STANFORD SV-NJ CASE STUDY SERIES:
JAPANESE FIRMS IN SILICON VALLEY (STARTUPS)

Company Name: Techwell, Inc. March 7, 1997-April 28, 2010
Arrival to Silicon Valley: 1997
Business Location: San Jose, CA
Interviewee: Hiro Kozato
Interview Date: July 7, 2016
US Entity Type: California Corporation
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Company Overview:[1] What is the company's business purpose?

Techwell Inc. was founded in 1997 to develop semiconductor chips for displays. In 1999 Techwell put its first single chip solution of PC/TV displays into production. The company later shifted its focus to in-car displays and to security surveillance due to the increasing number of competitors that had entered the PC/TV display market, and eventually became the leading chip supplier in the in-car display and security surveillance market with over 50% and 70% global market shares in each.

In June 2006 the company went public on Nasdaq, making it the only semiconductor company to IPO on Nasdaq that year.

In April 2010, Techwell was acquired by larger Silicon Valley based semiconductor company, Intersil.

Company Story: What are the company's origins and connections to Silicon Valley?

Techwell was founded in 1997 by Hiro Kozato. The idea behind the company was the answer to a simple question; why were PC monitors and TV screens two separate things – couldn't they be combined into one? This query prompted Kozato to begin development of such a chip, and in 1999 Techwell put its first single chip solution PC/TV display into production. This was a chip for video reception that could be inserted into a PC; with this technology, users would be able to watch TV, or record videos through their computers. The chip used very complicated technology, and went through many iterations before Techwell was able to produce a "good chip." It was not until 2003 that Techwell was able to produce a perfect-quality chip.

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[1] Company overview information is collected from the company's website and marketing materials. Any merits of the company's abilities and technologies expressed herein do not reflect the opinions of Stanford nor SV-NJ.

In the 1990s, the most popular chip for PC/TV displays was a Bipolar analog chip; technology that required several chips, and required the manual adjustment of the TVs one by one, which in turn required more experts. Kozato saw the deficiencies in this technology and decided to try his luck with CMOS chips – chips that were cheaper, required fewer parts, and could adjust digitally once the software was inserted. At the time, Phillips was the first company to manufacture CMOS chips. Techwell however, was able to differentiate itself from its competitor by adding an LCD controller, and by creating monitors and chips for LCDs. However, before Techwell could be credited as the pioneer manufacturer of this product, a competitor emerged with an all too similar product in 2000.

Part of the problem here was hesitation on the part of the large Japanese TV makers that Kozato had approached with his idea. This hesitation delayed production, giving its competitors the time to imitate and develop their own product. Kozato believes that this might have been one of the more crucial moments for the Japanese TV industry, and in retrospect, a huge opportunity missed. The Japanese at this point had had many years of know-how regarding analog chips– expertise that would take the Koreans and the Chinese years to catch up to. The potential of the CMOS chip that Kozato was proposing was huge, as it eliminated the need for years of know-how. What this meant was that as long as you had the chip and a display panel, everything was in the chip, i.e. anyone could make a TV without know-how regarding analog chips. Self-confidence in their own technology and the possibility that the need for Japanese craftsmanship could be entirely eliminated made these Japanese consumer giants wary. In addition, CMOS chips were very difficult to manufacture. Techwell worked briefly with Sharp, before Sharp pulled out.

Although their product eventually went into production, a larger Silicon Valley company came out with a very similar product shortly after. Techwell was smaller and less established than this competitor, and with bitter resignation, the company turned to other markets in search of another lucrative idea. For a small startup, finding ideas that will sell, and getting ahead of competitors by producing them before anyone else, is key to survival.

This refocus brought Techwell to in-car displays and security surveillance that would use the same chip technology as the TV display. Techwell was not the only company developing technology in security surveillance. However, in comparison to its competitor Philips' chip that enabled one camera to connect to a monitor that then connected to one VCR, Techwell had developed a chip that enabled 4 cameras to connect to one monitor that could then deposit data from all four cameras into one hard disk. Furthermore, this chip utilized HD technology. In the NTSC standard Techwell claimed around 70-80% of the market.

In 2001, the company established its first foreign branch office in Seoul, Korea in order to develop part of its product line for the security surveillance market. When the number of security surveillance equipment makers significantly increased in Greater China, Techwell also established branch offices in Taipei and Shanghai in early 2002, in order to provide timely technical support to local customers in these areas. As a result, the company added a large number of Chinese employees to the company. By 2004 the annual sales revenue of the company had reached approximately $40 million, with 70+ employees.

In June 2006, Techwell went public on Nasdaq. It was the only semiconductor company that went public on Nasdaq that year. The company established an R&D and technical support office in Tokyo the next year to develop advanced semiconductors for security surveillance cameras, and to provide technical support to customers in Japan.

In April 2010, Techwell was acquired by Intersil Corporation for $455 million.

Human Capital: Who are the key leaders and employees of the company, and what plans exist for personnel expansion?

Hiro Kozato is the founder and CEO of Techwell. Prior to founding Techwell, Kozato was the president of Sigmax Technologies Inc, which had been acquired by Adaptec in 1996 (see SVNJ Sigmax case study write up). When asked why he thought to start another company a mere one year after the acquisition of his first, Kozato commented, "I had done it once before, and I was still young."

Feng Kuo who was CTO at Sigmax, joined Kozato a half a year after Techwell's founding. Other core members were recruited through Kozato and Kuo's personal networks. During the IPO preparation in the late summer of 2005, one of the company's investors referred a CFO candidate who had experience in public companies to Kozato.

Employees were largely recruited from Asian consumer giant companies. Since the majority of Techwell's revenue was generated from Asia, the company employed a large number of talent from companies such as Samsung, Panasonic, Sony, Sharp, Ricoh and NEC. Most of these employees, including the sales team and operations team, had engineering degrees from tier one universities.

The company started its development with several local engineers from Silicon Valley, and was later reinforced by a large number of engineers and sales personnel from Korea, where most security surveillance equipment were manufactured. When Techwell established its R&D and technical support office in Tokyo in 2007, it recruited employees from tier one Japanese consumer giants who already had advanced technical skills and extensive trainings through these companies.

At the time of M&A the company had around 220 employees.

Funding: What are the sources of funding for the company?

- $2 million angel investment in 1997
- In 1998 the company received $5 million from a Taiwanese VC, Sanyo, and Genesis, in second round financing.
- In 2000, the company raised $6 million from Credit Suisse Assets Management in third round financing.
- In 2002, the company raised $7 million from Yasuda Investments, Millennia Ventures (backed by Mitsubishi Corp) and Matsushita, in its fourth round financing.
- In late 2003, TCV and Samsung invested $23 million into the company.

- The total amount of funds raised comes out to about $43 million. However, the company had already become profitable from 2004, and only used around $20 million of their total funds raised.

With regards to startup funding, Kozato comments that the first round is always the easiest, as this is the stage in which funding is based on vision and potential. Subsequent rounds where there are actual results and expectations to live up to are where a lot of startups begin to wane. For Techwell, while they had no problems raising seed funds, fund raising for its second and third rounds after the Bubble burst of 2000, was much more difficult.

Business Challenges: What challenges does the company face?

Techwell has faced some challenges as the inevitable result of the cultural differences in dealing with cross-cultural markets and teams.

One of the challenges Techwell had always faced was the competition in product pricing. Asian tech companies can usually tolerate lower gross margins due to lower operation costs and lower expectations in the gross margin by financial institutions. Silicon Valley based companies on the other hand, tend to abandon the low-end market quickly and only focus on the high-end market in order to satisfy investors. As a result, Silicon Valley teams have ended up losing their revenues and profits generated from the low-end markets, and have had to reduce their spending on the developments for the high-end market in order to turn their P&L positive, eventually losing the high-end market. Techwell focuses on both high end and low-end markets, simply because they saw no need to limit their scope by focusing singularly on one or the other. As a result, the company has managed to sustain excellent gross margins.

Another challenge Techwell has faced with regards to managing a cross-cultural team is the difference in culture. While engineers from Asia have tended to be more compliant, Silicon Valley engineers have tended to be much more expensive and harder to manage.

About the SV-NJ Case Studies Series: Japanese Silicon Valley Firms (Startups)

The Stanford Silicon Valley – New Japan Project case study series investigates Japanese firms in Silicon Valley. The purpose is to understand each firm's business purpose, its journey from Japan to Silicon Valley, human capital issues, business challenges and best practices, funding, and resources utilized. Information was compiled by interviewing leaders of startups based in Silicon Valley with one or more Japanese nationals as founders. The subject companies range from bootstrapped to fully funded companies with or without a presence in Japan, but all of which contain a technology element such that they are scalable enterprises. For more information or to refer a case study interviewee, please email us at: stanford.svnj@gmail.com