

# E-commerce key to modern farming

Government and private sector must work together to achieve the goal of 'Internet plus agriculture'

The 19th National Congress of the Communist Party of China, held in October, called for implementing the national strategy of revitalizing rural villages and townships. So-called "Internet plus agriculture" was identified as an important tool for modernizing agriculture and



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supporting the strategy of revitalizing villages. Agriculture employs more than 27 percent of the country's population but contributes less than 9 percent of its gross domestic product. This implies that

there is large potential for increasing productivity in the sector. Internet plus agriculture is a plan to link the entire agricultural value chain from production to marketing through Internet-connected networks. It aims to enhance market access through a two-way automated information exchange system between producers and consumers. It provides consumers with product information (including location and quality), while supporting producers with access to market information and production support services.

An effective system for Internet plus agriculture will require four key elements: An e-commerce platform, agricultural logistics, farmers' participation, and a traceability system for product safety and quality.

First, there has been significant progress in establishing an e-commerce platform, but many rural e-commerce stores face steep low-price competition. So far, 3,000 agriculture-related websites exist with different scales of users.

On Taobao, there are 1.63 million stores at village and town levels that are engaged in the online market for agricultural products. This development has greatly contributed to the improvement of quality of life in rural China.

However, farmers' profit margins remain low despite the increasing sales volume. In a recent survey conducted by China Agricultural University, many operators said they cannot bear the high promotion fees and complained about the "ranking based on price" mechanism of the large platforms.

Since many specialist producers are competing on quality, this makes it very difficult for them. For these sellers to survive in this competitive market, they will have to join the low-price competition with "sales at a loss" to gain sales volume.

For example, eggs from Yicheng,

in Central China's Hubei province, are being sold online at 0.80 yuan (12 cents) per egg, but the selling price in the local market is 0.96 yuan per egg.

Without profits, shops cannot invest in new product development, quality improvement and material development.

Second, China is the world's largest producer and consumer of agricultural products. Its agricultural logistics system is responsible for moving food products from farms to the tables of more than 1 billion consumers.

For perishable agricultural products, a reliable logistics system is essential for Internet plus agriculture. A recent study jointly conducted by the State Council's Development Research Center and the Asian Development Bank (ADB) identified several key challenges in agricultural logistics: Scale of operations, packaging standards, product grading and food safety, market information systems and cold chain technology.

Third, building offline service centers in rural areas and attracting farmers to shop online are not easy tasks. There are two issues to be addressed in this aspect. The first issue is how to organize small farmers. It is important to set up rural cooperatives and select a few

leaders who will help to organize the farmers. Another issue is the difficulty of attracting young talent who can understand the technology to work for Internet plus agriculture in rural areas.

Fourth, precision agriculture or so-called "smart agriculture" is an essential part of transforming rural agriculture in China. It is expected that network-connected sensors — the so-called Internet of Things — can, for example, monitor soil moisture, air temperature and location of products in the distribution chain.

Feeding information collected from the Internet of Things into data analysis centers can provide specialized real-time production and management services to farmer cooperatives as well as product safety information to consumers.

Benefits will result from increased production, reduced input costs, reduced environmental pollution and marketing risks, and access to premium markets via traceability services for agricultural products.

However, relatively high costs have become the key barrier that prevents the scaling-up of smart agriculture technologies. An expert from China Agricultural University found that a soil data monitoring sensor being sold for about 3,000 yuan in the market can very easily fail after being installed at farms.

The poor quality and high cost of the device can easily cost the farmers and/or owners a maintenance fee as high as 5,000 yuan per mu per year.

To deliver the four elements of Internet plus agriculture, there is room for the government and the private sector to work together. International financing institutions like the ADB can also play an important role.

Since Alibaba and JD.com are focusing on rural e-commerce platforms, the government and the ADB may prioritize their investments in activities associated with public goods.

These could include providing good broadband coverage to villages; building rural roads in underdeveloped areas; establishing public big data platforms involving the rural economy; making the traceability system for agricultural product quality easier for small farmers; building cold chain logistics facilities; and strengthening the rural credit system platform.

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## Rural areas keen to go online

Development of e-commerce offers good opportunities for less-developed regions to reduce poverty

Less-developed areas and rural regions in China should take advantage of the rapid development of the e-commerce industry as an opportunity to promote poverty reduction.



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The State Council, China's cabinet, has proposed the development of characteristic industries as one of the methods to promote poverty reduction. The rapid development of the e-commerce industry in recent years, thanks to the fast development of the country's Internet technology, is considered one such industry.

The government has also encouraged rural regions to explore ways to connect e-commerce with rural

characteristic industries. Promoting e-commerce in rural regions will help to increase annual incomes there and decrease poverty.

Many poverty-stricken areas in rural regions have industries that can form a strong basis for these regions to develop e-commerce and get out of poverty. The development model of industries plus e-commerce in rural poorer regions also provides a powerful engine for regional industrial updating.

The use of the Internet of Things, big data and mobile Internet in some cities and areas has accumulated precious practical experience that could be learned by poorer rural regions.

In recent years, poverty-stricken areas have concentrated their efforts on the development of special industries. For example, one village focused on producing only one special local product and sold it online.

According to data from the agricultural sector, almost all poorer Chinese counties and villages that have practiced e-commerce have used it as a major road out of poverty.

For example, Suqian, a poor county in East China's Jiangsu province, has proposed the slogan "to guide more peasants on the road of developing 'Internet plus' plan", with the hope of increasing local jobs and income. The local government has formulated policies and plans to develop rural e-commerce. Each village is encouraged to develop and cultivate one special rural product and open an online shop.

A survey conducted by the agricultural sector in 446 poverty-stricken counties found that by the end of 2016, 64 percent of impoverished villages had used e-commerce. The transaction value of farm products through e-commerce tripled compared with 2012.

E-commerce also helped more people get out of poverty. By the end of 2016, 2.39 million people were lifted out of poverty by developing e-commerce.

In Huanggang, in Central China's Hubei province, 500 e-commerce businesses were introduced, creating 55 billion yuan (\$8.5 billion) in business transactions in 2016, which helped its six impoverished villages, or 100,000 people, get out of poverty.

Developing e-commerce in rural regions can not only break the capital and geographical constraints and reduce costs, but can also broaden agricultural products' sales channels and strengthen brand promotion.

In addition, the development of e-commerce can boost the standardization of the agricultural industry and improve large-scale production of agricultural products.

To help people get rid of poverty through the development of rural e-commerce special industries is

still new and needs time to mature. Many challenges lie ahead.

The first is how to compete in the market. The characteristic industries of e-commerce are faced with the dual competition between e-commerce and traditional industries. Talent in the e-commerce industry is also in short supply.

Winning the fight against poverty has entered a medium-term stage. More support — such as improving Internet infrastructure construction, providing more discounts for e-commerce businesses, cultivating talent in rural regions, promoting construction of the industrial chain and improving industrial communication — is needed.

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