

DANFOSS MOTION CONTROLS AND HOLIP (A) (ABRIDGED)

Research Fellow Abraham HongZe Lu prepared this case under the supervision of Professors Winter Nie and Adrian Ryans as a basis for class discussion rather than to illustrate either effective or ineffective handling of a business situation.

In May 2005 Erhardt Jessen, a vice president of the Motion Controls division of Danfoss China, was trying to decide whether he should recommend to the Danfoss executive committee that the company acquire Holip, a small, “good enough” competitor in the frequency converter market in China. Danfoss had screened several other potential acquisition targets, but Holip seemed to be the only viable target for Danfoss.

A year earlier the company’s CEO, Jørgen M. Clausen, had announced his long-term strategy of making China a second home market, alongside the European one. In May 2004, as part of this initiative, Danfoss had approached Holip about possible technical cooperation. Holip’s 2004 sales amounted to about €3.5 million¹ and the company had grown at more than 100% per year in the previous two years.

Danfoss, with 2004 sales of €2.2 billion, was one of the global leaders in the frequency converter market and was already a leading player in the premium segment of the frequency converter market in China. However, it had recently become clear to Jessen that the good enough segment of the market, which was about 35% of the total Chinese market, was growing at about three times the rate of the premium segment.

Jessen knew that top management would also want his recommendations about the strategy that Danfoss Motion Controls should adopt if it acquired Holip. Key issues that would have to be addressed included the continued use of the Holip brand and the degree to which Holip should be integrated into Danfoss. There would also be challenges in terms of procurement, R&D, IT, HR, service and support.

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¹ €1 = RMB 10

Background

Frequency Converters

Frequency converters change an alternating current (AC) from one frequency to another, with or without a change in voltage. They are typically used to control the speed of pumps, elevators, cranes and industrial processing lines for products such as paper, textiles, food and beverages, and packaging. They help make industrial processes more flexible and “intelligent,” and can result in significant energy savings.

Danfoss

Danfoss, a family-owned company established in Denmark in 1933, produced mechanical and electronic products such as compressors for refrigerators, radiator thermostats and frequency converters. When Clausen became president and CEO in 1996, the company embarked on a series of acquisitions around the globe, which strengthened its worldwide market share in electronic solutions for the control and monitoring of refrigeration, air conditioning, heating and water systems.

The company operated primarily in three business areas – refrigeration and air conditioning, heating and water, and motion controls² – with motion controls accounting for 20% of Danfoss’s net sales. Motion Controls supplied standard frequency converters to a wide range of industries, including HVAC (heating, ventilation and air conditioning), refrigeration, food and beverage, water, and wastewater. It also provided custom-designed converters for specialized applications, e.g. converters for container cranes, which redirected energy back to the power grid when the containers were lowered, thus reducing energy costs.

Danfoss launched one of the world’s first frequency converters in 1968 and grew to become a global market leader in frequency converters for motors between 0.18 and 90 kW. Considering the whole range of low-voltage frequency converters, Danfoss was No. 4 globally and No. 3 in Europe (*refer to **Exhibit 1** for global market share*). Its globally strong VLT® brand had received numerous awards for product innovation and design.

Danfoss’s China Strategy

Danfoss had been active in China since 1989 with a sales office in Hong Kong. In 1996 it decided to build a climate controls and heating thermostats factory in Wuqing, about 90 minutes away from Beijing by car. The manufacturing site was built to Danfoss’s European standards. With the same quality and productivity as in Europe, but with lower labor costs and local sourcing, Danfoss flourished in China by supplying premium products to multinationals and large Chinese companies. In 2004 Danfoss China had revenues of €8 million.

² This case study focuses only on the motion controls business.

In the 1990s China had been considered just one of Danfoss's markets with a growth rate somewhat above average and a low cost manufacturing base. However, two events led Clausen to rethink Danfoss's China strategy. First, he realized that the overall Chinese market was growing very quickly, and even if Danfoss grew much faster than it did in Europe, it could still be losing market share. Second, when traveling in the remote western province of Xinjiang, he was surprised to see a refrigerator fitted with inverters to control the speed of the motor. This was an energy-saving luxury product rarely seen in Denmark at the time, and seemed to indicate that in some areas China was rapidly moving into a leading position in applying the latest technologies. Clausen concluded that China represented a huge, once-in-a-lifetime opportunity for Danfoss. In other markets, such as the US, Japan and South Korea, Danfoss had entered after local companies had established a strong presence and, consequently, had never become a major player in these markets.

In 2004 Clausen announced the new China strategy – making China a second home market that would complement the European market where Danfoss was based. Clausen elaborated:

Maybe we cannot be No. 1 in China, but maybe we can be No. 2 or No. 3. We certainly don't want to be No. 17, because then we will be in trouble later on when the industry consolidates, and we won't have the volumes needed to compete with local Chinese incumbents.³

Danfoss aimed to grow 50% a year and to quadruple its sales in China by 2008. It was unlikely it could achieve this kind of growth by focusing on the premium segments of the market. It would have to selectively penetrate down into good enough segments, which were usually dominated by local competitors.

The Frequency Converter Market in China

Demand for frequency converters, introduced in China in the 1980s, had been rising steadily since the early 1990s. In 1993 the Chinese market, including both high- and low-voltage products, was barely US\$50 million. By 1999 it was \$300 million and was expected to hit \$600 million in 2005. It was estimated that the Chinese market would continue to grow at least at a 10% compounded rate for the next 5 to 10 years.

Product Segmentation

High-voltage frequency converters accounted for 15% of the whole Chinese converter market. Multinational companies, led by ABB, Siemens and Mitsubishi, dominated the market.

In the low- and medium-voltage converter market, European and American companies controlled about 40% of the market. Popular brands included ABB, Siemens, Danfoss, Schneider and Vacon. Japanese companies that were early

³ Hoover, William Jr. "Making China Your Second Home Market: An Interview with the CEO of Danfoss." *McKinsey Quarterly*, Iss. 1, 2006.

entrants into China had captured about a 30% share of this market and Taiwanese and Korean companies controlled an additional 10%. The remaining 20% was controlled by about 100 domestic producers. Newly established ventures, including Holip, had been gaining market share, and three of the local companies had sales exceeding €8 million in 2004.

Customer Segmentation

By 2005, in many industrial and consumer markets in China a large and rapidly growing segment of customers was seeking good enough, acceptable quality products at very low prices. The frequency converter market was split into two major segments based on customer needs: (1) the premium segment, in which multinational companies offered the highest quality, latest technology and wide applications; and (2) the good enough segment, which was believed to be growing at 25% per year, much faster than the 9% of the premium segment.

Competing in the good enough segment was challenging for both multinationals and domestic companies. Multinationals had to learn how to break out of the premium tier by providing good enough products at prices often 30% to 40% lower than those of their standard offering. Chinese companies, which were often young and entrepreneurial, had to acquire the technology and build products with the desired functionality and acceptable quality. They had captured a 20% market share from the multinationals in less than five years. With the fast growth of the good enough segment, there was a possibility that the premium segment would be squeezed, high margins could disappear, and a retreat to a high-end niche would result in diminished growth for multinationals like Danfoss.

Deciding to Enter the Good Enough Segment

To reach its China objective of €100 million in frequency converter sales or 13% market share by 2008, Danfoss management felt that the company had to enter the good enough segment, which it had not traditionally served. One way of doing this was through organic growth by designing its own low cost converters and competing head-on with Chinese companies. An alternative way was to acquire one or more Chinese frequency converter manufacturers to try to quickly establish a foothold in the good enough segment and gain market share. The acquisition of a lean, low cost Chinese company with a solid distributor and customer base that could be maintained and developed would be a key to success. A major post-acquisition issue would be how to keep the lean cost structure.

Holip

Holip was founded in 2001 by Fang Guangming, Lu Zhongping and a couple of friends in Haiyan, about 100 km from both Shanghai and Hangzhou. Fang was a self-made millionaire, who had built his first toy factory in 1992 at the age of 25 using his family's entire savings of RMB 35,000 (about \$4,000). Later he began manufacturing polypropylene fibers that were used for stuffed toys, which for a time significantly improved his profits until other local competitors copied his strategy.

When the frequency converters that controlled his automatic textile production line broke down, Fang used Lu's local company to repair them. Recognizing the high cost of both buying and repairing frequency converters, Fang sensed a business opportunity. He was also aware that the local government was prepared to help local companies move into new, higher technology businesses. Fang persuaded Lu and his team to join him in founding a company to manufacture and service frequency converters. The new company was named Holip.

Repairing frequency converters and manufacturing them were clearly two different businesses. Holip started by reverse engineering mainstream Japanese products. With limited R&D and design capabilities, Holip tried not to overdesign its products. It outsourced some of the more capital intensive parts of the manufacturing process to local contractors, so its role was largely limited to final assembly and testing. Even basic converters were assembled from about 1,000 components, half of which were sourced internationally. Selecting the right components and assembling the converters to a high quality standard were key success factors.

In the first year, many of Holip's converters failed and were returned by customers. The company suffered a net loss of RMB 700,000 on sales of RMB 2 million. In 2002 Fang hired a Taiwanese consultant to help with new product development and quality control. With improved quality and prices 40% lower than those of the multinationals, sales grew rapidly to RMB 8 million in 2002. Holip was able to break even on its 30% net margin, thanks to its low cost structure. Sales reached RMB 20 million in 2003 and then quadrupled in 2004, hitting RMB 85 million. Holip became one of the leading domestic frequency converter producers with a 2% market share.

Key Success Factors

Holip's early success was in part due to its effective sales force. It had three regional sales teams and one after-sales service team. The products were sold through about 20 distributors, with the 5 biggest accounting for 30% of sales. Holip, like many of its local competitors, but unlike many of the multinationals, offered credit to its distributors, typically equivalent to about 90 days' purchases.

Holip identified fast response time, customized services and low prices as its key success factors. After-sales service and support was local and its distributors often carried an inventory of spare parts and modules to replace ones that failed at smaller customers. More sophisticated support was available for larger customers, who encountered more complex technical problems. Most customers were located in the Changjiang Delta area close to Haiyan, so quick after-sales service was possible.

The Holip culture was business focused and entrepreneurial. Holip kept its own inventories of some of the key components, allowing it to offer shorter delivery times. It was also willing to customize products in order to win orders by tweaking the existing system to meet customer requirements rather than "overspec" the system to perform under almost any condition. Established premium competitors, like ABB and Danfoss, were less willing to do this without extensive testing to ensure the new configuration performed to specifications and met their high reliability and quality standards.

The Business Model

Compared with European, North American and Japanese companies in the motion controls business, Holip had a very low cost business model. The 200 employees were all Chinese and only one or two managers spoke English. By European standards, the employees worked relatively long hours and received fewer benefits.

The manufacturing building had neither air conditioning nor central heating and the furnishings were often second-hand or not the latest technology. Some of the equipment was local copies of Western equipment that cost perhaps 75% less. Testing and measuring equipment was often made by leading Western vendors, but it was sometimes older generation technology, which nevertheless met Holip's needs. Environmental and safety conditions were basic and would not have met developed world standards. IT and HR systems were rudimentary, but provided the basic functionality that Holip needed to operate.

Bridging the Technology Gap

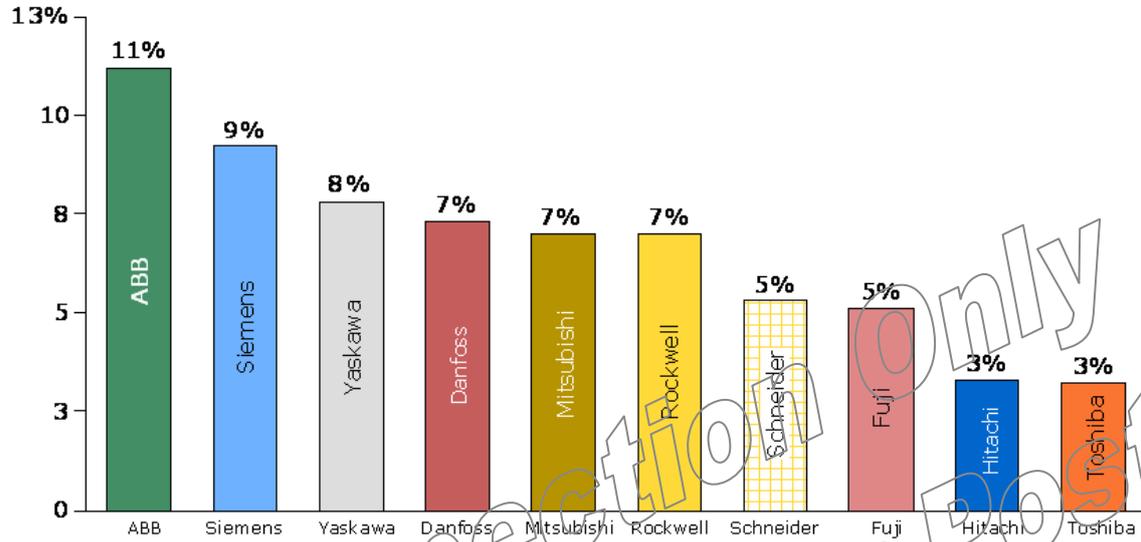
Holip's founders wanted not only to capture significant market share in the good enough segment but also to move to the top end of this segment with better products. With limited internal R&D capabilities, the company began working with universities to develop new technology and products. When a project to develop converters failed in 2004, Holip's management team realized that technology was a significant roadblock to future growth, and it would need additional funds. It hired PricewaterhouseCoopers (PwC) to help prepare for an initial public offering (IPO) to raise money.

In November 2004, after the second meeting with the Danfoss team led by Jessen, Holip management began to recognize that selling the company to Danfoss could be a viable alternative to an IPO.

The Situation Facing Jessen in May 2005

If Danfoss acquired Holip, Danfoss would immediately have to make several key decisions. Should it retain the Holip name and pursue a dual-brand strategy? Should the distribution channels and sales forces be kept separate – one for the good enough products and one for the premium products? How much should Holip be integrated into Danfoss? Jessen knew he faced particular issues with respect to procurement, R&D, IT, HR, service and support.

Exhibit 1 Frequency Converter Global Market (Low Voltage)



Source: Company information

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