

**Sharp: A decade of glory and ignominy: where did the strategy go wrong?
(2018.6, by Kazuyuki Motohashi)**

1. The Rise and Fall of Sharp

"The 2000s were a dream for Sharp." That is how many Sharp insiders look back on things. Indeed, Sharp, once a middle-ranked consumer electronics maker, began to emerge as a top manufacturer since 2000.

Their driving force was LCDs. In 1998, then-president Katsuhiko Machida declared that "Sharp would replace all cathode-ray tube TVs with LCD TVs". At the beginning of 2000, Sharp established an innovative corporate image through an advertisement titled "Things that will be left behind in the 20th century; Things that will be taken forward into the 21st century". It became a domestic leader in the industry with its LCD TV "Aquos". The management team quickly made aggressive investments. By the mid 2000's, Sharp had invested over 800 billion yen into production lines for TV liquid crystal panels at Mie Plant 2 and Plant 3 (Taki County, Mie Prefecture) and Kameyama Plant 1 and Plant 2 (Kameyama City, Mie Prefecture). The symbolic figure of this investment was the Kameyama Plant 1, which started operation in January 2004. The name of the production area turned into the brand name "Kameyama of the World", which was held up as a model for "Japanese-style *monozukuri* (product making)", and trumpeted in the mass media.

The strategy to unify production of LCD panels through to LCD TVs was a great success, and their business had skyrocketed. In the fiscal year ended March 2008, Sharp posted record sales of 3,417.7 billion yen with the net income of 101.9 billion yen. In this challenge, however, Sharp had bitten off more than it could chew. The free cash flow was negative even in the fiscal year ending March 2007 when operating profit hit a record high. Net asset ratio declined consistently in the first half of the 2000s while Sharp was enjoying growing net profits; and this fact highlights how their massive investments had worsened Sharp's balance sheet.

It is easy to criticize with hindsight, and we cannot say that Sharp's aggressive strategy was a complete mistake. For LCD panels, as is the case for semiconductors, introducing cutting-edge equipment can greatly increase production volumes while significantly reducing the production cost. Hesitating to make investments is the surest way in such industries of being quickly left behind in the competition. What the Sharp executive said was true, which was that "in an effort to win out in the brutal competition, making

investments bravely ahead of our competitors was absolutely necessary".

Sharp's misfortune was that the decline in the price of liquid crystal panels was greater than expected. The price of a 32-inch TV panel, which was about USD 865 as of 2004, fell all the way to USD 149 dollars in 2011 (according to Display Search). Even LG Electronics, the world's leading large-LCD maker, and the runner-up Samsung Electronics found it difficult to make surplus in the popular-sized panel business. Japanese companies were further hobbled in this fierce market by the appreciation of yen.

For the name of survival, panel makers continued their investment to increase their production capacity. Bringing new plants into operation would quickly increase supply volumes. The moment the growth in demand slows down, the overproduction would drive down prices sharply. Given the huge investments, however, it was impossible to cut back on production. What awaited them was a war of attrition. Of course, Sharp themselves also made mistakes. Some people in the industry had doubts about the investment exceeding 400 billion yen towards the Sakai Plant at the time, which went into operation in October 2009. With the entry of the Chinese companies in addition to the Korean and Taiwanese companies, it was clear that panels would be oversupplied in the near future. The investment into Sakai Plant was also a decision by Sharp to stake its life on external sales of panels rather than on sales of TVs. In 2008 the former president Mikio Katayama clearly said the following: "Just with our existing panel plants (such as Kameyama Plant 2), our annual production capability is more than 20 million units (in 32' terms). Given our current unit sales of LCD TVs (Aquos), that will suffice for now."

The reason for deciding to establish the Sakai Plant with production capacity of 13 million units per year (in 42' terms) was because Sharp had the dream of being the world leader in production of panels, the components. To secure stable customers, in February 2008 Sharp joined hands with Sony, then the world number two in LCD TVs. They agreed that Sharp would take 66% stake of the Sakai Plant and Sony with 34%, and that they would be obliged to take over panels in the same ratio as their investment ratio.

The high risk in the LCD panel business was something known in advance. This makes risk management critically important. According to the former president Katayama, "Without a strong partner, the risk of the huge new Sakai Plant would be too great." The strategy of partnering with Sony was supposed to be the key to their risk management.

As it turned out, the “Sony Initiative” was a flop. At the end of 2009 Sony had acquired 7.04% of the Sakai Plant shares in which it had invested 10 billion yen. Sony, however, never raised its stake subsequently. That year, Sony sold its Sakai Plant shares to Sharp. A former Sony executive recalls the story as follows. “Before 2006, we had been negotiating a joint venture in the LCD business with Sharp. At the time, we visited Mr. Katayama, and he then asked us “Who from where?”, acting all self-important.” The negotiations with Sony, who did not have own factories, proceeded to Sharp’s advantage, making Sony unpleasant and leading it to form a joint venture with Samsung. Having been unable to procure the panels as it wanted, however, in 2008 Sony decided to invest in the Sakai Plant.

Even after forming the partnership, Sharp did not treat Sony well. In the autumn 2009, right after the Sakai Plant came into operation, LCD TVs were selling off the shelves due to the introduction of the Ecopoint system (the policy to promote environment friendly consumer electronics products) in Japan, during which Sharp gave preference to producing panels for Aquos, resulting to frequent delivery delays to Sony. Sony, of course, hardened its position. Sony hardly does business with Sharp now, and the purchase amount of the panels stays without increasing significantly.

Even with other major clients such as Toshiba, Sharp delayed its delivery when meeting the demand for LCD panels was tight. When the market became relaxed, many clients left Sharp. External sales from the Sakai Plant declined over the years. In the fiscal year ending March 2012, the external sales ratio of the Sakai Plant was a mere 10%. The industry insiders all said, “After building the Sakai Plant, Sharp should have focused on external panel sales even with the sacrifice of its own Aquos.” Is it an exaggeration to say that their bad behavior in the time when things were going well came back and bit them?

The same picture can be seen in their relationship with banks. In the 2000s, Sharp’s strong credibility allowed it to cover much of its ballooning interest obligations directly with banks. The dependency on commercial papers, which were the means of direct financing, is now leaving Sharp in trouble. Bank executives now show the cold shoulders towards Sharp.

2. Acquisition of Sharp by Foxconn

Having fallen into difficulties, Sharp ended up being acquired by Foxconn (Honhai Electronics), a Taiwanese EMS company. EMS is an acronym for “Electronics

Manufacturing Service”, referring to a service of taking on subcontracting manufacturing from companies such as “fables”. Foxconn is one of the largest firms in the world offering EMS services. Foxconn’s most famous customer is Apple, and it is said that the iPhone has been managing to maintain its high quality around the world, thanks to Foxconn’s component supply. A new Apple iPhone or iPad product launch requires large amounts of electronic parts in a short period of time. In particular, the difficulty of automating the product assembly process makes it indispensable for the work to be done by human hands. Foxconn’s value lies in its ability to flexibly deal with these large fluctuations in demand and supply, and to pull off high-quality product manufacturing. In addition to Apple, Foxconn’s electronic components are used in almost all famous electronics products, including Sony’s PlayStation, Nintendo’s Wii U, Microsoft’s Xbox, and Amazon’s Kindle.

Headquartered in Taiwan, Foxconn was founded in 1974. Foxconn is at the core of Foxconn Technology Group, the world’s largest firm producing electronics products on a contract basis. It is a mammoth company with production centers in 14 countries in Asia, Europe, and South America, holding a 40% share of the world’s electronics devices. It has 1.3 million employees, mostly in China, its main production location.

Foxconn’s strength lies in its overwhelming price competitiveness. It has achieved its cost reduction by raising the production efficiency of the line production to the extreme level. It enjoys the economies of scale deriving from large production centers with tens of thousands of people. It uses any and all means to meet its clients’ needs, flexibly modifying its production lines even if it means forcing its employees to work overtime. It further takes advantage of all possible ways to manufacture high-quality things inexpensively, including thorough information management at its production locations, and strong connections to government-related institutions.

At the time of its foundation, Foxconn was engaging in the manufacturing and processing business of plastic products such as “channel knobs for black-and-white TVs”. After that, it grew in tandem with the growth of the PC market. It succeeded in winning clients including Apple, Intel, Hewlett-Packard, and Dell, after having set up a US branch in 1985. Foxconn has grown its business by building an infrastructure of large-scale production facilities responding to the needs of these leading brands that increasingly outsourced their manufacturing as they focused on designing PC products.

Sharp's technical prowess in the small and medium sized LCD panels, their "last hope", remains top class. This can be seen, for instance, in its pioneering volume production of "IGZO LCD", which is a new type panel equipped with high-precision and low power consumption. It was precisely for that reason that Foxconn, the largest EMS, considered the investment, and Apple also subcontracted component production of new products to Sharp. If Sharp, currently being at its bottom, abandons its pride and starts over again, it should be able to find a path to rebuilding itself.

(Note) What is IGZO?

An oxide semiconductor, the acronym for which is taken from the symbols for the elements of iridium, gallium, zinc, and oxygen. Sharp was the first company in the world to mass-produce IGZO panels, the new LCD panels using IGZO. The advantage of IGZO panels is their capability of achieving "higher definition, lower power consumption and higher performance of touch panels" than LCDs using existing amorphous silicon.

Q1: Up to 2008, in spite of growing net profits, the free cash flow was negative. Why?

Q2. Explain Sharp's failure in the context of the "technical management strategy for the age of science economy".

Q3. Would Sharp have not failed if the partnership with Sony had worked out well?

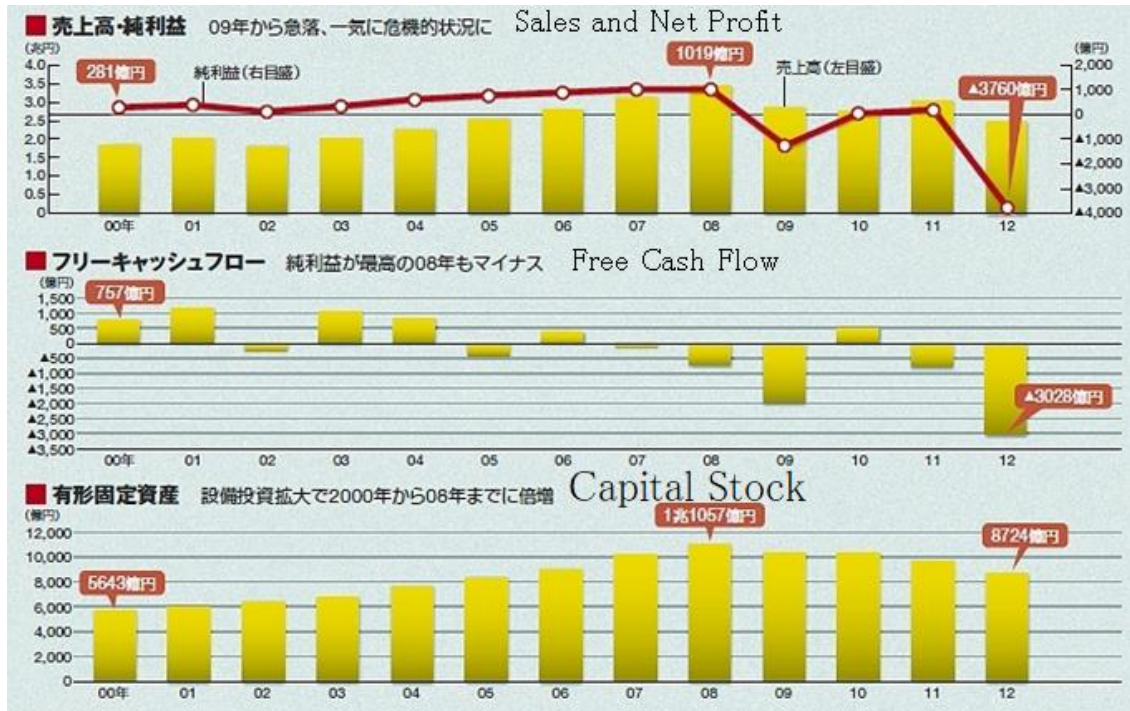
Q4. Foxconn (the precision machinery industry), mentioned in the text, is a world-class EMS (Electronics Manufacturing Service) manufacturing Apple's iPhone and other products on a subcontracting basis. The company had been investing in the Sakai Plant, and acquired Sharp itself in August 2016 after the latter fell into management trouble.

Do you think becoming part of the Foxconn group can restore Sharp's performance?

Reference

Toyo Keizai Online, September 3, 2012, When did Sharp make a mistake?

Key financial figures for Shape Co. Ltd.



Stock Price of Sharp



What is “Science Economy”?

Industrial Economy	Science Economy
Product + Process Innovation	Science base + Business Innovation
Technology Push or Market Pull (Narrow technology and product specification)	Business system design (Broad market definition with dynamic technology evolution)
Mono-zukuri	Koto-zukuri
In-house R&D, business development	Open Innovation Science base: U-I collaboration Business: Collab. with customer (firm)



Example

- Komatsu's comtrax (“big data” application)
- Uniqlo + Tray (for science based fabrication)

Continuous innovation based on deep interaction between business partners with deep scientific backgrounds