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Hongxuan Agriculture: Innovations in the Value Chain

Yingying Wang, Shuting Li, Ning Su, and Xiangfeng Chen wrote this case solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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One day in June 2018, after receiving a call from a friend from a financial institution, Xu Hongfei, the president of Hongxuan Agriculture Group (Hongxuan), got lost in deep thought. Xu had been informed that the trade war between China and the United States could result in taxes on agricultural products such as soybeans and corn in China, and this could also affect the laying hen industry that Hongxuan was part of—potentially affecting further financing plans for Hongxuan. It might be necessary to consider new financing models to meet future challenges.

The laying hen industry was asset heavy. It required not only a huge capital investment in the early stage but also large amounts of funds for feed during the rearing stage. Since 2012, Hongxuan had accepted three rounds of investment; these capital injections had helped develop Hongxuan to its current scale, with an output value of three billion eggs per year. Hongxuan aimed to reach a capacity of five billion eggs per year within three years and hoped to become the most influential enterprise in the industry and to build the first brand in the Chinese egg market. The original investment would not be enough to meet these needs, and more financing channels and financial support were necessary. Xu was going to meet with investors and financial institutions on Friday, so he needed to think about what pioneering new financial service models would gain recognition from external investors.

Hongxuan’s origins and early years

“For more than 20 years in Shanghai, I have been dealing with eggs. I firmly believe that although the agriculture is a traditional industry, there must be a way to survive,” Xu said. In 1996, after graduating from university, Xu came to Shanghai alone from his hometown of Nantong, in Jiangsu province, and entered the egg industry as a salesman in a state-owned egg company. He started a wholesale trade business in the laying hen industry with his family in 2002 and became a local leader in the field, with an annual revenue of more than ¥40 million[[1]](#footnote-1) in 2004.

In 2008, Xu returned to his hometown and officially founded his own company, Jiangsu Hongxuan Food Co. Ltd., which was renamed first as Jiangsu Hongxuan Ecological Agriculture Co. Ltd. and then as Hongxuan Agricultural Group. Hongxuan raised a first round of ¥40 million in external capital and established an independent rearing facility in Nantong, integrating production, processing, and trade into the business. The same year, Xu set up a direct-sale convenience store and started to sell eggs under his own brand name.

In 2014, in order to attract investors and create an egg brand with wide recognition, Xu branded his products as Xu Hongfei’s Small Fresh Egg, with a label that featured the name and his own portrait. The next year, in 2015, Hongxuan successfully obtained B-round investments from Haier Group Corporation and Ajisen Ramen.

In 2016, Xu invited star actor Li Chen to be both brand spokesman and partner, and the pair used the slogan “fresh eggs without fear of being thrown out” to promise freshness to consumers. In 2017, Hongxuan successfully obtained C-round financing of over ¥300 million and attempted to build a new ecosystem for the egg industry. In nearly 10 years of development, Hongxuan had continued to focus on the laying hen industry, and by 2018, it had reached a production capacity of 3 billion eggs per year and had an annual revenue of nearly ¥2 billion.

china’s egg industry

The traditional laying hen industry was second only to pig raising as the largest pillar in China’s animal husbandry industry. China’s egg stock and total output had been ranked first in the world for a long time and had continued to grow for nearly 30 years. Although the scale of both pullet rearing and fresh egg consumption in China was the biggest in the world, the whole industry was still highly decentralized, and the top 11 brand enterprises represented only less than 3 per cent of the industry, while in the United States the top 10 enterprises accounted for approximately 47.8 per cent market share.

Based on China’s population of 1.4 billion people and a consumption rate of one egg per person per day, Hongxuan held a 39 per cent market share in Shanghai and a 2.3 per cent market share in the Eastern China region. In the longer term, Xu aimed to occupy a larger share of the Eastern China market.

As with most agricultural industries, the pullet industry faced the unavoidable problem of significant commodity price fluctuations (see Exhibits 1-2). In 2017, for example, the Chinese commercial egg market experienced thrilling ups and downs. From January to July, the price of eggs declined dramatically, to a 10-year low, and the price of pullets nationwide fell by 27.9 per cent year over year. Breeder farms suffered serious losses. Throughout the year, egg prices dipped as low as ¥1.9 per kilogram (kg) and peaked at ¥4.5/kg, representing a volatility as high as 60–70 per cent. At the same time, the cost of eggs for both individual and large-scale farmers approached ¥7.5/kg. The severe price inversion caused the demise of nearly a quarter of the enterprises in the industry.

Hongxuan’s Integrated Value Chain

Hongxuan operated across the entire value chain in the egg industry, seeking new retail markets, developing new products, and adapting to incorporate new technologies into both its conventional industry and its sales and logistics channels.

Market Positioning

Hongxuan targeted three types of consumers: (1) food baking and processing enterprises such as Nestlé SA; (2) general consumers, who purchased its products online; and (3) those who purchased customized products. These three markets formed an inverted pyramid with the customized products, which had higher profit margins, at the top. General profits in the pullet industry were 2–5 per cent, but they could reach as high as 3–10 per cent in developed countries. In order to obtain a higher profit, improve efficiency, and reduce costs, it was a good choice to take a brand strategy and sell eggs at a high price. Based on Hongxuan’s current output of three billion eggs per year, an increase of 1 per cent could represent a ¥30 million increase in the company’s revenue.

Xu explained that the egg industry had “no widely recognized brands yet,” but noted that, “As the brand consumption awareness is fully upgraded, many consumers are willing to spend more money to get better products and services.” Xu mainly targeted consumer groups in the millennial generation, who represented a new era of consumption. This younger generation focused more on the quality of life and food as well as on shopping environment and comfort. They were at the top the pyramid structure, with an increasing demand for brands. Because of this, Xu believed that the key to brand marketing relied on his company’s story-telling capability, its integration of brand value and quality, and its ability to impress consumers. These were all reasons why Hongxuan created Xu Hongfei’s Small Fresh Egg in 2015. Hongxuan committed to making eggs a boutique product through a brand strategy.

Product Development

Product development in the laying hen industry was multi-faceted; it involved pullet rearing, product packaging, and distribution and included an extensive list of products. Different chicken species and eggs transformed by different feeds had different nutrient elements that could meet the needs of different groups of people and generate requirements for customized eggs. After they stopped laying eggs, old or spent hens could also be developed into different nutrients to deliver more choices to consumers.

For different consumer groups, Hongxuan developed different functional egg categories such as [additive-free](http://www.youdao.com/w/additive%20free/#keyfrom=E2Ctranslation) baby eggs for infants, pregnant women, and the elderly; [additive-free](http://www.youdao.com/w/additive%20free/#keyfrom=E2Ctranslation) nutritious eggs for office workers and teenagers; and fresh grain-fed eggs and fresh eggs for cooking and baking.

As an extension of Xu Hongfei’s Small Fresh Egg products, Hongxuan also incorporated a traditional Chinese nutritional concept to develop 520-day-old hens into 520 Selected Frozen Chicken Soup products, to provide consumers with authentic chicken soup. A hen usually starts to lay eggs from the 150th day of its life, and the egg producing period lasts for about 370 days. Therefore, the total life of a hen is about 520 days. The number 520 has a special meaning of “I love you” due to its similar pronunciation with “I love you” in Chinese.

Technology-Based Farming

In order to ensure the quality and safety of its eggs, Xu Hongfei’s Small Fresh Eggs were sourced only from Xu’s own farms and OEM farms, where international management methods and an egg tracking system had been introduced to make sure every single egg passed inspection by the Netherlands-based Moba Group and underwent 12 strict procedures to meet the European Union’s Société Générale de Surveillance (SGS) standards. Hongxuan was also the only company in China’s egg industry that had its own logistics system: a special fleet to deliver eggs exclusively within the Eastern China region to avoid cross-infection.

In the cultivation of pullets, Hongxuan paid full attention to animal welfare and its free range laying facility was the first welfare sunshine house project in the Asia-Pacific region to introduce the Dutch certification system. Inside a huge glass barn, free-run laying hens roamed freely, kept away from outside interference. This henhouse—the most advanced in the world with humane care—was where the eggs came from.

The pullet-rearing process required a great deal of investment. So far, Hongxuan had established four rearing bases. In addition to running its own farms, Hongxuan also adopted an original equipment manufacturer (OEM) to have other farms produce eggs following Hongxuan’s requirements. Following guidelines from China’s Internet Plus project of applying the Internet and information technologies to traditional industries, the whole process of egg production was monitored to ensure quality, and both online and offline channels were utilized for sales.

Feed accounted for more than 70 per cent of the cost of pullet rearing and played a decisive role in the quality and taste of the eggs. Therefore, Hongxuan was also involved in producing feed. In addition to the upstream hatcheries, Hongxuan’s industrial chain included production of feed, rearing of hens, sales of eggs, deep processing and sales of egg products, production and sales of organic fertilizers, and packaging and sales of old hen products—all of which formed a complete market supply chain (see Exhibit 3).

Because it invested more in chicken farms and feed, the production costs of Xu Hongfei’s Small Fresh Eggs were higher than those of both large-scale farms and individual farmers.

Sales Channels and Logistics

In addition to selling through traditional channels such as supermarkets and the baking industry, Hongxuan had begun to consider how to take advantage of the government’s Internet Plus proposal. In order to overcome the logistical and distribution obstacles of online sales of eggs, which were fragile, hard to store, and difficult to transport, Hongxuan had cooperated since the beginning of 2014 with Shunfeng Express Cloud Warehouse to develop anti-vibration packaging for aircraft shipping. In 2017, Hongxuan built its own Internet sales platform, called “The Journey of Small Fresh Eggs,” which allowed consumers to place orders through the Internet and receive their eggs via express delivery.

Hongxuan cooperated with traditional supermarkets such as RT-Mart International Ltd., Carrefour SA, Tesco Plc, Walmart Inc., Group Auchan SA, and Yonghui Superstores. In addition, it also established partnerships with new, online channels such as Tmall.com, JD.com Inc. (Jingdong), Hema Fresh, Taoxianda, and Xiaoxiang Fresh and fully integrated the online and offline channels.

Hongxuan was planning to modernize its logistics and realize a visualized agriculture system that would allow consumers to fully trace the process their eggs had taken in going to market. They could track the production time, production base, and the henhouse row number of their eggs simply by scanning the QR code on the product.

Challenges of Funding the Entire Industry Chain

Hongxuan’s target was the integration of the entire agro-ecological value chain, from upstream chicken breeding, pullet rearing, and egg selling all the way to deep processing of egg products and research and development (R&D) of functional feeds. Whether it involved the expansion of rearing bases, market R&D investments, or product promotion, the integration of an entire agricultural industry chain required a sustained and substantial capital investment. To reach its goal of a production capacity of 5 billion eggs within three years, Hongxuan would need to make heavy capital investments to improve its brand value, efficiency, and competitiveness. However, Hongxuan faced several key questions and challenges going forward: How could it lower the price risk of the laying hen industry to reduce its revenue uncertainty? How could it persuade investors and financial institutions to provide financing that would ensure Hongxuan’s stable development? Were there innovative supply chain financial solutions the company could use to enable sustainable development?

Exploration for a Capital Market and Financing Plan

Xu was exploring a number of options to finance Hongxuan’s next moves.

External Capital

Xu explored attracting external capital, but said he was confused about this situation: “The construction of a rearing base can easily cost hundreds of millions of yuan. The ¥40 million first equity investment in 2012 was almost all spent on chicken farm construction and equipment purchasing. Such financing is very poor in terms of liquidity, risk resistance, and sustainability.”

Traditional Bank Loan Channels

Bank loans were the most common financing channel for companies. Xu had once tried to obtain a loan from a bank. However, the assets Xu owned were farming equipment, which was too specialized to liquidate easily, and pullets, which were vulnerable to unpredictable diseases; thus, he failed to attract the banks’ interests. Even an insurance company refused to provide insurance for the pullets.

Financial Leasing

To integrate its industrial chain, Hongxuan needed to modernize its cultivation process in order to improve production and rearing efficiencies, minimize costs, and fully realize the value of its capital—all of which would require more investment in equipment. Xu had visited all the domestic financial leasing companies but discovered that no company was willing to provide the service since they all worried about the difficulties of finding someone to take over Hongxuan’s equipment if the company were to go bankrupt.

Supply Chain Finance

So-called supply chain financial services involved the core enterprises in the supply chain: third-party institutions (e.g., logistics and financial institutions) or platform companies provided financing and financial services related to issues such as settlement, guarantees, taxation, and wealth management for enterprises involved in the supply chain. Applying the thinking of supply chain finance, Xu was also exploring the possibility of asking upstream equipment providers to offer financing services for equipment asset procurement.

Risk Management

Fluctuations in feed and egg prices affected incomes in the pullet industry. For example, the inversion of the costs and prices in the egg industry in 2017 caused many pullet-rearing enterprises to close down; since 2018, under the macroeconomic environment of escalating China-U.S. trade friction, both prices and profit margins of agricultural products would be affected, and this would increase the uncertainty of egg prices. Xu was also trying to find ways to hedge against these uncertainties, lock in the price of raw materials, and stabilize the price of the final product.

Conclusion

Since its establishment in 2008, Hongxuan had realized the integration of the agricultural, manufacturing, and service industries, and had realized omni-channel sales in accordance with Internet Plus (see Exhibit 4). However, past success did not guarantee future success. In an era of increasing consumption, Hongxuan needed to develop new perspectives and models to attract greater capital to achieve its annual output goal of five billion eggs within three years.

In the evening, Xu was looking at the inscribed board of “God rewarded the diligent”[[2]](#footnote-2) and thinking of the development of Hongxuan in these past years. He knew that constant persistence and continuous innovation had driven the development of Hongxuan. He needed to find new ways to gain external financial support.

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Exhibit 1: weekly egg price variations in 2016

Source: Company files.

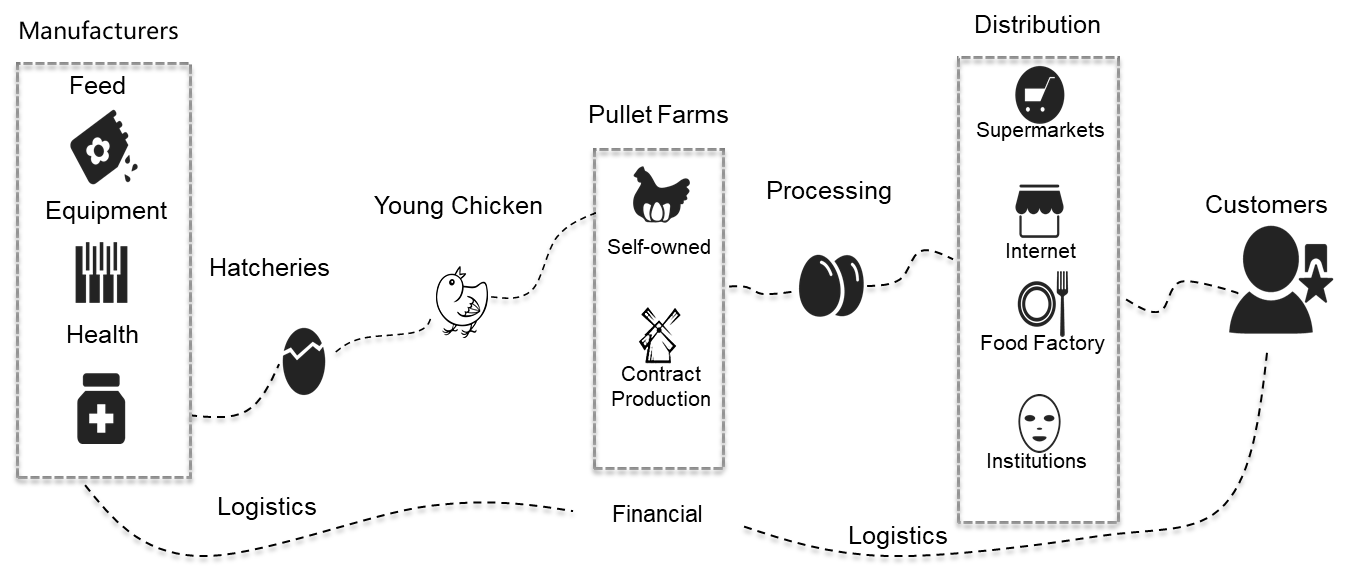
Exhibit 2: monthly egg price variations, 2011–2016

Price 2011-2016 (Monthly)

Yuan/kg

Source: Company files.

EXHIBIT 3: THE INNOVATION BUSINESS MODEL



Source: Company files.

exhibit 4: Hongxuan’s smart agriculture

**Venture capital**

**Strategic partner**

**Bank**

**Insurance company**

**Insurance/  
Finance**

**Service platform**

**E-Commerce  
platform**

**China pullet-rearing industry: Big data**

**Capital support**

**Efficient service**

**Quality products**

**Offline services**

**Logistics support**

**Channel development**

**Customer**

**Supplier**

Source: Company files.

1. ¥ = Chinese yuan renminbi; ¥6.441 = US$1 as of June 2018; all currency amounts are in ¥ unless otherwise specified. [↑](#footnote-ref-1)
2. This Chinese proverb meant that those who worked hard would be rewarded with good results. [↑](#footnote-ref-2)