices make micro blogging convenient, farmers can easily keep members updated and address members’ problems timely. The embedded social networking feature also enables farmers to facilitate interactions among CSA members. In this study, we investigate how the CSA pioneers in China adopt micro bogging technology to engage their members and develop the CSA community. We analyze micro blog posts of the first CSA farm in China and we share our findings.

Keywords
Urbanization, Community Supported Agriculture (CSA), Trust, Micro Blogging
1. Introduction – Challenges China Facing in the Rapid Urbanization Process

As the most vibrant economic power in BRIC (Brazil, Russia, India and China), 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, & 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, Hu, Gale, & 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, 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 1. 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, & Gale, 2008).

![Figure 1. Growing Attention on Food Safety Demonstrated by Number of Google Searching Results Returned with the Keywords “Food Safety” in Chinese in 2005 - 2011](image)

There are various problems derived in the urbanization process. Since farming is exposed to various risks, such as natural disaster, increasing cost for fertilizers and pesticides, unstable market price for agricultural produces (Hays, 2012; Ping & Shaohua, 2008), more and more
farmers leave their land and go to cities, they become migrant workers who receive regular incomes (Ebenstein, Chen, McMillan, & Zhang, 2012; Yongqi & Ruixue, 2011). Migrant workers provide labor force for business, but also bring a lot of social problems (Shengzu, Lingyun, & Shance, 2007).

The above challenges are crucial. When government tries to deal with the issues, citizens are also thinking about how they may help address the problems. Among the various endeavor, Community Supported Agriculture (CSA) is one possible solution for some of the challenges identified above.

2. Community Supported Agriculture (CSA) – A Possible Way to Address the Challenges

2.1. Introduction to CSA

Community Supported Agriculture (CSA) is a relatively new idea in farming. It brings together consumers who are interested in high quality food and farmers who are seeking stable markets.

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 work on the farm for their share. Throughout the year, they will receive farm produce (Groh & McFadden, 1998; Henderson & En, 2007).

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

Sine CSA emphasizes risk sharing, the relationship between farmers and consumers are no longer simply sell and purchase, and 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) The graphs below compare traditional farming model with CSA model (Zhao, 2011).
2.2. CSA as a possible solution to the problems in urbanization

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

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.

Food safety: Most CSA farms adopt organic farming, and do not use pesticide.

Uncertainty faced by farmers: CSA adopts advance payment, and emphasizes risk sharing. Farmers no longer face risk alone, and members share risk with farmers.

2.3. Development of CSA

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 cooperation with local famers. Farmers provide 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”; it suggests getting to know your famers and caring about each other. Similar collaboration started in Switzerland several years later (Henderson & 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 states, the Great Lakes region, and the West Coast (Demuth, 1993).

The CSA concept was introduced to China by scholars and students who focus on issues related
to “farmers, rural areas, and agricultural production”. The pioneering CSA farm, Little Donkey Farm (http://www.littledonkeyfarm.com) is located in the western suburb of Beijing, China’s capital city. Started in April 2008 as an experimental CSA farm, 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 movement (Shi, Cheng, Lei, Wen, & Merrifield, 2011).

3. Challenges in CSA Development – Trust Building and Risk Sharing

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 become CSA members (Cone & 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, & Yoder, 1999). CSA members are not just consumers, and they 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 crops delivery and they may not claim compensation either. The table below highlights the difference between traditional styles of farming and CSA farming.

<table>
<thead>
<tr>
<th>Relationship between farmers and consumers/CSA members</th>
<th>Traditional Farming</th>
<th>CSA Farming</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Risk management</td>
<td>Farmers bear risk solely. Neither brokers nor consumers share risk with farmers.</td>
<td>CSA members share risk with farmers.</td>
</tr>
</tbody>
</table>

Table 1. Comparing Traditional Farming and CSA Farming in Relationship between Consumers and Farmers, and Risk Management

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.
This definition has been widely used in both organization behavioral research and in information systems research, especially when investigating trust relationships in e-commerce buyers and sellers (McKnight, Choudhury, & Kacmar, 2002). 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, & Schoorman, 1995)

This definition of trust can be applied 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 their 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 intention to do good to the members. Integrity suggests 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.

Realizing the challenges for CSA members in information gathering, CSA farmers take the initiative to leverage technology to help members keep updated. 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.

5. Micro blogging

Micro blogging is an emerging technology in last decade. The first micro blogging platform Twitter (https://twitter.com) was established in 2006, now it has more than 1 billion tweets every 3 days, and more than 140 million active users globally (Twitter Official Blog, 2012). Micro blogging platforms in China also gained popularity. There were more than 249 million microblog users in 2011, a 295% growth compared to 63million in 2010 (China Internet Network Information Center, 2012). Weibo (http://weibo.com), a Chinese microblog service which was created 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).

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

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

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.

Freedom of choice: On micro blog, 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, user has choice about what to read.

Convenience: there are various micro blogging platforms, compatible with personal computer, tablet computer such as iPad, and smart mobile phones. This allows users to browse and to post almost anytime anywhere.

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

Table 2 lists the advantage of micro blog comparing with other communication channels.
Traditional Media (TV, Newspaper, etc.) | Web Portal, Online Forum | Micro Blog
---|---|---
Social networking | Low | Medium | High
Openness | Medium | High | High
Freedom of Choice | Low | Medium | High
Convenience | Low | Medium | High
Timeliness | Medium | High | High

Table 2. Comparing Micro Blogging with Other Communication Channels

6. Methodology and Findings

6.1. Methodology

We conducted a case study on Little Donkey Farm to understand how this pioneering CSA farm in China leveraging 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, & Mead, 1987; Eisenhardt, 1989; Lee, 1989).

Little Donkey Farm has its official micro blog homepage, [http://e.weibo.com/chinacsa](http://e.weibo.com/chinacsa). The first post was on August 16, 2010. It has 2,074 posts and more than 11,600 followers as of September 20, 2012. 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.

6.2. Propositions

We analyzed the 2,074 posts during the period of August 16, 2010 to September 20, 2012. We develop the following propositions based on our findings as we analyze the posts.

First, we do not want to exaggerate the role of 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. Technology plays the 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.

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.

6.3 Examples

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

1) Demonstrating farmers’ and members’ ability, sharing experience with members.

@Little Donkey Farm: “Uncle Yin is our expert for creating organic fertilizer. He used kitchen waste to create fertilizer and applied it to his land. He shares experience with many members, and you’re welcome to ask him for help!”

@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 harvest!”
2) Conveying benevolence

The following example is from the discussion of the farm with other micro blog users.

@Little Donkey Farm: “If you note any of your received vegetables are not in good shape, please contact us and we will try to arrange another delivery for you.”

3) Conveying integrity, addressing member’s complaints, encouraging sharing and interaction among members.

Micro blog enables the farm to address member’s needs efficiently. @Walking Mizi posted at 21:20, August 22, 2012, and seemed to complain about receiving balsam pears for continuous weeks. At 21:33, the farm responded.

@ Little Donkey Farm: “We feel a bit embarrassed (as we have continued to distribute 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 change other vegetables for you.”

@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.”

After a member @leming posted 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!

4) Conveying an open, friendly image.
In response to a mother’s query about visiting the farm, they 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.”

A mother posted photos of children having fun on the farm, on the farmland, and in the kitchen making dumplings. Responding to her post, the farmers said,

@Little Donkey Farm: “Our members like the dumplings made by the children and we finished them all! Even our dog “dumpling” had some real dumplings, she is happy too! Thanks to the children, you did a good job!”

5) Preparing members for potential risk bearing

In July 2012, there were heavy rain falls in Beijing. The farm was seriously influence, and a lot of vegetable lands were flooded.

“#heavy rainfall in Beijing# flooded newly grown vegetables; we are working hard to save them. Ladies joined us as well.”
“Heavy rainfalls get everyone busy. We are draining water off. Many members and friends called and ask about the situation, this is very touching. Agriculture is not something easy, and we hope other farms could go through this difficult time as well.”

6) Provoking, interacting with members and encouraging people think about organic farming and future of farming

One member 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 transportation. It is not easy to have harvest.”

The farm responded, “Understanding is the best support!”
Sina farming micro blog (http://weibo.com/nongye) posted on a government policy supporting agriculture industrialization. The farm commented, “When will our country support organic farming, support individual farms develop small scale organic farming and encourage local consumption?”

7. Discussion

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, information flows between farmers and members. Micro blogging technology platform also 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 enable farmers to deal with members’ complaints in a more efficient manner. Member approach farmers directly, and farmers can request photos or more detailed description of the damage, and they can deal with the problem immediately. There are also many members who are willing to share their own experiences with each other through micro blog. They describe what they have learnt from farming, how they enjoy the organic crops, how much fun their children had during visits to the farm. Farmers retweet such posts and help others to appreciate the essence of CSA concepts. Micro blogging technology provides the CSA pioneers in China with a channel to engage their members and develop the CSA community.

In the future, to generalize the findings, we hope to expand our sample and analyze micro blog usages of multiple 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 topic may 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 farmers are trying to provide safe food and preserve the environment, we IS scholars may facilitate them with insights about ICT usage.
References


