

# Samsung strategy

Business



Preface This report investigates how Samsung was able to build a competitive advantage in the global memory chip industry and what steps it should take to sustain its advantage in the face of the imminent threat of Chinese competition. Analysis of Samsung's business strategy and competitive advantage Porter's 5 forces model in Exhibit 1 is used to analyze the global memory chip industry and Samsung's strategy to date. Samsung had become the dominant player in the global memory chip industry and was able to increase the gap from other competitors in terms of technology and market share by following the below strategy. . Aggressive investments in R The memory chip industry is technology driven.

A significant investment is required in R at the product design stage. As illustrated in exhibit 1 Samsung Electronics had maintained its technology leadership by outspending its rivals in R by over 1.5 to 20 times from 1998 to 2003 (Exhibit 3), which was possible thanks to the Samsung group's diversified portfolio that allowed it to take calculated financial risks. Since Samsung was able to create and maintain technology leadership it was able to earn a very high premium at the initial stages of a new product to recover its initial investment and if competitors began producing the same product it could aggressively lower prices to make it difficult for followers to stay in the competition. 2. Differentiation Faced with the challenge that the DRAM industry might fall into a commodity trap and therefore be subject to cutthroat price competition and price fluctuations, Samsung developed the below classification of broad product differentiation.

- Frontier: Cutting edge products with the highest margins
- Legacy: Current products, potentially manufactured using technology used to develop the

frontier products resulting in cost savings •Specialty: Products to target niche markets

3. Cost advantage Samsung was able to command better operating margins as compared to its competitors because of

- Cheap labor: 35% cheaper as compared to non-Chinese manufacturers
- Use of new design rules: This allowed Samsung to produce more chips per wafer (the key raw material in chip manufacturing).
- Better sourcing: Raw materials cost 37% less than its competitors probably due to volume discounts and better bargaining power
- Better manufacturing processes
  - oYield rates were are at 80%, as compared to 50-67% for the competitors
  - oSamsung was able to get 2. 4 times the amount of die's by using 12-inch wafers as compared to 8-inch wafers, at 90% of the costs per chip leading to better gross margins
  - Lower depreciation costs: By collocating and scaling its fab investments, Samsung saved an average of 12% of the fab construction costs

4. Price advantage Samsung was able to command a higher average selling price as compared to its competitors because of its

- Ability to offer customized memory chips that no other manufacturer could offer allowed them to command premium pricing on these products
- Better quality control that lead to reliability enabled Samsung to obtain an average price premium of 1% average price

5.

Human resource policies Samsung was able to maximize its advantages in technology by creating a company culture that was unique to Samsung in the following ways:

- Talent hiring: Samsung actively recruited the best global people
- Talent evelopment
  - oSponsored employees to gain further knowledge by sponsoring their MBA/PhD studies
  - oMerit based promotions to motivate new hires
  - oForeign assignments to develop global skills
- Talent

retention  
 oVery generous benefits package allowed the employees to focus on work  
 oPerformance and productivity based profit-sharing incentives  
 oTolerance for mistakes Exhibit 2 illustrates how Samsung is able to use its capabilities relating to manufacturing, R and quality control to create value.

Analysis of options to react to the threat of Chinese competition

Options  
 Advantages  
 Risks  
 Setup a fab facility in China in a JV with a Chinese partner  
 •Higher operating margins due to  
 oAccess to cheap labor  
 oAccess to cheap credit and tax incentives  
 •Strategic location for penetrating the Chinese market  
 •Possibility that intellectual property rights might be violated  
 •Samsung might lose some of the competitive advantage that it had by having the R and manufacturing teams work together  
 License manufacturing technology to a Chinese company  
 •Lower manufacturing costs  
 •Akin to handing over blueprints and expertise to the Chinese competitors on a platter  
 •Loss of product differentiation  
 Ignore the Chinese competition  
 •Forces Samsung to innovate at a faster pace to maintain technological edge  
 •Potential to lose market share to Chinese competitors on lower end products  
 Reduce prices on lower end products and compete on price  
 •Might potentially force the Chinese competitors out of business  
 •Lower profits, since the Chinese manufacturers are prepared to lose money to gain market share  
 Recommendations  
 •Setup a fab facility in China in a JV with a Chinese partner because  
 oIt allows Samsung to further lower its manufacturing costs, allowing Samsung to compete on a level playing field with the Chinese manufacturers  
 oProvides Samsung access to the Chinese market  
 Better control over intellectual property as compared to licensing  
 oIf intellectual property is copied by a Chinese competitor, the Chinese fab unit would take 2 years to set up and by that time Samsung would have already moved on to  
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the next technology and the Chinese memory chips would be obsolete

- Invest in knowledge sharing system within Samsung so that some of the advantage lost by separating the R in South Korea and the manufacturing facility in China is regained
- Continue investing heavily in R The competition in this industry is based on increasing complexity and decreasing the size of chips, as manifested in Moore's law. Therefore it is imperative that Samsung continues to invest heavily in R&D facilities to maintain its edge.
- Invest heavily in flash memory because
  - o Double-digit growth expected for next 5 years
  - o Better margins since flash memory prices were quite high relative to DRAM

Exhibit 1 Analysis of the global memory industry using Porter's five forces to determine the competitive intensity and the various forces at play in the industry

Exhibit 2 Value chain analysis of Samsung electronics classifying the various activities of Samsung electronics used to create and deliver Samsung's competitive advantage in the memory industry ?

Exhibit 3 R&D spend by the various competitors in the global semiconductor industry in USD (millions)

Year	1998	1999	2000	2001	2002	2003
Samsung	137813901603182424512947					
Micron	272322428490561656					
Infineon	637733109213361011864					
Hynix	2968254264338296					

Samsung 137813901603182424512947 Micron 272322428490561656

Infineon 637733109213361011864 Hynix 2968254264338296