Timeline and History
Timeline and History

- Founding period (late 60s and early 70s)
  - Samsung-Sanyo electronics established.
  - Inexpensive black-and-white TV manufacturer and supplier. (Imitator of finished goods and subassemblies)
Timeline and History

- Industrial era in the 70s.
  - Established facilities for Monitor and Home appliance manufacturing
  - Microwave ovens began growth
  
  ➢ Reverse Engineering efforts began to take shape
Timeline and History

Entering the global technology marketplace in the 80s.

- In 1987, Byung-chull Lee, the founder passed away. Kun Hee Lee (Byung-chull Lee’s son) was appointed Chairman and CEO of Samsung Group.

- In the late 80s, they implemented overseas manufacturing capabilities by setting up plants in many countries to service new local markets.
Timeline and History

- New management era in the 90s.
  - Strategy to face with.
Timeline and History

- Pioneering the digital age
  - In the 21 century, Samsung increase continually Research and Development (R&D) so it has been growing swiftly.
Timeline and History

- Expanded its market share in the United States, high-growth market, through collaboration and alliance with Dell Computer Corporation.
Yun Jong Yong  
(January 21st, 1944 - )

Education and Career Path

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1966</td>
<td>Graduated from Seoul National Univ., B.A. in Electronics</td>
</tr>
<tr>
<td>1966</td>
<td>Entered The SAMSUNG Group</td>
</tr>
<tr>
<td>1988</td>
<td>Graduated from MIT Sloan School Senior Executive Course</td>
</tr>
<tr>
<td>1988</td>
<td>Vice President, Electronics Group</td>
</tr>
<tr>
<td>1990</td>
<td>Vice President &amp; Representative Director, Consumer Electronics Business Group</td>
</tr>
<tr>
<td>1991</td>
<td>President &amp; Representative Director, Consumer Electronics Business Group</td>
</tr>
<tr>
<td>1992</td>
<td>President &amp; CEO, SAMSUNG Electro-Mechanics Co., Ltd.</td>
</tr>
<tr>
<td>1993</td>
<td>President &amp; CEO, SAMSUNG Display Devices Co., Ltd.</td>
</tr>
<tr>
<td>1995</td>
<td>President &amp; CEO, SAMSUNG Japan Headquarters</td>
</tr>
<tr>
<td>1996</td>
<td>President &amp; CEO, SAMSUNG Electronics Co., Ltd.</td>
</tr>
<tr>
<td>1996</td>
<td>President &amp; CEO, SAMSUNG Electronics Co., Ltd.</td>
</tr>
<tr>
<td>1999</td>
<td>Vice Chairman &amp; CEO, SAMSUNG Electronics Co., Ltd.</td>
</tr>
</tbody>
</table>
1997 Korea had economic crisis. Yun and nine senior manager took the following strategies to save the company during the crisis:

- Cut costs by 30% over the next five months
- they all wrote resignation letters and pledged to resign if they failed
- reduced inventory levels
- sold nonperforming subsidiaries
- got rid of golf club memberships

Yun’s Key Accomplishments:

- Profits up tenfold in 1991, to $2.4 billion, on sales up 24%, to $22 billion
- Share price up more than 20% in 1999
- Cemented Samsung's global leadership in the memory-chip business by grabbing nearly two-thirds of the market for NAND flash memory, a technology mainly used in removable cards that store large music and image files.
- Samsung displaced Motorola as the second-largest maker of cell phones in terms of value, but it remains No. 3 in volume.
Carly Fiorina, CEO of HP, left, Chin Dae-je, South Korea Information and Communication Minister, Seoul, Tuesday, **Oct. 12, 2004.** [17]

**Chin** was born on Jan. 20, 1952 in Euiryeong, Gyeongsangnamdo Province.

### Education and Career Path

<table>
<thead>
<tr>
<th>Education</th>
<th>Career</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td><strong>Ph.D., Electronic Engineering, Stanford University</strong></td>
</tr>
<tr>
<td>1979</td>
<td><strong>M.S., Electronic Engineering, University of Massachusetts</strong></td>
</tr>
<tr>
<td>1977</td>
<td><strong>M.S., Electronic Engineering, Seoul National University</strong></td>
</tr>
<tr>
<td>1974</td>
<td><strong>B.S., Electronic Engineering, Seoul National University</strong></td>
</tr>
<tr>
<td>2000-2003</td>
<td><strong>President, Digital Media Business, Samsung Electronics Co.</strong></td>
</tr>
<tr>
<td>1997</td>
<td><strong>Executive Vice President, Samsung Electronics Co</strong></td>
</tr>
<tr>
<td>1987-1997</td>
<td><strong>General Manager, Samsung Memory Business, Samsung Electronics Co.</strong></td>
</tr>
</tbody>
</table>
Chin’s Key Accomplishments:

• Jump-started Samsung Electronics’ memory-chip business
• Semiconductor division was added to Samsung Electronics
• Was the first manager who decided to hire Koreans with American experience
• Because of him Samsung Electronics became world’s leader in DRAM
• Invested in wireless communications, which became 3rd in world’s cellphones sales
Market share in Percents (108.3 million cellphones sold)

Nokia, 35.1
Motorola, 15.4
Samsung, 12.2
Siemens, 7.4
SonyEricsson, 5
LG, 5.2
Kyocera, 2.5
Panasonic, 2
Mitsubishi, 1.8
NEC, 1.8
others, 11.6

Distribution of Cellphone Market (%) as of 3rd Qrt of 2004 [14]
Features:
Intel® Pentium® M LV up to 1.2GHz
Windows® XP Home/Professional,
Windows® 2000
12.1" XGA (1024 x 768) TFT LCD
PC266 DDR SDRAM up to 1GB
Intel® i855GM IGD, DVMT max 64MB
New Slim Dock or External ODD
through IEEE 1394
IEEE1394, S/PDIF, 2 USB 2.0
802.11a/b, Bluetooth, 100 base LAN,
V.90 Modem
273 x 234.3 x 19.3/23.9 mm / 1.3Kg

OS Microsoft Windows CE .NET (4.1)
CPU Intel PXA250 400MHz
Display 5 inch Transflective WVGA TFT
LCD(800*480, 64k color)
Memory - Flash ROM 64MB(NAND type) -
SDRAM 128MB
Wireless Comm. Built-in WLAN(802.11b)
Module, Wi-Fi Certified
Weight 250 g (include Battery & Leather
Cover)

Figure A13. Light laptop. [13]
## Samsung Electronics Co., Ltd “Inventive Life” Timeline

<table>
<thead>
<tr>
<th>Year</th>
<th>Samsung's Innovation in Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>Development of 16M DRAM completed</td>
</tr>
<tr>
<td></td>
<td>Development of pen-based notebook PC completed</td>
</tr>
<tr>
<td></td>
<td>Development of mobile phone handset completed</td>
</tr>
<tr>
<td>1991</td>
<td>Development of super-mini computer completed.</td>
</tr>
<tr>
<td></td>
<td>Development of 1.4&quot; color TFT LCD completed.</td>
</tr>
<tr>
<td></td>
<td>Development of world's first 64M DRAM completed</td>
</tr>
<tr>
<td></td>
<td>Single president system begun for more unified management structure</td>
</tr>
<tr>
<td>1992</td>
<td>World's first 33&quot; double screen TV introduced</td>
</tr>
<tr>
<td></td>
<td>Development of world's first 1G synchronous DRAM completed</td>
</tr>
<tr>
<td>1995</td>
<td>Developed worlds lightest CDMA cellular phone (137g)</td>
</tr>
<tr>
<td></td>
<td>Exported world's fastest CPU (533MHz)</td>
</tr>
<tr>
<td></td>
<td>Development of world's first 30&quot; TFT-LCD completed</td>
</tr>
<tr>
<td></td>
<td>Developed world's lightest PCS (105g)</td>
</tr>
<tr>
<td>1997</td>
<td>World's first 128M SDRAM introduced</td>
</tr>
<tr>
<td></td>
<td>World's first 256M SDRAM produced</td>
</tr>
<tr>
<td></td>
<td>Mass production of world's first digital TV begun</td>
</tr>
<tr>
<td>1998</td>
<td>Developed the world's first 1Gb DDR SDRAM</td>
</tr>
<tr>
<td></td>
<td>Developed the world's fastest 1GHz CPU</td>
</tr>
<tr>
<td>1999</td>
<td>World's first to mass-produce 256-megabit SDRAM chips</td>
</tr>
<tr>
<td>Year</td>
<td>Event</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>2000</td>
<td>Develops Worlds Smallest Package for SRAMs</td>
</tr>
<tr>
<td></td>
<td>Develops World First 512Mb DRAM</td>
</tr>
<tr>
<td></td>
<td>Worlds First Commercial cdma2000 1X Service Imminent</td>
</tr>
<tr>
<td></td>
<td>Unveils the Worlds Fastest Graphics Memory Chip</td>
</tr>
<tr>
<td></td>
<td>Unveils TFT-LCD with Record-breaking Definition</td>
</tr>
<tr>
<td>2001</td>
<td>Develops World's first 40 inch TFT-LCD</td>
</tr>
<tr>
<td></td>
<td>Acquires Intel Authentication for 512M DDR DRAM, for the first time in the industry</td>
</tr>
<tr>
<td></td>
<td>Develops process for 70 nanometer level semiconductors</td>
</tr>
<tr>
<td></td>
<td>Commercialization of 90 nanometer Memory for the first time in the world</td>
</tr>
<tr>
<td></td>
<td>Develops FRAM for Mobile devices for the first time in the world</td>
</tr>
<tr>
<td>2002</td>
<td>Released the world's first 4G DDR Module.</td>
</tr>
<tr>
<td></td>
<td>Acknowledged as the world's 3rd largest cellular phone maker in 2002.</td>
</tr>
<tr>
<td></td>
<td>Selected as “the Best Cellular Phone Brand in the US” by Brand Keys.</td>
</tr>
<tr>
<td></td>
<td>Released the world's first CDMA video cellular phone.</td>
</tr>
<tr>
<td></td>
<td>Started the first mass production of 300mm wafer 1G DDR DRAM</td>
</tr>
<tr>
<td></td>
<td>Developed the next generation P-RAM memory.</td>
</tr>
<tr>
<td></td>
<td>Developed the world's first 70nano 4G NAND flash memory.</td>
</tr>
<tr>
<td></td>
<td>Developed the world's first environmental-friendly HDD.</td>
</tr>
<tr>
<td></td>
<td>Released the world's smallest 1G DRAM, using CSP (Chip Scaled Package) technology.</td>
</tr>
<tr>
<td>2003</td>
<td>Released the world's first DAB broadcast receiving home theater system.</td>
</tr>
<tr>
<td>Business</td>
<td>3Q03</td>
</tr>
<tr>
<td>--------------------</td>
<td>------</td>
</tr>
<tr>
<td>Semiconductor</td>
<td>3.38</td>
</tr>
<tr>
<td>Memory</td>
<td>2.55</td>
</tr>
<tr>
<td>System LSI</td>
<td>0.44</td>
</tr>
<tr>
<td>LCD</td>
<td>1.38</td>
</tr>
<tr>
<td>Telecommunication Network</td>
<td>3.74</td>
</tr>
<tr>
<td>Mobile Phone</td>
<td>3.41</td>
</tr>
<tr>
<td>Digital Media</td>
<td>1.87</td>
</tr>
<tr>
<td>Digital Appliance</td>
<td>0.77</td>
</tr>
<tr>
<td><strong>Total Revenue</strong></td>
<td>11.26</td>
</tr>
</tbody>
</table>

Achieving Innovation through Imitation

Inherent Risks of the Imitator Model

1. Awareness of products in the marketplace and/or due to enter the marketplace is continuous.
2. Need to identify the ‘best-in-class’ products that are targeted for production.
3. Limited Marketing efforts (front-end), always ‘after-the-fact’.
4. Already Late to the market – How long is the Product Life Cycle (How long to recuperate investments and achieve return).
The Product Life Cycle

Every product or class of products can be represented by its PLC.

4 phases/stages:

- **Product is launched** ($t = 0+$)
  - market demand (and hopefully company sales) experiences growth

- **Growth**
  - Product is used in volume but demand saturates

- **Maturity**
  - Demand decreased and so does revenue.

- **Decline**
  - Withdrawal
Mapping Samsungs Technology Progression
(describing Innovation thru Imitation in PLC stages)

Technology capability increases with each advancing phase
Product introductions shorten as technology progresses

Imitated with declining products

Products designed/developed - Innovation

(*) The approximate gap in years between Samsung and advanced countries in product introduction
Value Add thru Vertical Integration

- **Samsung Data Systems**
  - SDS
  - systems integration and business software
  - Communications tools, enterprise portals
  - SmartCard solutions, Graphics Viewer/editor

- **Samsung Corning Corp.**
  - SCC
  - designer/producer of picture tubes
  - glass, coated films, touch panel tech.
  - ceramics, ferrites

- **Samsung Electro-Mechanical**
  - SEM
  - producer of parts for consumer electronics
  - multi-layer pcb’s, BGA devices, tuners,
  - LED’s, filters, Bluetooth, yokes,
  - transformers

- **Samsung Display Devices**
  - SDD (SDI)
  - designer/producer of CPT/CDT’s, LCD’s
  - TFT’s

- **Samsung Electronics Corp.**
  - SEC
  - Semiconductors, System LSI, ASIC
  - Graphics engines, DRAM/SRAM

**LAPTOPS**
Distribution of Technology

- What do you think of Samsung brand?
- How about 5 years ago?
- What about now?
Holistic Brand Campaign

- Global brand communication strategy and single global advertising agency
Marketing

- Laptop market growth
Selected Markets

- Emerging Markets
  - UK, France, Germany, China, India, Hong Kong, Russia, Ukraine and Korea
- Less Competition
  high growth rate
Future Strategies

- Vertical Integration
- Innovation through R&D
- Focus on Emerging markets
- Brand Recognition through aggressive marketing
Samsung Future Feature
8 Gigabit NAND Memory
Using 60-nanometer process technology.

Display Technologies:
- Digital Natural Image engine (DNIe)
- Largest HDTV-ready LCD at 46"

Cell Phones:
- 3G-ready phones (I500-Sprint, SGH-Z105)
- SPH-V5400
Other Technologies

- Fastest Mobile CPU @ 667MHz (ARM1020E processor)
- Hard Drive Technologies:
  - Noise Guard
  - SilentSeek
  - ImpacGuard
  - Self-Monitoring Analysis and Reporting Technology (SMART)
Future Technologies

- Expected 16Gb NAND Memory by next year
- Samsung Advanced Institute of Technology (SAIT):
  - High-speed Liquid Crystal Displays (LCDs)
  - Field Emission Display (FED)
  - Plasma Panel Display as Flat Panel Displays (FPDs)
- Blu-ray
- 4G mobile communication
- Nanotechnology:
  - Cerium Oxide (Ceria)
  - Nano-silver
  - Carbon Nano Tube - FED
Questions?

- What could have been done differently and what would have changed as a result?
- Lessons Learned
What could have done differently and result?

- Sent laptop design to other companies as well
- Targeted the developed market as well
- Targeted the low end market as well
- Remained a part supplier
Lessons Learned

- An Imitator can evolve into an innovator
- Persistent strive for Innovation and ability to manage it are keys for the success of a technology company
- Properly configured vertical integration bring differentiation in technological innovation