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Shanghai Contron: From Start-up to Growth

Lydia Qianqian Li, Etayankara Muralidharan, and William Wei 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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We experienced a relatively smooth path after the company was set up. Each annual goal has been accomplished. This year, our sales object is to reach CN¥500 million,[[1]](#footnote-1) and to be listed on the New Third Board in two years.[[2]](#footnote-2)

Zhaoyi Deng, President and General Manager, Shanghai Contron

Two years later, in 2016, Zhaoyi Deng, president and general manager of Shanghai Contron Information Technology Co., Ltd. (Shanghai Contron), commented again on the move of his firm from a start-up to a full-fledged company:

This year, our goal is to accomplish the shareholding system reform and to be listed on the New Third Board. Sales improvement and team building are necessary for that. Sales persons should be doubled, from twenty to more than forty. An efficient sales force will be the key factor for our success.

Growth, development, and already established goals of the firm were considered ongoing goals for the future. In 2006, a research team for video and audio compression, wireless transfer, and smart controlling systems was set up by Shanghai University, Shanghai Jiao Tong University, and the Nanjing Artillery College. Expo 2010 Shanghai China selected the third generation (3G) Wi-Fi wireless video and audio transmission appliances developed by this team for security. In 2011, three members from this team established Shanghai Contron, with registered capital of ¥3 million.

After being in operation for more than five years, Shanghai Contron was moving from start-up to the growth phase, with a high growth rate (See Exhibit 1.) The company’s sales department, with its excellent management efficiency and customer relationship management, had been instrumental in that growth.

Company background

Shanghai Contron was located in Shanghai University National Science Park, Shanghai. More than 170 enterprises were registered in this park, and more than 40 companies operated businesses from there, among them Shanghai Contron. The firm had a long-term relationship of technical co-operation with the high-technology colleges affiliated with Shanghai University, Shanghai Jiao Tong University, and other leading universities.

The company focused on wireless video and audio transmission products, and systems businesses. It had been in operation for more than five years. While the firm was in debt during its first year of operation, it realized sales of ¥324 million in 2013 and had been growing significantly, achieving an expected revenue of ¥1,201 million in 2016. The total profits had also increased from a loss of ¥8.08 million in 2013 to a profit of ¥43.92 million in 2016 (see Exhibit 1). The sales department had played a key role in the firm’s growth.

Organization chart and staff

Established on October 8, 2011, the company had six shareholders. Two of the shareholders had doctoral degrees, and two had experience working with the government. Deng was the company’s president and general manager. Born in the province of Jiangxi in the 1970s and armed with a Masters of Business Administration, Deng had rich experience in business and corporate management. Initially, Shanghai Contron employed 36 people: 30 of them in technology research and development, and six in marketing, sales, and human resources management.

With growth and development, the business changed to a flat organizational structure (see Exhibit 2). With restructuring, it had 28 members including five shareholders. The company had a research and development department (six people), a technology department (five people), a sales department (six people), a marketing department (two people), a finance department (two people), and the administration and human resource management departments (one person each). The research and development department was responsible for scientific research and innovation for the entire project; the technology department was responsible for system integration, presales, sales, and after-sale technical support. The sales department was divided by industry, with each division headed by a sales manager. The marketing department was responsible for market research and marketing activities.

Business projects

Shanghai Contron considered its core competencies to be wireless video and audio compression, and transmission control technologies. It combined hardware and software to provide systematic solutions and personalized service for wireless video and audio transmission applications in various industries. The system solutions were provided to customers in areas such as fire, taxi, public transport, rail transport, environmental sanitation, public security, forestry, shipping, electric power, port security, water conservancy, and insurance. Shanghai Contron also offered application services and had software and hardware trade; however, the transmission solutions dominated their main business revenue (see Exhibit 3).

Among Shanghai Contron’s key video and audio transmission systems were the following:

Wireless Microterminals

The wireless microterminal was easy to carry and conceal and was suitable for use in secret investigations required for national and public security. It was as small as a thin card, but with powerful functional capabilities. Shanghai Contron developed this product with many advanced technologies (e.g., multimode transmission and lip-sound synchronization to realize both high-speed transmission and transmission security) (see Exhibit 4). Related techniques included optimal multimedia communication control technology and encryption transmission algorithms. These advanced techniques stemmed from the company’s excellent experience in wireless video and audio fields.

Wireless Vehicle Terminal

For high-speed mobile vehicles, such as buses or trains, wireless monitoring terminals were required to have real-time audio and video monitoring and data transmission systems, and maintain high-performance in high-speed move. Shanghai Contron developed such wireless terminals, which had a wide power supply, and were waterproof, dustproof, and easily installed, operated, and maintained (see Exhibit 5).

Although the company’s wireless monitoring equipment and systems covered a wide range of application areas, they mainly offered solutions for three broad groups: water protection and management systems; forest fire monitoring; and subway and rail transportation systems.

Solutions for Water Protection and Management

The business of industrial water management was located in Shanghai. Based on its internal research initiatives, Shanghai Contron concluded that its wireless monitoring equipment and systems were well suited for the waterway transportation industry. The company’s product could help customers supervise and control water conditions to prevent flooding in areas without regular observation, using an all-around information-gathering approach.

In 2013, Shanghai Contron co-operated with Shanghai Waterway Engineering Design and Consulting Co., Ltd. to design its products. The products and systems for the surrounding waterways and real-time video monitoring in Suzhou Taicang were developed for operation and maintenance monitoring, such as channel monitoring, channel-management monitoring, construction monitoring, environmental monitoring, and other integrated management initiatives.

Solutions for Forest Fire Prevention

Jiangxi was the main market for Shanghai Contron in forest fire control. The complex conditions of the forest terrain prevented use of a typical wired transmission mode. Shanghai Contron introduced a practical front-end video capturing solution that could capture forest fires on video. The project had been implemented successfully at the Tianzhu Mountain Scenic Area, Quanzhou City Command Centre for Forest Fire Prevention, Jiangxi Province Command Centre for Forest Fire Prevention, and the Suzhou City Controlling Centre for Forest Fire Prevention.

Solutions for Metro Transportation Industry

Shanghai had a convenient and well-developed metro transportation system, which was Shanghai Contron’s main market. Shanghai Shentong Metro Group Co., Ltd., which was responsible for the operation and management of Shanghai Metro, was Shanghai Contron’s key customer.

After conducting sufficient field research on the metro’s requirements for vehicles, tracks, tunnels, maintenance, equipment repair, and other emergency requirements, Shanghai Contron developed the mobile video system for emergencies in metro transportation. This system was designed to deal with the difficulties of emergency management, such as how to get accurate and real-time information from the field, and how to monitor and manage these emergencies. This system included a series of wireless image-transfer equipment and an emergency monitoring and managing platform, which helped customers get stable and clear field videos for daily operation and emergency management.

Competition and Strategy

During its first year of operation, Shanghai Contron did not do well, due to high investment costs of startup. The company became profitable in the second year, with sales revenue of ¥10 million. In 2014, the company’s goal was to achieve sales revenue of ¥500 million. In 2015, Shanghai Contron had a growth rate of more than 50 per cent. In 2016, its profit margin was approximately 30 per cent.

After its second year, the firm operated efficiently. In 2013, the company passed the assessment for Shanghai high-tech enterprises, a certification that could help the company win customers’ trust and secure further co-operation from them. In the previous few years, Shanghai Contron had executed its annual strategies and achieved its financial targets. In 2014, its strategic goal was to become a public company and be listed on the New Third Board in 2016.

Competitive Landscape

In 2014, the firm had a sales target of ¥500 million in a very competitive market. In 2016, it had reached a sales value of over ¥1,201 million. Deng noted, “If there is a lack of competition in the market, it means low acceptance for the product. We meet competitors in the market, but competition is a good thing.”

The company had various competitors in its three main business sectors. In the forest fire prevention industry, every region had differing competitors. Jiangxi and Shanghai each had their own competitors. Because there were few companies with competencies in forest fire prevention in China, each local market had just one or two competitors. Nanjing Enbo Tech Co., Ltd. was the company’s direct competitor in Shanghai. In water protection and management systems, competitors were large enterprises, and the main competitor in that industry was LiHe Technology Hunan Co., Ltd. (Hunan), a nationwide listed company. In the railway industry, Jinan Railway Tianlong High-Tech Development Co., Ltd. was Shanghai Contron’s main competitor.

Except for Nanjing Enbo Tech, most of these competitors were large companies. As a newly established company, Shanghai Contron was under heavy pressure to compete for market share. Its competitors had entered the marketplace early. Besides being technically competitive, Shanghai Contron also paid attention to its marketing initiative—specifically, its customer relationship management initiatives.

Small-scale start-up companies faced challenges for survival and development. When competing with large enterprises, Shanghai Contron had its ways of succeeding. For example, one of its direct competitors in the forest fire prevention industry in Jiangxi was Jiangxi Huayu Software Co., Ltd. (Huayu). Its founder once worked for the government, and as a result, had many interpersonal resources and a deep understanding of the industry. In May 2014, Shanghai Contron met Huayu one more time when bidding for a project—this time for Nanchang City Forest Bureau. After long negotiations, Shanghai Contron won the bid; however, it lost the bid in another project to Huayu. Comparing these two projects, Deng explained why he thought Shanghai Contron had succeeded with the Nanchang City Forest Bureau’s bid: “First, we improved the product model and technology. [Huayu was] satisfied with the performance we presented. Second, we made great efforts on customer relationship management.”

Competitors

Forest Fire Prevention Industry: Jiangxi Huayu Software Co., Ltd.

Jiangxi was a listed software development and high-tech enterprise founded in 2004. The company had its own research and development base, advanced testing facilities, and an elite technology team that had established strong relations with Jiangxi Agricultural University, Jiangxi Normal University, Nanchang Hangkong University, and other universities that provided technical support and training for the company. The company was identified among the “high-tech enterprises” and “double software enterprises,” and was awarded the ISO9001 certification by the China Quality Certification Centre in 2009. Many of the software products developed were copyrighted.[[3]](#footnote-3)

The main products developed by the company, which dealt with intellectual property rights, included a forest fire prevention command auxiliary decision system, a forest fire automatic recognition and alarm system, and a fire monitoring real-time transmission system. The company had won several awards. For instance, in 2011, the company was rated as an outstanding enterprise in information technology by the Jiangxi Computer Users’ Association. The forest fire warning command centre system constructed in Yichun, Jiangxi, was chosen as the annual excellent information system engineering product of Jiangxi. Huayu also served as a committee member of Security Technique Association of Jiangxi Province from 2013 to 2017.[[4]](#footnote-4)

Water Management Industry: LiHe Technology (Hunan) Co., Ltd.

Hunan was founded in May 1997 and restructured to become a joint-stock company in September 2011. The company was a high-technology enterprise engaged in researching, manufacturing, and selling automation instrumentation to the major environmental monitoring industry. The company provided online monitoring instruments that could monitor up to 86 parameters of water quality, flue gas, and emergencies. The company had undertaken various projects, such as a national major water project, research and development in modern equipment used for monitoring the water environment, and research in validity testing of online water-quality monitoring data.[[5]](#footnote-5)

After more than 20 years of development, the company had built a nationwide selling and service network. Eleven large district offices across the country had jurisdiction over several service networks, controlling networks and systems, such that professional, comprehensive, and convenient service could -be provided quickly for users.[[6]](#footnote-6)

Railway System: Jinan Railway Tianlong High-Tech Development Co., Ltd.

The leading products of Jinan Railway Tianlong High-Tech Development Co., Ltd. were railway digital communication equipment and railway signal equipment. The company integrated the products’ design and development, production, sales, installation, and service. It was oriented toward meeting the high-tech requirements of the railway market by developing new products and enhancing quality through improved technology. The company had researched independently and promoted more than 20 kinds of high-tech products, two of which were projects in China’s high-tech entrepreneurial “Torch Program.” The company had also been awarded 14 patents, as early as in 2012, four of which were invention patents.

Competitive strategy: Customer relationship management

Technology had reached a stage of maturity in Shanghai Contron’s industry. Yaopeng Li, sales manager for the forest fire prevention industry, said, “The technology has been very mature now. As early as in 1998, there was a paper on this topic, which has been written very well.” In such a mature technology industry, customer relationship management was key for the company to succeed in the market, especially when most clients were affiliated with the government. Deng reinforced the point, saying, “Without satisfied sales, it is impossible to achieve growth and development.”

Customer relationship management was, therefore, the core competency of the Shanghai Contron sales department. Deng regarded the essence of customer relationship management as “being a good person, who touches people wholeheartedly.” In the Chinese context, to have lunch or dinner together was an important way to communicate and build good *guanxi* with the clients. Deng said, “When the customer doesn’t know a company well, he may judge the creditworthiness of the company by the person who gets in touch with him.[[7]](#footnote-7) If the person is trustworthy, the customer will tend to trust the company. Therefore, to behave trustworthily and honestly is important for salesmen.”

Deng narrated an illustrative story:

Once, the father of one of the managers in the forest bureau from another province came to Shanghai for treatment in a hospital. The manager would not ask any favour from us, although he knew that we were located in Shanghai. We found that he had difficulties finding the proper hospital and a doctor. Considering that he were not familiar with Shanghai, we helped him to find the hospital and doctor, with our resources. When they needed cars, we assigned cars for them to get around in Shanghai. Although this was a small gesture from our end, it was a feeling of warmth that he experienced being in an unfamiliar city such as Shanghai. This gesture of ours made him feel like a family member.

The concept of customer relationship management had also been ingrained in the minds of the salespersons. Runhua Tai, the sales manager in charge of the water system industry, said:

I think the goal of sales is to build up a good relationship with the customer, which is particularly important for us, as our customer is the government. Just imagine how many people try to promote one similar product for the government. Thus, how to gain their trust is very important. For me, another thing is service after sales. There are many clients who come back to us because of our reliable after-sales service.

When the government was a key client, having good relationships with leaders in various departments and levels could be complex. Because the negotiation process for government contracts was rather long (ranging from a half year to over a year), one of Shanghai Contron’s greatest challenges was re-establishing the lines of communication when persons who were negotiating for the government changed.

Future of the company

Deng noted that high-tech enterprises often have a life cycle of 10 to 15 years, with the first three years as start-ups. Years three to five were a growth period, followed by five to 10 years in maturity, and another five years in decline. Shanghai Contron was at the turning point from start-up to growth, where growth in size and sales volume were crucial for the company. Deng said, “In order to achieve this [transition], we have to make a breakthrough in resources and capabilities, where resources are more important. Capabilities can be obtained from outside. We may adopt a ‘co-operation’ mode to bring in partners in the future. They may bring in operational techniques and talent. We can develop together.”

There were many companies in a similar situation. Shanghai Contron had many challenges to meet. First was to realize the corporate strategy for the current year. The company aimed to be listed on the New Third Board in 2016, a big challenge for the company, with requirements not only for sales performance, but also for profits. Sales performance was the core issue, as other goals would be affected if sales were low.

The second challenge was team construction. In order to meet the sales target of ¥500 million, the whole team would expand from 27 to more than 40 people. The challenge was to recruit suitable sales personnel with a minimum sales experience of two years.

The third challenge concerned incentives. There were three ways sales personnel could earn incentives: project commissions, stock options (after the company was listed on the market), and a promising career-development plan in the growth period of the company. Among all the departments, the sales department had the strongest incentives. However, the department needed reinforcement by support staff. Having only six clerks in the sales department was low, considering the numbers in the other departments.

The final challenge was managing the salespersons effectively. The staff needed to be doubled to increase the sales to ¥500 million. Doubling of staff would require reorganization of the personnel in the sales department; currently, each sales manager had to directly report to the general manager because of the staff shortage. The company needed a sales and marketing director to improve the existing flat organizational structure; the position was a specially created post. Recruiting a manager from outside would not be easy, so Deng planned to find someone within the company who, with training and development, could be considered for the position. Deng said, “For this position, the candidate has to be a sales expert with outstanding performance. It is the base to lead other salespeople. Also, management ability is important. So, it is not easy to find the right person.”

From Deng’s point of view, both compensation and a co-operative organizational culture were important factors in attracting such talent. The company tried to offer such a platform for employee growth. Furthermore, the sales department had to play a leading role in the growth of the organization, so providing the necessary autonomy and authority to motivate salespersons would be essential. Deng described the authority of the salespeople:

Salespersons have the authority to decide on a majority of the cases. There are two kinds of issues they have to report to me. One is about crucial decisions regarding clients, such as pricing or final signing of a contract. The other is about financial issues relating to the budget. If the consulting fee is below a certain level, then they can decide; otherwise, they have to consult me.

As a small start-up, many of Shanghai Contron’s employees came from other companies, including its big competitors. The new employees might compare Shanghai Contron with their previous employers and have suggestions or complaints. One sales manager described the advantages and disadvantages of working at Shanghai Contron:

Big companies often have a set of procedures or management systems, which are followed strictly by the staff. Take, for example, approvals for a budget. The applicant does not have to fill in a number of forms or go through many layers of clearances for a final approval. They can just use the system for a more efficient process. But there is no such system at Shanghai Contron. The sales person should report every expense above ¥100 to the supervisor. And the process is complex. It always needs time to report and get approvals. But on some occasions, they have to make a quick decision about the spending; for example, whether to pay the bill for a meal with a customer. If they cannot get in touch with the supervisor and get the approval in time, they will have trouble making the decision. If the company can give us more authority about budget, our working efficiency would be improved.

Compared to staff in other departments, such as human resources, administration, or technical departments, salespeople were more active, so managing and motivating them was a challenge. This was also the key to whether the company could realize its strategic target to be listed on the New Third Board. As a high technology start-up, whose main customer was the government, Shangai Contron’s sales department, with its customer relationship practices, was a key division. How could Shanghai Contron obtain and motivate sales staff so the company could realize its strategic goal of being listed on the New Third Board?

Exhibit 1: SHANGHAI CONTRON, KEY FINANCIAL DATA (in ¥ million)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **2013** | **2014** | **2015** | **2016** |
| Core business revenue | 324.10 | 413.03 | 1,069.98 | 1,201.52 |
| Core business cost | 167.14 | 233.36 | 701.69 | 744.74 |
| Core business profit | 156.96 | 179.67 | 368.29 | 456.78 |
| Operating expenses | 9.42 | 20.87 | 31.63 | 79.91 |
| General and administrative expenses | 150.57 | 148.55 | 316.35 | 380.91 |
| Financial expenses | 5.05 | 13.34 | 5.88 | (0.03) |
| Operating profit | (8.08) | (3.09) | 14.43 | (0.51) |
| Income from Investments | — | — | 3.34 | 3.50 |
| Income Financial Allowance | 0 | 0 | 0 | 23.63 |
| Total profit | (8.08) | (3.09) | 17.77 | 23.12 |

Source: Company documents.

Exhibit 2: Shanghai Contron, Organization Chart

Administration

Human Resource Management

Stakeholders

President/General Manager

Research & Development

Techniques

Sales

Marketing

Finance

Source: Company documents.

Exhibit 3: SHANGHAI CONTRON, MAIN BUSINESS FINANCIAL DATA (in ¥ million)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **2014** | | **2015** | | **2016** | |
| Revenue | % of Total | Revenue | % Of Total | Revenue | % of Total |
| Video and audio transmission solutions | 364.70 | 88.30 | 955.78 | 89.33 | 546.99 | 45.52 |
| Application services | 34.91 | 8.45 | 98.73 | 9.23 | 93.67 | 7.80 |
| Software and hardware trade | 13.42 | 3.25 | 15.46 | 1.44 | 220.14 | 18.32 |
| Project engineering | — | — | — | — | 340.72 | 28.36 |

Source: Company documents.

Exhibit 4: Work principles of wireless video and audio controlling systems





Public Internet

10➜

Monitoring screen

Monitoring server

Wireless Terminal (1)

Audio Collector (1)

4

**Monitoring Centre**

12

12

Wireless Terminal (2)

HD Video Collection

**Mobile Internet Users Monitoring**

3G Mobile Communication Centre



56

**3G Mobile Communication Centre**



Audio Collector (2)

In-Car Camera

In-Car Terminal

Mobile Communication Centre

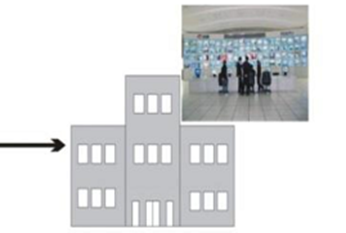
(Tablet, 3G Smartphones, Wireless PC Users)

Note: 3G = third generation; HD = high definition; PC = personal computer.

Source: Company documents.

Exhibit 5: Controlling systems for metro transportation

Metro transportation monitoring system



GPS location

Voice monitor

Bus

Emergent lifesaving

Emergent repair

Location information

In-car terminal

Audio collector

In-car camera

Wireless transformation terminal

Camera

3G network

Mobile communication centre

3G network

Mobile communication centre

Router

Firewall

Core server

Real time monitoring and managing

Wired user

Wireless user

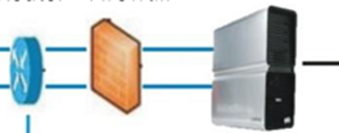
Mobile phone user

Monitoring and management centre

Multiple-visiting terminals



Internet



Monitoring centre

Note: 3G = third generation; GPS = global positioning system.

Source: Company documents.

1. All currency amounts are in CNY; CN¥1 = US$0.16 on March 31, 2016. [↑](#footnote-ref-1)
2. “New Third Board” referred to China’s National Equities Exchange and Quotation (NEEQ), which was launched in early 2013 to supplement the Shanghai and Shenzhen stock exchanges in serving small and medium-sized enterprises. [↑](#footnote-ref-2)
3. “Award & Patent [in Chinese],” Jiangxi Huayu Software Co., Ltd., accessed October 10, 2018, www.jxgis.com/about/28.html [↑](#footnote-ref-3)
4. “Membership of the Security Technique Association of Jiangxi Province [in Chinese],” Jiangxi Huayu Software Co., Ltd., accessed October 10, 2018, www.jxgis.com/article/show/181.html. [↑](#footnote-ref-4)
5. “Corporate Introduction,” Lihe Technology (Human) Co., accessed October 10, 2018, www.lihero.com/us.aspx?CateId=65. [↑](#footnote-ref-5)
6. “Organization Structure [in Chinese],” Lihe Technology (Human) Co., accessed October 10, 2018, www.lihero.com/us.aspx?CateId=67. [↑](#footnote-ref-6)
7. *Guanxi* referred to personalized social and business networks of influence. [↑](#footnote-ref-7)