

# Sea-Jin Chang (2008), Sony vs. Samsung

## Samsung Electronics' Digital Sashimi Shop

### Daring Investment, High-Speed Battle

Because the products it sells become commoditized so quickly, Samsung Electronics' strategic response to digital technology has been speed. Samsung Electronics has always been alert to the risk of entering these markets late, and a sense of crisis pervades the organization. In his video addresses, Yun constantly warns employees not to relax; he subscribes to the maxim of Intel's former CEO Andy Grove: "Only the paranoid survive."

Samsung Electronics' obsession over speed in digital products began when it started producing DRAM, for which prices drop very quickly (see Figure 2.3). The memory business is indeed "a battle with time" because a company can enjoy high price premiums only for a brief period until another competitor catches up. Samsung Electronics not only put a great deal of effort into learning how to produce DRAM but also completed its first production facility in six months, rather than the industry norm of two to three years. Samsung managers managed the plan, design, and construction of the facility—all at the same time. Samsung's managers and engineers stayed in barracks during the construction period, returning to their homes only once a week to change their clothes. When it began its initiative in DRAM technology, Samsung Electronics was about five years behind its Japanese competitors; the early completion of its first facility narrowed this gap by two years.

After it began making DRAM, Samsung Electronics then caught up with its competitors by aggressively expanding its production lines. It constructed a second line that produced 6-inch diameter wafers, a size that even technologically advanced competitors such as Intel and NEC deployed only for pilot lines. Samsung's engineers worked around the clock to improve efficiency in this new plant. Samsung Electronics repeated the same formulae with 8-inch wafers in the early 1990s, and 12-inch wafers in the late 1990s. As wafer sizes increased, the number of semiconductors out of a wafer was squared, but the manufacturing process became more complicated; it was more difficult to secure the same yield rate for chips and maintain consistent quality. And so Samsung Electronics' employees worked around the clock to increase yield and quality. Through their efforts, Samsung leapt ahead of its Japanese competitors.

Starting in the mid-1990s, Samsung Electronics then applied its magic formula—"Aggressive Investment and Speed"—to the TFT-LCD business. Initially, Samsung Electronics had defect rates as high as 40–50% on its 11-inch line for PCs. In the meantime, Japanese companies aggressively lowered their prices on these products. To respond, Samsung Electronics poured the cash it had earned from memory semiconductors into LCDs and then outflanked Japanese firms by starting a 12-inch line when Japanese competitors were still producing 11-inch models. Because of its aggressive investment,

