Jiao Jie, Zhao Ziqian, Zhang Jiulu, Xu Haipeng,
Gao Yuanshen, Zhu Binhai, Ma Chi, Wang Yanyang

Version Date: 2020-5-26
Product No.: TU0106

Easy Flower: Flowers Meet Business and Technology

On January 9, 2019, the founder and chairman of the board of Beijing Easy Flower Technology Co., Ltd. (Easy Flower), Rong Chao, received the first payment of 570,000 Japanese yen (roughly RMB 35,000 or $5,200) from his company's Japanese partner. Compared to Easy Flower's annual turnover of RMB 1 billion (roughly $150 million), this was not a major source of revenue. But Rong was content with the company's first attempt to do business overseas, as it heralded one of Easy Flower's future paths. In the domestic market, the "hundred-day battle" he had initiated in October the year before proceeded vigorously and his crew members had rolled up their sleeves hoping to hit an ambitious performance goal. In the four years since its inception, Easy Flower had risen to become the leading provider of China's business-to-business floral industry through creating a highly effective supply chain. Florist stores formed the company's main customer base. However, Easy Flower was at a strategic crossroads. Rong estimated the size of the highly fragmented domestic floral industry was merely tens of billions of renminbi. He was wondering what the next step should be. Should it pursue vertical integration by entering into seeding and floriculture, should it build and acquire florist brands, or should it take advantage of its technology and build a new platform capability to seek overseas opportunities and expand in the global floricultural industry?

An Entrepreneurial Frenzy Induced by 4G Technology

In 2001, Rong graduated college and started working at a state-owned telecom company. He was promoted to senior management within five years. After three unsatisfactory internal entrepreneurial trials, he took over the overseas business of the company's third-generation and fourth-generation information technology (3G and 4G). As Rong and his colleagues deeply

---

This case was prepared by Jiao Jie, Zhao Ziqian, Zhang Jiulu, Xu Haipeng, Gao Yuanshen, Zhu Binhai, Ma Chi, Wang Yanyang of Tsinghua University School of Economics and Management as the basis for class discussion rather than to illustrate either effective or ineffective of an administrative situation. Thanks to Dark Horse Institute and Zhang Jiulu for their support in the development of this case.

understood the promise of 4G, they envisioned that the mobile Internet might change people's lifestyles in various aspects. One after another, they left the telecom group to chase their dreams. Their shared credo was to transform traditional industries using new technology. In 2014, Rong became a father. A friend offered him an RMB 3 million annual pay job offer, which his family urged him to accept. However, as tempting and convenient as taking the job offer was, Rong could not resist the desire to pursue his entrepreneurial dream. He chose to take the path of an entrepreneur with barely any income.

Rong and his former colleagues analyzed a spectrum of traditional industries, trying to evaluate whether they had the potential for efficiency enhancement through the utilization of mobile Internet technology. They were fascinated by a number of technology companies that had built commercial empires by transforming merchandise distribution in the past decade, such as Alibaba.com. But the gang thought there might still be opportunities in more conventional industries, such as agriculture, which had longer value chain, primitive distribution networks, and other characteristics that made them less attractive to technology giants. Among many agricultural categories, grains were under strict control by the government, and fruits and vegetables were less lucrative because of the low value per purchase. Eventually, they set their sights on flowers. Astonishingly for them, the price difference between the flower farm price (RMB 0.5 per rose stem) and the retail market price (RMB 10 per rose stem) was 20-fold. The combination of low efficiency and the extravagant profit margin made the industry very enticing. They knew that China's low flower consumption (less than 10 stems per year per person) was probably the main reason why this industry had not been transformed by the technology giants. But they also believed that they saw a good opportunity, as China's flower consumption might have great growth potential, compared to Japan, whose flower consumption was 300 stems per capita per year. This was because the use of flowers was integral to Japanese culture. Rong saw the opportunity to create a market leader with a dominant position in this small industry.

Starting with Retail

In the beginning, Rong put up a 9-square-meter traditional store and an online retail site to test his initial inclination to build an e-commerce retail brand. However, they proved to be unsuccessful and Rong soon closed them both. After his initial passion cooled down, Rong was able to reflect on the true nature of the floral industry. There were reasons why extravagant profits existed. The flower industry was a difficult trade that involved hard work, risks, and endurance. The traditional supply chain included growers (most in Yunnan Province where the moderate climate through the year was very suitable for growing flowers) as well as several layers of distributors located in the vicinity of Kunming Airport (Kunming was the capital city of Yunnan Province) and in consumer cities (**Exhibit 1**). There were also thousands of mom-and-pop florists running small outlets in towns. Every party suffered a high spoilage rate because flowers were highly perishable. At that time, no company was able to absorb all the risks from farm to family and do business across China.

The experience of being both an online and offline florist made Rong feel the pains of this industry. Before he entered the industry, 95% of shipping had been undertaken by night flights. Take Beijing, for example — a typical flower-shop owner needed to leave home before 4 a.m. and head to one of the city's two major wholesale markets. With a note in hand recording their orders to be fulfilled, they had to use a flashlight to perform quality inspection in a cold, dark outdoor environment. In the wholesale market, nearly all transactions were made in cash and there was no quality guarantee. They had to be careful of the lower layers of flowers in crates because bad ones could be hidden underneath the better top layers. At 7 a.m., the market closed and buyers needed to arrange for shipments by themselves to their stores, and then arrange for a courier service to deliver products such as bouquets and flower gates to individual buyers. Careless on-site quality inspection and poor demand estimations usually meant extra costs because of the perishable nature of the products.

Rong also formed his impression of the consumer market. First, flowers were mainly used as presents. He estimated that the gift market accounted for 35% of the market, while wedding ceremonies claimed 30% and business purposes claimed 20%, with the rest being household consumption and personal pleasure. The gift market was very unstable and was influenced by factors such as seasons and festivals. Normally, there were four peak seasons, including Valentine's Day (February 14), I-Love-You Day (May 20), Chinese Valentine's Day (usually in August), and the week between Christmas and New Year's. In addition, there were also several minor peaks for particular flower categories such as carnations for Mother's Day in May, roses for wedding celebrations in September, and carnations and sunflowers for Teacher's Day on September 10.

Other consumption purposes varied, such as for courtship and dinner table decorations. These orders were very transient and diverse. As such, it was hard for florists to forecast demand and prepare inventory accordingly. Other influencing factors included sudden weather changes (a heavy frost in Kunming might ruin the flowers waiting to be shipped on planes) and airport control (flight delays might cause supply shortages and high prices in a city's wholesale market).

The pricing was primarily based on distributors' personal judgments. In the incidence of extreme weather and bad transportation, the pricing became more arbitrary and even purposely marked up. There was no pricing structure for different types and qualities. As the industry did not have an existing grading system, the same batch of roses could be used for a bridal bouquet as well as a flower gate, and the per-bud price difference for these two purposes could be 10-fold. A feature of the gift market was that the giver and receiver cared greatly for extravagant packaging, which was believed to be manifestation of the giver's genuine feelings. In view of this, Rong envisioned, the opportunity might lay in making flowers affordable to everyone and adding small instances of delight to people's daily lives.

The traditional supply chain took the form of face-to-face transactions. Since there were no

after-sales guarantees, dealers could not care less about shelf life, but cared greatly about flowers' present condition. To make their products look better, workers were hired to trim bad leaves and remove withered petals whenever possible. They cared about speedy transportation and high turnover. The flowers were not well-preserved during transportation, as such care meant extra costs. This was also one of the reasons why the gift market had become the mainstream market. Customers in the gift market only cared about the appearance of flowers on the exact day of the festival or ceremony. In fact, the blossom period of domestic floral products was much shorter — that is, three or four days — than that of imported products, notwithstanding that domestic flowers could be transported from Yunnan to any major city in less than three hours by air freight. Comparatively, imported flowers were mainly shipped to China by sea freight from the Netherlands (the global leader in cut flower exports), Africa (a rising player in flower production), and Latin America (another rising player) after a four-day trip by sea. Although longer times and distances were involved, because the flowers received proper treatments and were preserved in refrigerators, the blossom period usually lasted longer than 10 days.

Servicing Florists

The failure of Rong's brick-and-mortar retail brand shattered his initial business idea, but made him spot new opportunities. On Valentine's Day, growers and florists did not have such a high margin as he had imagined; rather, he realized, it was the dealers and distributors in the middle of the value chain who made the greatest profits. Taking advantage of its intermediary position, sometimes they profited excessively from market speculation. It dawned on Rong that he could disrupt the traditional supply chain to offer better service to florists, whereas most players chose to pursue the retail market (**Exhibit 2**).

Soon after closing the retail outlet, Easy Flower developed a mobile phone-based application called "Sourcing Flowers" for retail florists to place orders. Every morning, when it was still dark and chilly outside, Easy Flower's staff headed to the wholesale market in town to purchase flowers and then registered the new inventory in the app for florists to place orders between 9 a.m. and 12 p.m. At 7 a.m. the next morning, the orders would be delivered to florists' shops. Without this doorstep delivery service, every day these shopkeepers had to depart from home and start their working day at 3 o'clock in cold winter nights by replenishing stocks themselves. Unfortunately, they were also tricked by dealers as bad flower could be hidden underneath the good ones, very hard to discern when it was still dark. Obviously, there was no after-sales guarantee. Therefore, once the online service came out, it was very well received by florists and, therefore, Easy Flower quickly established a wide customer base.

Not long after its initial success, Easy Flower encountered a headache. The traditional sourcing model — of purchasing at the wholesale market — became uneconomical when business grew to a larger scale. When Easy Flower's staff parked four 4.2-meter-long trucks near the gate of the market, the unusual scene attracted great attention from the dealers, who were used

to seeing small shop owners driving mini-vans. The dealers soon realized that Easy Flower needed to build up a large inventory to realize its business model. In response, they jointly jacked up the prices, causing Easy Flower's costs to rise very fast.

Another issue was that the huge wastage rate seemed to have burned up a very large portion of capital raised in the first few financing rounds. Ordinarily, three flowers out of ten could be sold at the regular market price, five out of ten could be sold at a discount, and the remaining two would be wasted and written off. Overall, the average cost attributed to high wastage rate was nearly 35%. Easy Flower tried very hard to bring down the spoilage rate only to find that the percentage stood still at 28%.

Going to the Origin

Between 2014 and the first half of 2016, Easy Flower spared no effort in expanding its sales scale. The company managed to tap into a maximum of 100 city markets. This was interpreted by rivals as hotheadedness. In fact, lower-tier city markets did not have the capacity to justify logistics costs. In fact, although the 2016 turnover growth hit 200%, the company still saw a loss of RMB 30 million. Soon, the company painfully decided to shut down operations in unprofitable cities and downsize its market coverage to only 20 cities, in order to conduct lean operations. Reflecting on the past, Rong believed there had been good rationales for the fast expansion. For one thing, he had to see the numbers to decide whether a city was a good market; for the other, only when sales reached a certain minimal threshold could large trucks be commercially viable for origin sourcing. A 15-meter cold-chain truck's cost was not justifiable if the load was below 280,000 flower stems. Better warehouse locations and route could be planned out later. To bypass the wholesale market dealers and realize a lower spoilage rate, in 2015, Easy Flower decided to start direct sourcing at Yunnan, China's main flower origin.

There was a large auction house in Kunming (**Exhibit 3**). Growers were used to shipping flowers to auction houses to endure a Dutch auction process (prices declining until someone bid) for visual inspection by hundreds of buyers seated in the hall. After the auctions finished, wholesalers shipped the flowers to the airport and then distributed them across China. Consumer city wholesalers then took over and shipped the flowers to the wholesale markets or the next layer of dealers. In Kunming's auction houses, unsold flowers would be dumped into a yard to rot. When Easy Flower started sourcing in Yunnan, the first stop was the auction houses. As Easy Flower bid at a high price, placed huge orders, and even bought out the entire supply of a single seller, the price-jacking scenario happened time and again. Learning from these experiences, Rong came to see why it was so hard for the online retail subscription model (weekly delivery and monthly subscription) (**Exhibit 4**) to be sustainable. The Yunnan wholesalers knew very well that these online startups were forced to stock a certain inventory to fulfill orders placed in advance, even at high prices, so as to preserve their brand and reputation in the retail market. The subscription model enjoyed a stable shipment volume, but it would be useless if the operators

could not control costs.

Like traditional flower wholesalers in China, Easy Flower initially adopted air shipments. The company rented luggage compartments and even chartered cargo planes. Rong used to be very proud that he had chartered a Boeing 747 to ship 104 tons of flowers in February 2016. Air shipments were fast but costly. Even so, the wastage rate was still high back then. Rong admitted he did not know much about flowers, but he became aware that long-haul shipping did not necessarily cause a high wastage rate, but mechanical injury and same-day temperature differences could. Air shipment sounded fancy, but it had two drawbacks. First, due to the high transportation cost, flowers had to be piled up and pressed tightly; second, the temperature difference at Kunming Airport at night and in a plane cargo compartment could be as much as 30 degrees Celsius. When unloaded, the flowers might have already wilted or gotten slightly scorched by the heat. Without proper conservation techniques, a high wastage rate was a natural outcome. Ideal handling included instant refrigeration to just above freezing to minimize flowers' respiration, proper ventilation, and cold-chain transportation. When appropriate measures were taken, the flowers were no longer "fragile" and could endure long-distance transportation without problems.

Going to the Growers

To solve the sourcing problem at its roots, Easy Flower decided to approach growers the first year it set up operations in Yunnan. Easy Flower expected this move could help bring down purchasing costs as well as the wastage rate. However, Easy Flower encountered unexpected difficulties when it tried expanding its grower base. Having been scammed many times by fraudulent dealers, growers were very cautious of new buyers due to fear of non-payment. Being an obscure start-up, Easy Flower had to chase after every grower and agree to pay in hard cash at first. Not all growers were honest. Some used toothpicks to reconnect fallen buds with the stems and hid defective flowers under good ones. Upon delivery, Easy Flower's quality control staff had to unpack, check, and resort flowers. Growers were also reluctant to do processing work such as sorting, cutting, and packing according to Easy Flower's standards, as they had not done such work before. Easy Flower had to send staff to growers' flower farms and directly help them undertake processing. The ideal scenario was that the whole batch was bought by Easy Flower, or else the less-than-premium flowers would have to be left to rot in the fields. Growers did not care much about the average pricing of a single lot, but rather the overall income. As such, they resisted flower grading and wanted to negotiate a buy-out price. Both sides usually had divergent ideas about the grading of a batch. They would argue very often in the beginning because there was a considerable price gap. However, the Easy Flower so determined to transform the industry that it created its own grading system (**Exhibit 5**). Initially, it was not easy for the staff to talk growers into accepting the terms. For convenient measurement of bud size and stem length, Easy Flower's employees brought Vernier calipers and rulers with them every day when they scattered into the flower farms and dealt with growers.

Flower farms in Yunnan were very fragmented. The size of flower fields ranged from several mu (1 mu roughly equals 0.16 acres of land) owned by small family growers, to dozens of mu run by medium growers or small wholesalers ("the suppliers"), all the way up to hundreds of mu. Dealing with small individual growers was the most difficult. Easy Flower developed a mobile phone application, "Selling Flowers," for them to use. Some did not have a smartphone before Easy Flower approached them, but upon one-on-one training, they grew accustomed to selling flowers while sitting in the yard drinking tea.

Growers could register their supply capacity on the app a day before. Easy Flower's operational staff would set the categories and the amount in need for growers to bid and for the system to match demand and supply based on an algorithmic formula. Then, Easy Flower would notify the growers who had won the bidding. The higher the credit a grower had, the easier for him to win the bidding. The next morning, growers were obliged to process cut flowers and make delivery to Easy Flower's nearest cold-storage warehouses, which were located near the flower farms, much closer than the auction houses over a hundred kilometers away. Easy Flower's staff would then inspect the quality and repack the products into crates for long-distance transportation (**Exhibit 6**). Up till 2018, Flowers directly sourced from Yunnan accounted for 70% to 80% of Easy Flower's overall product base.

The Grading System and Inventory Digitalization

In the European system, the size and shape of the bud, the length of the stem, and the freshness were all factored into the grading system. In China, dealers at all levels were flower experts, but their businesses relied heavily on personal judgement and on sight, and thus it was hard for them to expand business to a national scale. Rong believed what he did in terms of imposing a growing system to the floral industry was revolutionary. He joked about being a layman to the "science" of flowers. It did not even matter whether he was a flower expert, as all standards turned into lines and lines of code and all data regarding a batch of flowers purchased from farm and transported into warehouses was fed into the system. The grading system, combined with a data-driven logistics and inventory system, transformed the convention of handpicking and thus significantly decreased error rates. Therefore, Easy Flower was able to implement a price discrimination strategy and its customers (florists) could pick from various product categories to meet different purposes.

Cold Chain

Under the traditional transaction model, growers were reluctant to apply high-cost fertilizers or invest time and labor to take extra care of their products. The only thing that mattered to them was flowers' appearance when the transaction closed. Eventually, Gresham's law — that bad money drives out good money — took effect. No wholesalers would offer a quality guarantee in the flower market. Rong believed that the best solution to maintain a healthy market was the rise of several big players that were able to control the overall market circulation,

i.e., from greenhouses to households. He believed that the lack of consolidation at both ends of the supply chain would weaken the output quality for all kinds of farm products. Just as in the U.S. fresh produce market, Rong firmly believed that tycoons would also emerge in China, in all agricultural categories. Therefore, Easy Flower invested most of its capital raised from investors in building its own cold chain and warehouse infrastructures and upgraded its inventory monitoring system. In June 2016, a new transportation management system (TMS) was launched and all transportation vehicles were switched from air shipment to inland cold-chain shipment in order to reduce logistics costs by 30%. In several years, Easy Flower had built a three-layer distribution system (**Exhibit 7 and Exhibit 8**) and had begun to use SF Express, a leading logistics company in China, to realize nationwide distribution with refrigerated trucks. With proper handling such as flower respiration suppression and chemical treatments, the blooming period was prolonged significantly. Rong was still not satisfied. He decided to continue investing in infrastructure in the hopes that one day local flowers' blooming period could reach that of imported products. Easy Flower's practice spurred industry development. Under Easy Flower's influence, an estimated 30% of all industry shipments switched to the cold-chain logistics.

Winning by Algorithm

The sudden rise of Easy Flower made many venture capital-backed peer companies to covet. Numerous competitors appeared and copied Easy Flower's strategy of heavy infrastructure investment. With the support of venture capital, they tried to contend for the industry's leading position. Rong did not fear the intensifying competition because he never saw self-operated infrastructure as his sole core competency. Cold chains and cold warehouses consumed most of his newly raised capital and raised the bar for newcomers, but this was only a phase where he needed to build capabilities for solid quality assurance. He knew that the central problem of the flower industry resided in the capability to expedite accurate information flows. "We may seem to be a big wholesaler, nothing more," he said to himself, "but deep to the core we are a technology-enabled disruptive innovator!"

The traditional supply chain contained over four layers represented by various parties, and this inefficient information relay led to wrongful estimations and thus high wastage. The diverse and dispersed market imposed difficult demands on the capability of the supply chain and possibly hindered nationwide industry consolidation. In addition, certain wholesalers sought to hoard products and monopolize regional supply during peak season in order to jack up the price for extra profit.

Faced with this environment, Rong was resolute to solve this problem through a carefully devised algorithmic approach. The new algorithm took consideration of historical data collected from Easy Flower's customers, the florists, for the past few years and allowed human intervention as needed, especially during festivals. The flower grading system was also helpful, as it brought in more data and made data forecasting more accurate. The more accurately the company was

able to estimate supply and demand, the faster its inventory turnover, the lower the wastage, the lower the costs and risks, and the larger the profit margin. Rong hired programmers to work on its various systems day and night and their 900 million lines of code proved the company's commitment in elevating industry efficiency through technology (**Exhibit 9**). Data collected by the system included order placement, the exact time of the order, peak hours, the exact shipping address, and output distribution by geography. Following pre-set rules, the system could also alert managers of insufficient inventory, inventory overload, or batch defects in its nationwide warehouses by product category. In 2018, Easy Flower started to explore the application of artificial intelligence and machine learning in complex supply chains. With absolutely no human intervention, the new system was able to achieve higher accuracy of market forecasting and automatically realize self-adjustment with sufficient data input. For instance, the new system could push product information to relevant customers based on geographic locations and historical data, and could automatically send coupons to certain groups of customers after analyzing their past behaviors. In addition to data-driven decision-making, the company also slightly modified its business model by adding two features — contract farming and pre-sales — to smoothly match supply and demand.

Easy Flower had 200 staff members, of which 30 were in research and development. The sales team, which contained no more than 30 people, on average sold over 2.4 million flower stems each day, covering 180,000 florist shops in over 60 cities across China. They were able to do this because most decisions were automatically made by the system. From 2015 to 2018, the accuracy of market forecasting rose significantly.

For instance, four hours before the refrigerated trucks arrived at a cold-storage warehouse in Beijing, the system would already have decided to renew system inventory data with this batch so that customers could place orders. Upon arrival, half of this batch would already be sold. The average warehouse inventory turnover period was only 0.6 days. Automated sorting had replaced manual sorting and this further boosted efficiency. Since the second half of 2017, the company had started to show a profit and the numbers increased gradually from month to month. By year-end 2018, Easy Flower had managed to gain pricing power over its sourcing and sales for 35% of its product categories. Rong was proud that Easy Flower had seized a dominant market position and sensed that the capital market's white-hot interest in the flower industry had faded.

Reflection

One day in the second half of 2018, Rong looked at the year-on-year financial data and sighed. Looking at the 2017 financial numbers which said 200% annual growth rate, he was not content but disappointed. As an Internet-based company, such financial results seemed far from meeting the expectations of the company's venture capital investors. He knew that investors were eager to see explosive growth, as the rise of e-commerce had seen numerous Internet-based industry-disrupting innovators that had shaken traditional industries and met an 800% annual

growth rate.

The idea of injecting the flower industry with vitality had excited him, but the company's momentum was far from being satisfactory. The industry featured low standardization, high demand elasticity, geographical decentralization, and seasonal peaks, all of which explained why Easy Flower had not encountered powerful rivals in the past few years. However, the company still had to admit that there was a long way to go. Challenging the traditional supply chain not only involved an innovative business model, but also required change in the growers' mindset and heavy investment in consumer market education and changes in lifestyles. These transformations needed time. To boost sales in the low season from October to December in 2018, Easy Flower launched a sales campaign called the "hundred-day battle." Even so, Rong was still bothered by the fact that he knew he had already seen the glass ceiling of China's flower market capacity. He asked himself where the future lay.

Further market development might include increasing market share from 20% at year-end 2018 to being a market dominator. Easy Flower planned to optimize its service process to solidify its market-leader position; for example, it could broaden product varieties. The focus on high-volume species made sure the company survived the entrepreneurial stage. Easy Flower did not source rare species because they were expensive, hard to preserve, and the market size did not justify the added costs. Because Easy Flower had become a market leader and secured an advantageous position in the value chain, adding rare and expensive species to its offerings became the next step toward satisfying demanding customers and making larger margins. In addition, Easy Flower tried to further expedite delivery by meeting same-day orders, i.e., fulfilling morning orders within the day.

Becoming a Platform

With Easy Flower's reputation spreading among growers in Yunnan, and its business growing steadily, Rong started to think about how to provide guidance to growers, such as convincing them of investing in advanced technology, providing them with the latest information about market demand so they could decide on the categories and amounts to grow, and advising them to grow rare species for a higher premium. It had a vision of promoting flower consumption to the general public and improving the availability of rare species to consumers with particular needs. To make this happen, Easy Flower thought through its role and positioned itself as an industry facilitator and consolidator heavily involved in industry reform and upgrading, rather than just a supply chain company.

After rounds of market investigation and internal discussions, Rong and his team decided that the company should focus on its core competency — the middle part of the floral industry supply chain — to connect growers and florist shops. Taking advantage of the company's technology, data, and logistics infrastructure across China, the company decided to shift from a self-operated business to a platform model. Easy Flower was going to build an ecosystem that

enabled all suppliers to realize nationwide sales and all florists to compare prices among numerous suppliers and find their needed products. When matching supply and demand, Easy Flower could obtain and accumulate new market trends and make more accurate market forecasts with the ultimate goal of executing effective price discrimination among flower categories, product qualities, and usage purposes.

Internationalization

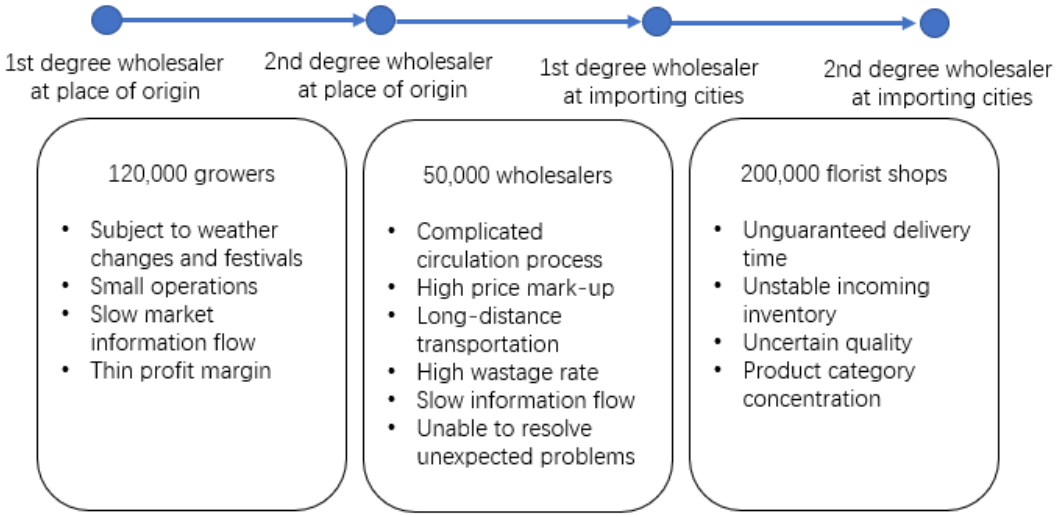
In the second half of 2018, Rong took a trip to Japan and the Netherlands to investigate the local markets and explore business opportunities. Originally, he intended to sell Chinese flowers to those markets. He saw that flowers were centrally consolidated, auctioned off, and distributed to the world: Kenyan and Colombian flowers were shipped to the Netherlands and then auctioned to local distributors, who shipped them to European destinations (including Moscow) via cold-chain trucks.. The physical concentration of flowers was the reason why the Netherlands had the largest auction building, the Aalsmeer Flower Auction, which was one of the world's largest commercial facilities. Rong was astonished that the 100-year Dutch practice was as conventional as what he saw in Yunnan — for example, the buyers needed to physically view the product (see **Exhibit 3** again). He reflected and concluded that the advantage that Easy Flower had was that its supply chain allowed for the separation of information flows (including product grading, pricing, and capital flow) and logistics.

One of Japan's largest floral and horticulture companies, OTA Floriculture Auction (OTA), proposed to create a joint venture (JV) with Easy Flower only one month after hearing Rong's presentation about Chinese growers' sit-at-home-and-sell lifestyle enabled by Easy Flower. The vision was to replace OTA's original offline transaction model and the centralized distribution system, and even try to monopolize the Japan flower market. Easy Flower held a 51% stake in the JV. On December 15, 2018, the JV launched its new system in the Japanese market. Exporting technology to an overseas market was a brand-new idea. The initial success of the JV brought Rong great confidence. In 2019, Rong decided to launch a Spanish-language application sell-flowers app to service Latin American growers and an English-language source-flowers app to service U.S. and European florists. Rong believed that the global floral market, worth hundreds of billions of dollars, would offer more growth opportunities. Easy Flower found a consulting firm to upgrade its system and implement cloud technology in order to attract international customers.

"It's tricky for a small company to deploy its limited resources. Should I extend the business into both ends of the supply chain, or should I go for the international market and export my technology?" Rong asked. Someone suggested to him that he could even move into fresh-produce industries because the market size was larger and Rong's supply chain was capable of handling perishable goods. Rong thought it was an interesting idea, but he did not believe that switching roads halfway could lead to success. He decided to take the original route towards reducing

supply-chain costs and becoming the largest and most efficient flower company in China (**Exhibit 10**). Should he focus on pursuing a larger domestic market share or chase international business opportunities? There were large existing players in the international market (**Exhibit 11**). How should Easy Flower fit in? Rong was clear that both domestic and international efforts would need heavy investment and long-term commitment. He pictured himself halting in front of a crossroads, weighing both options. He felt he had to find a more sustainable development path for his company.

Exhibit 1: Traditional Flower Supply Chain in China



Source: Easy Flower, recreated by authors.

Exhibit 2: Domestic Competitors and Their Business Models

Company Name	Market Segments	Business Model
Reflower.com.cn	household	2C
FlowerPlus	household	2C
Hua.com	household, gift	2C
24Tidy	household	2C
TheBeastShop.com	gift	2C
Roseonly	gift	2C
Huaji.com	gift, e-commerce platform	2C, 2B
Flower Bus	e-commerce platform	2B
Easy Flower	household, gift, e-commerce platform	2B, 2C

Note: 2C=to customers; 2B=to business

Source: Easy Flower, compiled by authors.

Exhibit 3: Kunming International Flora Auction Trading Center (KIFA)

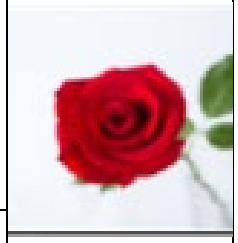
Source: "About KIFA," KIFA, accessed March 25, 2019, www.kifa.net.cn/aboutKIFA.do?method=show&contentId=1.

Exhibit 4: Reflower

Reflower was founded by senior journalist Zhu Yueyi in 2015 as a retail flower e-commerce brand. Zhu's prior entrepreneurial experience before Reflower was in cofounding Yongche.com, an online car-hailing service, and acting as its chief marketing officer. Reflower was dedicated to promoting flowers not as an expensive gift but as part of people's daily consumption. The company offered monthly subscriptions and weekly delivery service. Users could not order specific species à la carte but had to wait to be surprised by the seasonal flowers chosen by the company. Its operational model involved signing with the top 30% of flower growers, conducting contract farming, and introducing new species to growers. It started to adopt the SF Express cold chain in 2016.

Source: "500 Million Stems Sold in 3 Years, Valuation at RMB 2 Billion, Reflower's 10,000-Word Entrepreneurial Notes," Chinaz.com, June 7, 2018, accessed January 28, 2019, www.chinaz.com/start/2018/0608/899777.shtml.

Exhibit 5: Rose Grading Example

	Carola Rose	
Description	Overall requirement: Thick, long, straight stems, bright-colored buds, no mechanical injury or diseases	

Grade	Length (cm)	Stem Diameter (cm)	Bud Size					Curve	Packaging (Stems per Bundle)	
			Upper layer (cm)		Lower layer (cm)				Number	Specifications
			Diameter	Length	Total Length	Diameter	Length			
A	≥85	0.7–1.0	≥3.6	5	80	≥3.6	5	≤20°	20 Stems per Bundle	12 stems, 10 cm without thorns
B	≥75	0.6–0.9	≥3.5	5	70	≥3.6	5			12 stems, 10 cm without thorns
C	≥70	0.5–0.8	≥3.3	4.5	65	≥3.3	4.5			12 stems, 10 cm without thorns
D	≥65	0.5–0.8	≥3.3	4.5	60	≥3.3	4.5			12 stems
E	≥60	0.4–0.7	≥3.3	4.5	55	≥3.3	4.5			12 stems
Wedding	≥35	0.4–0.6	≥3.3	4	30	≥3.3	4	/		12 stems

Source: Easy Flower.

Exhibit 6: Packaged Flowers

Label Information:

FDC (Front Distribution Center): 08

Species: Peach Avalanche+

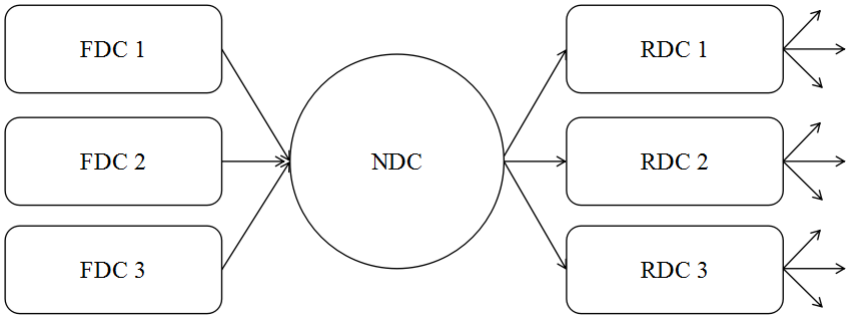
Grade: B

Supplier Brand: Jia Yuan Flowers

Code: 70101

Source: Easy Flower.

Exhibit 7: Easy Flower's Three-layer Distribution System



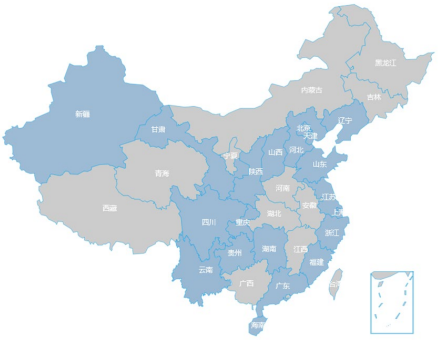
Front Distribution Center	National Distribution Center	Regional Distribution Center
(Numerous FDCs were located near flower fields in Yunnan. They were responsible for sourcing, taking preservation measures, and packaging)	(There was one NDC located in Kunming, Yunnan. Flowers were boxed there while waiting to be shipped to RDCs)	(Numerous RDCs were set up close to major cities across China, radiating to surrounding smaller urban cities)

Source: Easy Flower.

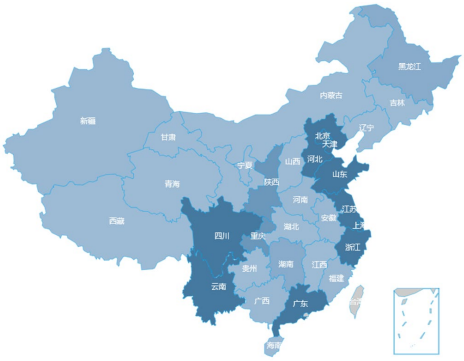
Exhibit 8: Geographic Distribution of Growers, Suppliers and Customers, and National Logistics Flow

Growers (mainly in Yunnan Province)

Suppliers (growing bases and distributors)

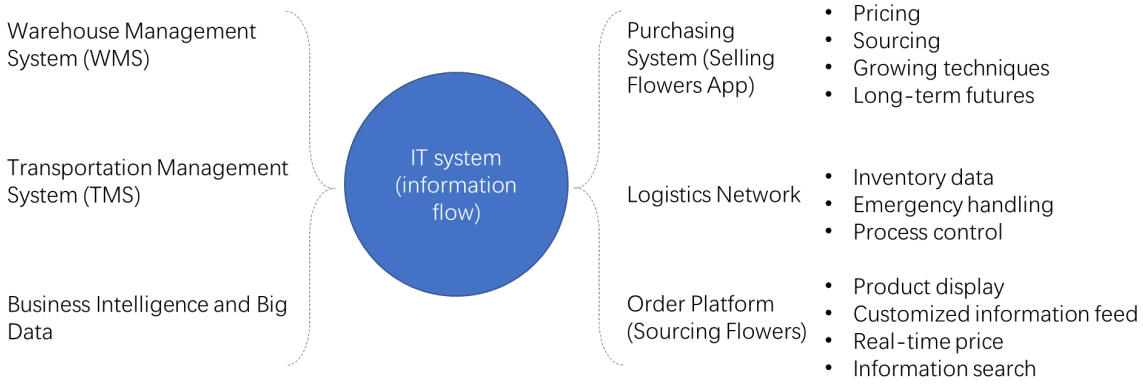


Customers (florists)



Source: Easy Flower.

Exhibit 9: Easy Flower's Information Systems



Source: Easy Flower, recreated by authors.

Exhibit 10: Past Market Data and Future Forecast

(1) 2012–2016 Cut Flower Output and Revenue Data in Yunnan

Year	2012	2013	2014	2015	2016
Output (billions of stems)	7.25	8.05	8.37	8.69	10.06
Revenue (billions of RMB)	4.38	4.26	4.46	5.23	6.86
Output growth rate (%)		11	4	3.8	15.8
Revenue growth rate (%)		–2.7	4.7	17.3	31.2

(2) 2013–2021 China's Flower E-commerce Market and Growth

Year	2013	2014	2015	2016	2017	2018e	2019e	2020e
Market Size (in billions of RMB)	1.2	1.9	3.4	7.4	12.4	18.2	26.1	36.5
Growth Rate (%)		58.68%	79.17%	114.24%	68.39%	46.74%	43.16%	40.12%

Source: iResearch data provided by Easy Flower.

Exhibit 11: International Competitors

Company Name	Inception	Introduction
Royal FloraHolland, RFH	1912, Netherlands	RFH was a cooperative comprised of over 4,500 growers, and was the world's largest flower auction company. Every morning, RFH was able to sell over 20 million flowers and plants. The company's revenue came from membership fees and transaction commissions. The gross transaction volume amounted to €4.6 billion in 2016 but the company's revenue was less than 10% of the total amount.
Dutch Flower Group, DFG	1999, Netherlands	DFG was a family business running 30 subsidiaries. The company focused on exporting flowers and plants to distributors and retail chains in 60 countries. The estimated sales in 2018 were €1.5 billion.
1-800-Flowers	1976, United States	The company dated back to 1976 and later transformed from offline to online operations as a flower e-commerce pioneer. The company utilized a complex algorithm to enhance supply-chain efficiency and the richness of its offerings. The supply chain contained non-flower gift suppliers, growers, logistics partners, fulfillment centers, and self-operated and franchised retail stores. The company was listed in the United States with a revenue of US$1.15 billion in 2018.
FTD Companies, Inc.	1910 United States	FTD started as a cooperative of 13 florists who processed orders through telegraphs. The company ran an online retail business that sold flowers, jewelry, chocolate, and a variety of gifts. The company was listed in the United States and the 2017 revenue was US$1.08 billion.

Source: "Royal FloraHolland," Holland, accessed January 23, 2019, https://www.holland.com/global/tourism/destinations/provinces/north-holland/royal-floraholland-1.htm; "Royal FloraHolland: 12.5 Billion Flowers and Plants Traded in 2016," Horticulture Connected, April 18, 2017, accessed January 28, 2019, http://horticultureconnected.co.uk/14762-royal-floraholland-12-5-billion-flowers-and-plants-traded-in-2016; "About Us," Dutch Flower Group, accessed January 28, 2018, https://dfg.nl/en/about-us; P. Fraser Johnson and Ken Mark, "Royal FloraHolland: The Dutch Floriculture Supply Chain" (Canada: Ivey Publishing, June 27, 2016), 16; Jayashankar Swaminathan, "1-800-Flowers.com: Collaborating with Suppliers" (Canada: Ivey Publishing, March 6, 2017), 10; 1-800-Flowers.com, Inc., 2018 Annual Report, accessed January 28, 2019, https://investor.1800flowers.com/~/media/Files/O/One-800-Flowers/documents/annual-reports/flws-2018-annual-report.pdf; FTD, 2017 Annual Report, accessed January 28, 2019, http://investor.ftdcompanies.com/static-files/abbae776-7984-4591-a11b-26d8952e74a1.