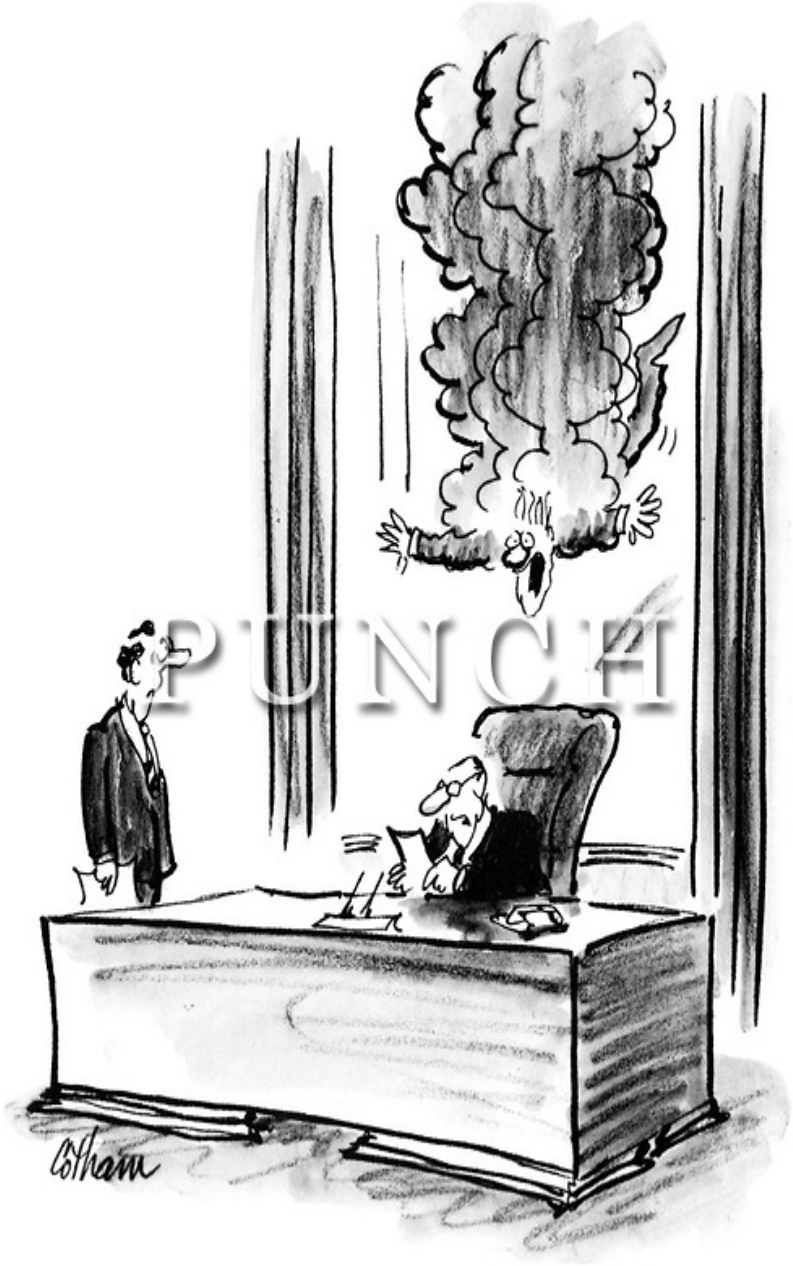
Fun Drill II: How Samsung can dethrone Apple's supremacy in the market!

MGB070 2021.11

FunDrill Team

Fun Drill

- Topic Selection Criteria
  - Generic and tied with common interests
  - Grassroots and Go-Viral
  - Extendible in the future
  - Attached to our career and life
- Teamwork and Role Players
  - Organic and coordinated
  - Mash-ups
  - Virtual or Real/Physical



"Pay no attention - it's just another of our weekly fire-drills."

Outline

- What Samsung standing for: past, now , future
- Samsung vs Apple (generic comparison)
  - Intangible : Spirit and Soul, Business Evolution and Business Concept, Marketing and Branding Strategy, Leadership Structure and Integrity, Value Chain & Supply Chain Management, Hindsight/Insight/Foresight strategy
  - Tangible: Product and Technology, Practical teardown comparison
- SWOT analysis based on TAIC/SMIO model
- Who is going to win! – if staying on the current track.
- How Samsung should do to dethrone Apple from market supremacy
  - Ecosystem Evolution (made in U.S. or NAFTA)
  - Business Disruption (TAIC smart integration)
  - Product Disruptive Innovation (what and how, and when)
  - Brand Evolution (alternative brand against big Apple)
  - Or ?

What role you like to play!

- CEO or CSO
- CIO or CMO
- CFO
- Consultant
- Or other else

Samsung

- Rising from ashes in 1938 as a trading company for export of dried fishes and fruit, its founder Lee Byung Chull started the rice mill in 1936 to begin the venture all along. In 1997 Samsung Corporation was established.
- Samsung Electronics was established in 1969

http://www.youtube.com/watch?v=doNxaK9aQy0

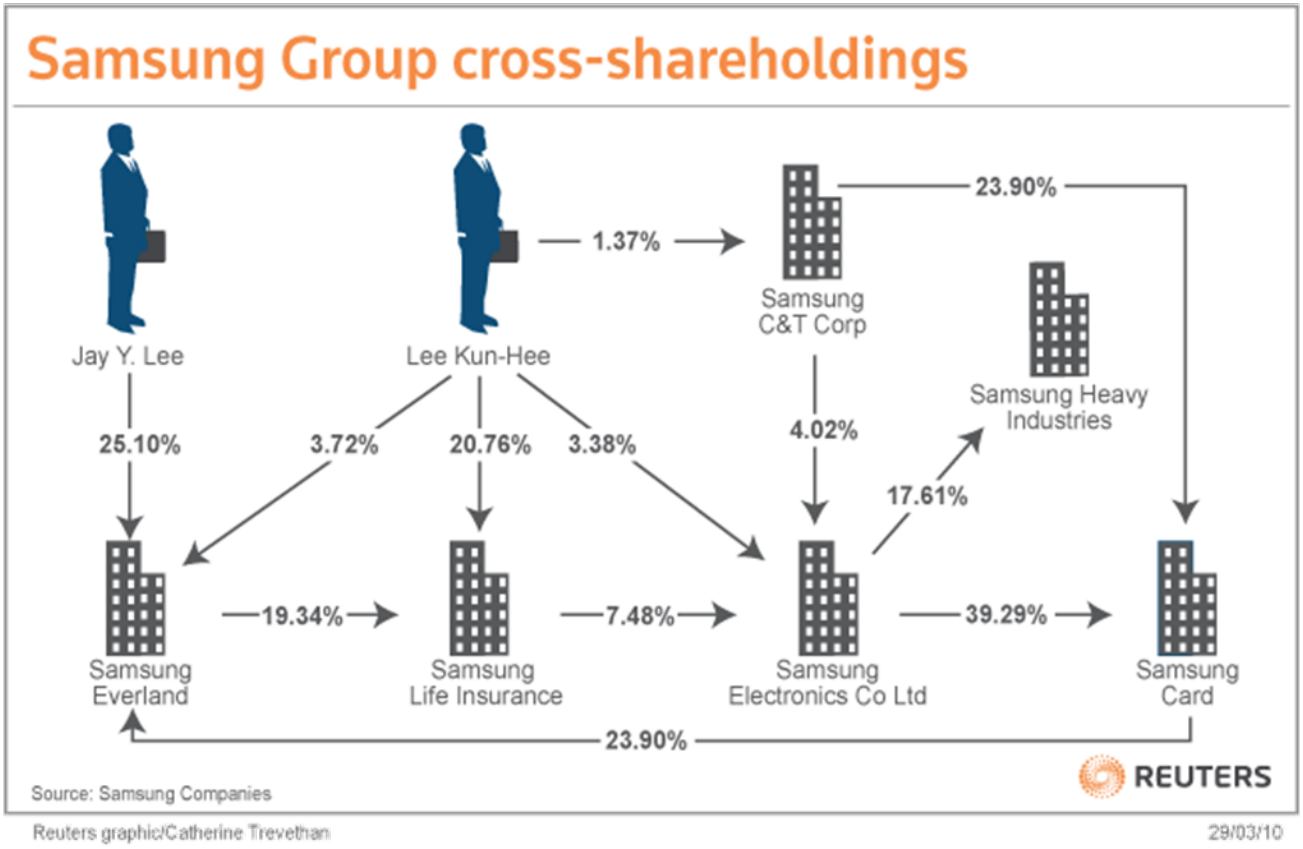
Samsung Electronics (before 1990)

- 1968-1970 Paving a new path :
- http://global.samsungtomorrow.com/?p=13544
- 1971-1974 : Diversification and Expansion
  http://global.samsungtomorrow.com/?p=13722
- 1975-1976 : Meeting Demands for Energy Efficiency
  http://global.samsungtomorrow.com/?p=13906
- 1977-1978 : Innovation and efficiency combine for record-beating production and export boom! http://global.samsungtomorrow.com/?p=14296
- 1979-1980 : Suwon R&D Center Expands Knowledge Base: Samsung Semiconductor Expands Production Base
  http://global.samsungtomorrow.com/?p=14584
- 1981-1983 : Entering the Global marketplace
  http://global.samsungtomorrow.com/?p=14769
- 1984-1985 : Semiconductor Breakthroughs and High-Profile Sponsoring
  http://global.samsungtomorrow.com/?p=14961
- 1986-1987 : RAM Grows as Tape Recorders Shrink, Awards Pile Up
  http://global.samsungtomorrow.com/?p=15127

Samsung Electronics (1990-)

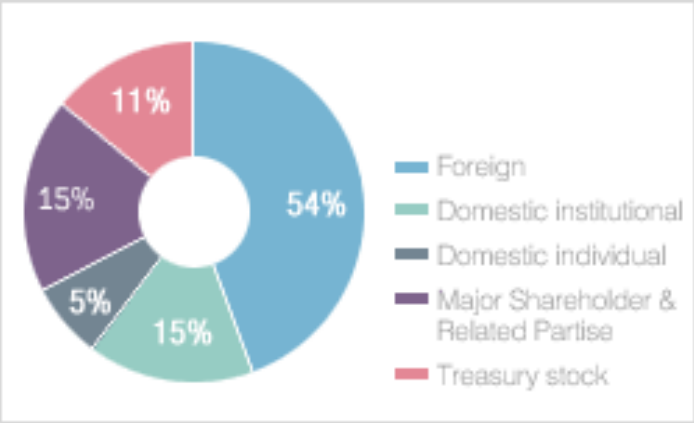
- 1988-1997 Leader in DRAM leader
  http://global.samsungtomorrow.com/?cat=37&page=4
- 1995-2001 R&D Design Center established; CDMA Mobile Phone leader, TV and LCD leader
  http://global.samsungtomorrow.com/?cat=37&page=3
- 2002-2004 NAND memory leader
  http://global.samsungtomorrow.com/?cat=37&page=2
- 2007-now Leader in LCD TV, Smart Phone, and Brand awareness
  http://global.samsungtomorrow.com/?cat=37&page=1

Samsung Group



http://www.reuters.com/article/2010/03/31/samsunglife-ipo-idUSTOE62O07N20100331

Samsung Electronics



List of Shareholders with the Ownership of 5% and above [As of June 30, 2012]

(Unit: shares, %)

Ranks	Name	Common Stock		Preferred Stock		Total	
		Number of Shares	% Port.	Number of Shares	% Port.	Number of Shares	% Port.
1	Citibank N.A	7,315,592	4.97	3,122,988	13.68	10,438,580	6.14
2	Samsung Life Insurance	11,071,751	7.52	32,984	0.14	11,104,735	6.53
3	National Pension Service	9,706,936	6.59	216,562	0.95	9,923,498	5.83
Total		28,094,279	19.07	3,372,534	14.77	31,466,813	18.50

http://www.reuters.com/article/2010/03/31/samsunglife-ipo-idUSTOE62O07N20100331

List of a Major Shareholder & Related Parties
(As of June 30, 2012)

Name	Relationship	Class of Stock	Number of Shareholdings End of Quarter	
			Number of Shares	% Port.
Kun-Hee Lee	Major shareholder	Common stock	4,985,464	3.38
Kun-Hee Lee	Major shareholder	Preferred Stock	12,398	0.05
Samsung Corporation	Affiliate	Common stock	5,976,362	4.06
Samsung Welfare Foundation	Affiliate	Common stock	89,683	0.06
Samsung Foundation of Culture	Affiliate	Common stock	37,615	0.03
Ra-Hee Hong	Family member	Common stock	1,083,072	0.74
Jae-Yong Lee	Family member	Common stock	840,403	0.57
Samsung Life Insurance	Affiliate	Common stock	11,071,751	7.52
Samsung Life Insurance	Affiliate	Preferred Stock	32,984	0.14
Samsung Fire & Marine Insurance	Affiliate	Common stock	1,856,370	1.26
Cheil Industries	Affiliate	Common stock	9,679	0.01
Oh-Hyun Kwon	BOD member	Common stock	5,500	0.00
Gee-Sung Choi	BOD member	Common stock	9,000	0.01
Ju-Hwa Yoon	BOD member	Common stock	9,000	0.01
Total		Common stock	25,973,899	17.63
		Preferred stock	45,382	0.20
		Total	26,019,281	15.29

Apple Evolution

- http://www.webdesignerdepot.com/2009/01/the-evolution-of-apple-design-between-1977-2008/
- http://www.geekosystem.com/apple-timeline/
- Before 2000 : PC company
- After 2000 : Consumer electronics company

35 years of Apple history

Apple, one of the pioneers on the personal computer market, has retained its technological and designer edge to this day

iPad – tablet PC with multi-touch technology that became a sensation in 2010

2010

iPhone – a smart phone with revolutionary multi-touch technology that instantly became a top seller on the market

2007

65,225

14% Other

8% iPad

12% iPod

27% Mac

39% iPhone

1976

Steve Jobs and **Steve Wozniak** registered **Apple**

The original logo from 1976

1997 Steve Jobs returns to the company

1991 **Powerbook** – the notebook (laptop) that has become the model for other PCs of its kind

1998

iMac – a series of monoblock PCs that were appreciated, among other things, for their advanced design

Apple I – one of the first PCs

1984 **Macintosh** – the first PC with a graphic interface (instead of a command line interface)

1993 **Apple Newton** – the first PDA (Personal Digital Assistant – a pocket PC)

2001 **iPod** – a media player that took absolute command of the market due to its convenient features and simple design

1977

Apple II – the first popularly used PC

1985

Steve Jobs leaves the company

Apple's profits (in millions of dollars)

335 1,516 1,918 6,310 7,977 7,081 5,941 5,363 24,578

1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010

www.rian.ru

*Starting Sept. 2, 2001
Source: SunGard PowerData

Marketplace

An Illustrated History of Apple

Apple Inc. was incorporated in 1977 by Steve Jobs, Steve Wozniak and Ronald Wayne, a year after the release of the company's first computer, the Apple I personal computing system. That year, Michael M. Scott was brought on as Apple's first president, and the company released its popular Apple II. By 1979, Apple had more than 250 employees and had moved its operations to Cupertino. In 1980, the Apple III hit the street and so did Apple the company, going public on the NASDAQ stock exchange. The following is a pictorial timeline of Apple's major product releases and notable changes in management plotted against its stock price.

Apple's stock price **340.65**
January 18, 2011

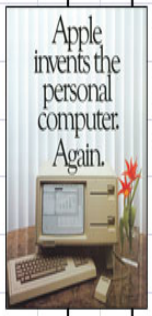
2007: The iPhone changes the way we use phones. App store follows one year later

1981: Mike Markkula named Apple CEO; Jobs named chairman.

1984: The Apple Macintosh is released. External disk-drive required

1983: John Scully takes over as president and CEO

1985: Steve Jobs exits Apple. Launches the software company, NeXT



1983: Apple Lisa is released as Apple's first personal computer

1986: Jobs establishes Pixar after purchasing LucasFilm's computer graphics group for $10 million.

1989: Mac Portable is released

1991: Powerbook 100 released; revolutionizes portable computer line

1993: Apple is ahead of its time in the tablet market with the release of Newton.

1993: Michael Spindler named CEO, Sculley becomes chairman

1996: Gil Amelio joins as CEO, Apple acquires Jobs' copmany NeXT.

1997. Steve Jobs named interim CEO upon Amelio's ousting. Title is made permanent one year later

1998: The iMac makes computers cool

2001: Say hello to the Apple iPod. Opens first retail store.

2003: iTunes music store opens

2010: Tablet computing grows up with the iPad

STOCK SPLITS

STOCK SPLITS

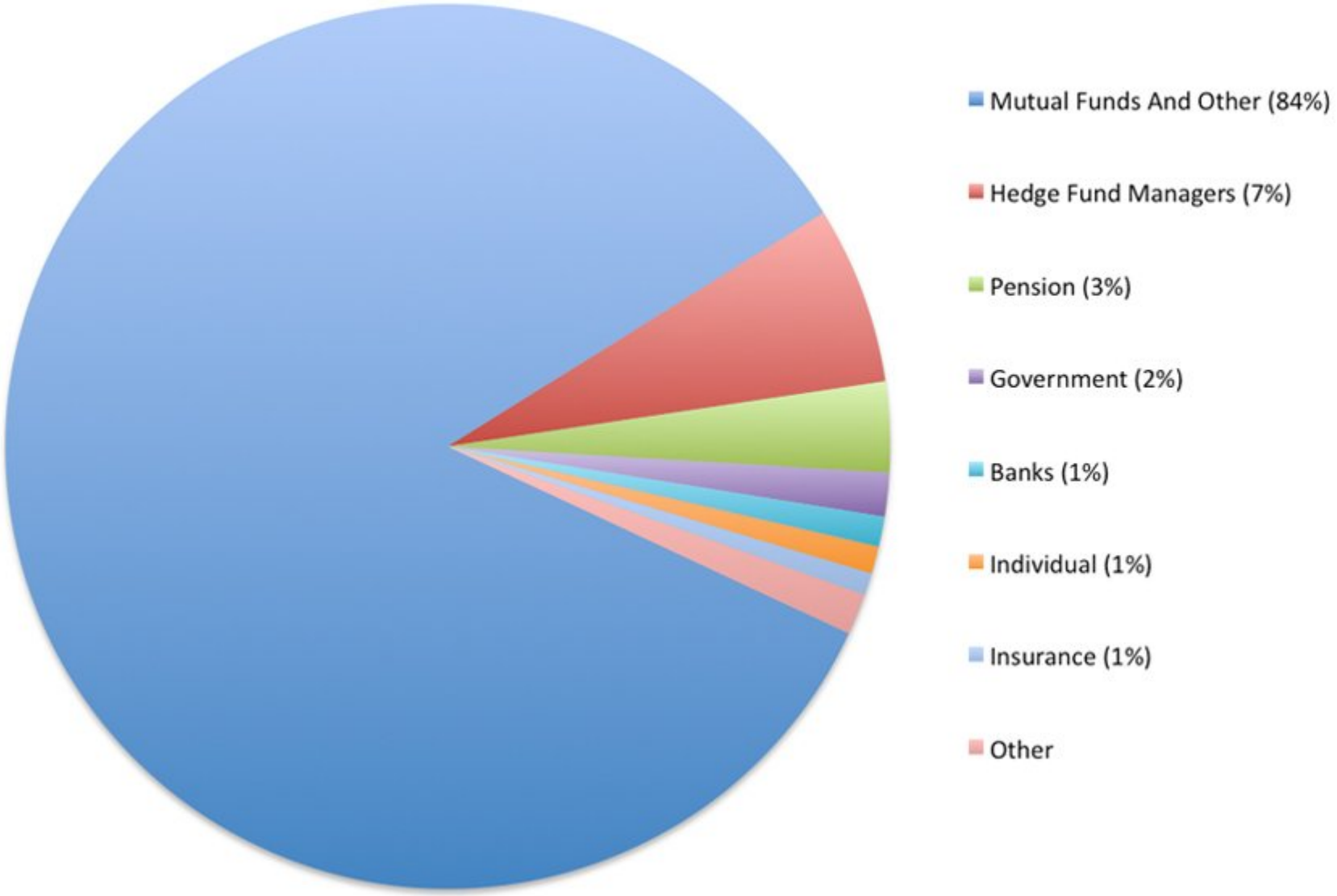
STOCK SPLITS

340
320
300
280
260
240
220
200
180
160
140
120
20
0

1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010

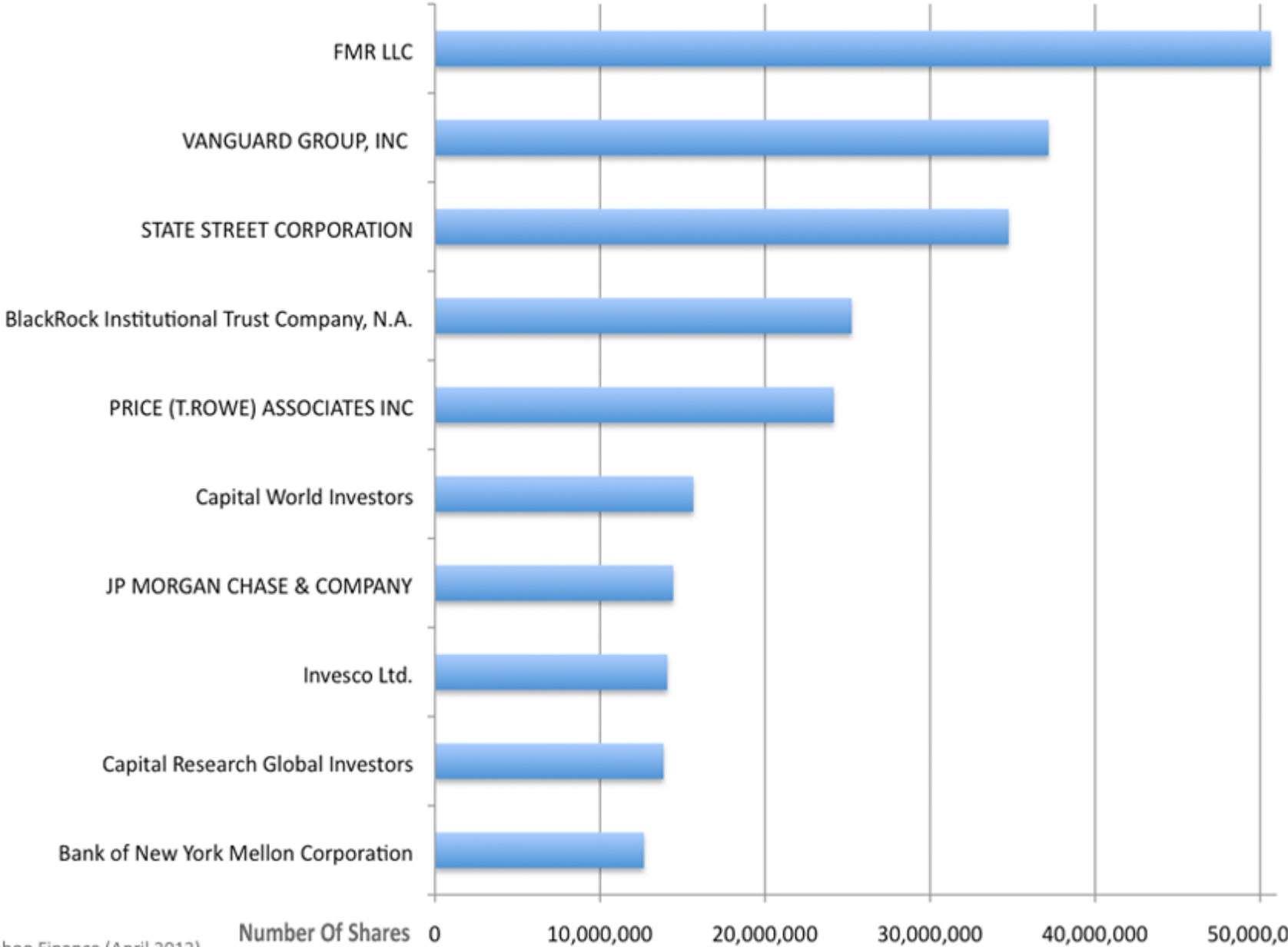
TIMELINE: Stock price from 1980 to January 18, 2011

Ownership Of Apple Stock (AAPL)



Source: Bloomberg via Eric Jackson (April 2012)

Top Institutional Holders Of Apple Stock



Source: Yahoo Finance (April 2012)

Business Concept

- Samsung Electronics (Multi-Dimension of various products, OEM, components, solution providers) – like old-day-IBM; “Samsung take many things and how to striving for all these to the top?” ; Reality is all of its products in the market receiving brand-value quite differently! http://www.samsung.com/us/business/
- Apple Inc. (Top brand product thinking only; “Apple winner take all”), but Apple has developed its own intangible OS, APs, UI etc. and has designed its own tangible processor since iPad product launch; However, Apple has no production site itself.

Market Valuation and Reality

- Samsung shares trade more cheaply - at 7.5 times next year's estimated earnings versus Apple's 11.6 times
- Samsung’s conflict and complicated business model subject to more business risk and volatility – worst case always assume to catch Samsung on surprise
- While Samsung outsells Apple in gadgets, the Korean group's market value is just a third of the U.S. firm's $578 billion, and investors question whether Samsung can narrow that gap at a time when the stellar handset business is set to lose steam and Apple, also its biggest customer, looks to spread its supplier base wider.

Evolution

- Samsung
  - Started from scratch
  - Consolidated culture majorly owned by Lee's family
  - Multi-dimensional business thinking
  - Product first and brand 2nd. (mixed-match)

- Apple
  - Started from garage
  - Unique culture whenever Steve Job on post
  - Strive for changing the world with excellence
  - Brand and product are both indispensible (dedication)

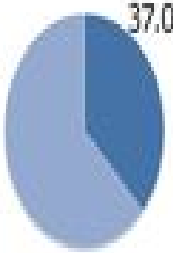
Samsung Business Strategy

- http://www.zenithresearch.org.in/images/stories/pdf/2012/March/ZIJMR/2_ZEN_VOL2_ISSUE3_MARCH12.pdf
- “Market Flooding Strategy” of Samsung vs “One Product One Price Strategy” of Apple

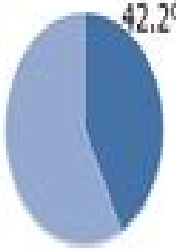
Samsung’s #1 in the world 2011

Smartphone

NAND Flash Memory

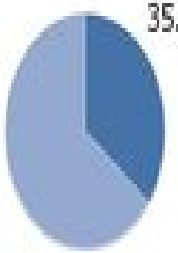


DRAM

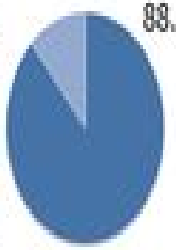


Flat Screen TV

PDP

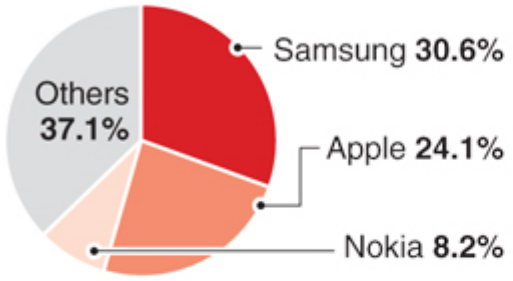


OLED

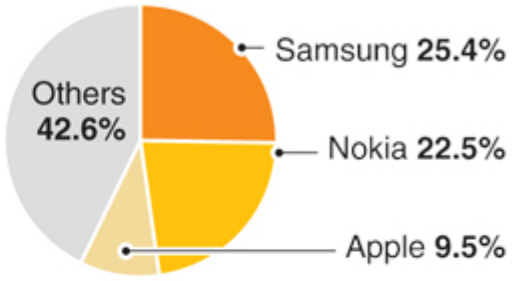


GLOBAL SMARTPHONE MARKET SHARE

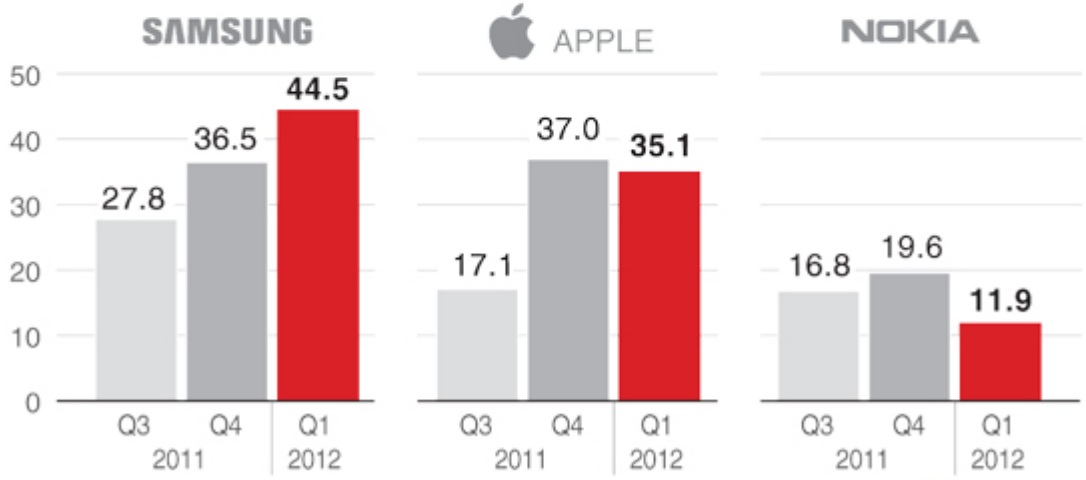
SMARTPHONES – Q1 2012



MOBILE HANDSETS – Q1 2012



NUMBER OF SMARTPHONES SHIPPED – *in millions*



Source: Strategy Analytics

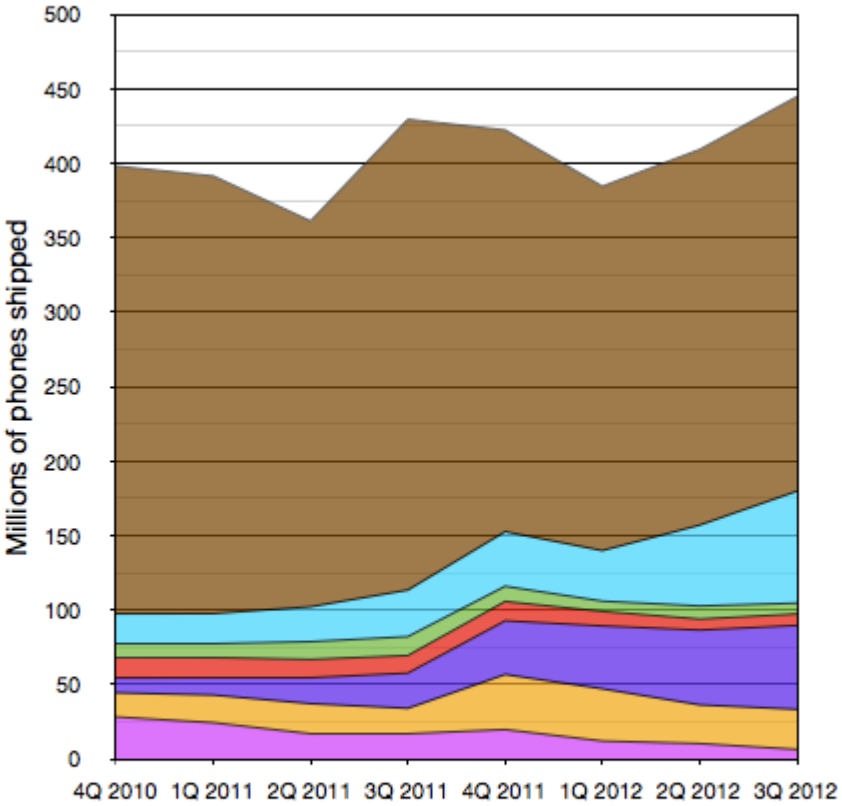
REUTERS

Figure 1: Smartphone unit sales and market share estimates by OEM (millions)

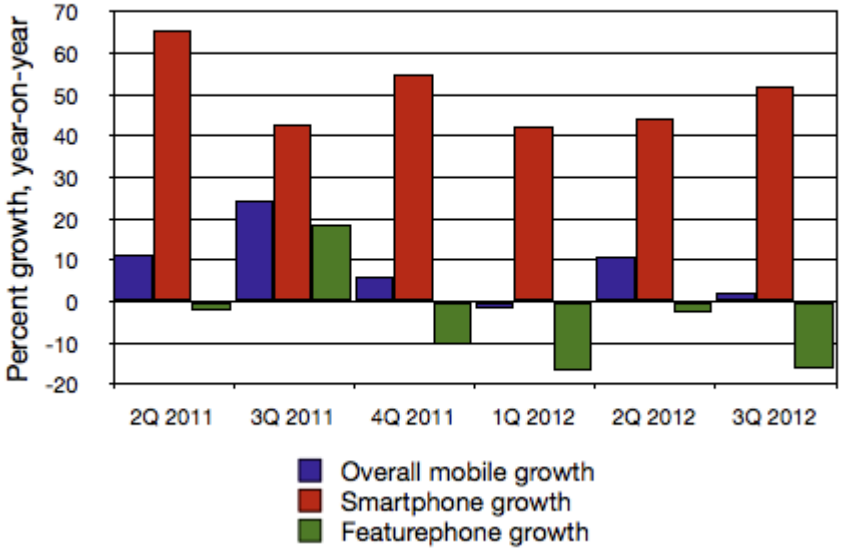
Canaccord Genuity Smartphone Unit Sales Estimates by OEM (millions)										
Global OEMs	2008	2009	2010	2011	1Q12E	2Q12E	3Q12E	4Q12E	2012E	2013E
Apple	13.7	25.1	47.5	93.1	32.6	33.6	33.6	48.7	148.4	204.8
Apple market share	*9.8%*	*14.6%*	*16.0%*	*19.1%*	*23.8%*	*21.8%*	*19.8%*	*22.7%*	*22.0%*	*22.6%*
Samsung	4.7	5.9	24.7	95.2	33.5	39.5	46.4	58.0	177.4	251.2
Samsung market share	*3.4%*	*3.4%*	*8.3%*	*19.5%*	*24.4%*	*25.6%*	*27.4%*	*27.1%*	*26.3%*	*27.7%*
Nokia	60.5	67.8	100.8	77.3	12.5	12.9	12.5	13.6	51.5	61.7
Nokia market share	*43.5%*	*39.3%*	*34.0%*	*15.9%*	*9.1%*	*8.3%*	*7.4%*	*6.3%*	*7.6%*	*6.8%*
Research In Motion	22.6	34.0	48.0	52.8	11.0	10.4	9.4	10.6	41.4	44.1
RIM market share	*16.2%*	*19.7%*	*16.2%*	*10.8%*	*8.0%*	*6.8%*	*5.5%*	*5.0%*	*6.1%*	*4.9%*
HTC	12.0	11.7	24.6	44.6	6.5	9.8	10.5	12.4	39.2	52.7
HTC market share	*8.6%*	*6.8%*	*8.3%*	*9.2%*	*4.7%*	*6.3%*	*6.2%*	*5.8%*	*5.8%*	*5.8%*
Motorola Mobility	2.7	2.9	13.7	18.6	4.4	4.8	5.2	6.0	20.3	24.6
Motorola Mobility market share	*2.0%*	*1.7%*	*4.6%*	*3.8%*	*3.2%*	*3.1%*	*3.1%*	*2.8%*	*3.0%*	*2.7%*
Sony Ericsson	2.4	1.4	7.7	20.3	5.9	6.8	8.0	10.0	30.6	38.1
Sony Ericsson market share	*1.7%*	*0.8%*	*2.6%*	*4.2%*	*4.3%*	*4.4%*	*4.7%*	*4.6%*	*4.5%*	*4.2%*
LG	0.2	0.6	5.9	20.2	5.4	6.1	7.0	8.4	27.0	36.1
LG market share	*0.1%*	*0.3%*	*2.0%*	*4.1%*	*4.0%*	*4.0%*	*4.1%*	*3.9%*	*4.0%*	*4.0%*
Huawei	-	-	4.0	16.9	7.2	8.3	9.9	12.9	38.4	57.2
Huawei market share	*0.0%*	*0.0%*	*1.3%*	*3.5%*	*5.3%*	*5.4%*	*5.9%*	*6.0%*	*5.7%*	*6.3%*
ZTE	-	-	3.0	14.9	5.6	6.2	7.1	7.8	26.7	36.5
ZTE market share	0.0%	*0.0%*	*1.0%*	*3.1%*	*4.1%*	*4.0%*	*4.2%*	*3.6%*	*4.0%*	*4.0%*
Total Other OEMs	20.5	23.0	16.8	33.4	12.4	15.7	19.9	26.0	74.1	100.7
Market Share	*14.7%*	*13.3%*	*5.7%*	*6.9%*	*9.1%*	*10.2%*	*11.7%*	*12.1%*	*11.0%*	*11.1%*
Total Global Smartphone Units	139.1	172.4	296.6	487.3	137.0	154.0	169.6	214.3	675.0	907.6
YoY % Change	*9.2%*	*23.9%*	*72.1%*	*64.3%*	*36.4%*	*40.5%*	*43.0%*	*35.1%*	*38.5%*	*34.5%*
QoQ % Change					*-13.6%*	*12.4%*	*10.1%*	*26.4%*		

Source: Company Reports and Canaccord Genuity Estimates

Mobile phones: smartphones are growing fast



Featurephone sales are shrinking



Top Five Smartphone Vendors, Shipments, and Market Share, 2012 Q3 (Units in Millions)

Vendor	3Q12 Unit Shipments	3Q12 Market Share	3Q11 Unit Shipments	3Q11 Market Share	Year-over-year Change
Samsung	56.3	31.3%	28.1	22.7%	100.4%
Apple	26.9	15.0%	17.1	13.8%	57.3%
Research In Motion	7.7	4.3%	11.8	9.6%	-34.7%
ZTE	7.5	4.2%	4.1	3.3%	82.9%
HTC	7.3	4.0%	12.7	10.3%	-42.5%
Others	74.0	41.2%	49.9	40.3%	48.3%
Total	179.7	100.0%	123.7	100.0%	45.3%

Source: IDC Worldwide Mobile Phone Tracker, October 25, 2012
Note: Data are preliminary and subject to change.
Vendor shipments are branded shipments and exclude OEM sales for all vendors.

Handset and Smartphone Shipments by OEM (millions)
World Market: 3Q 2012

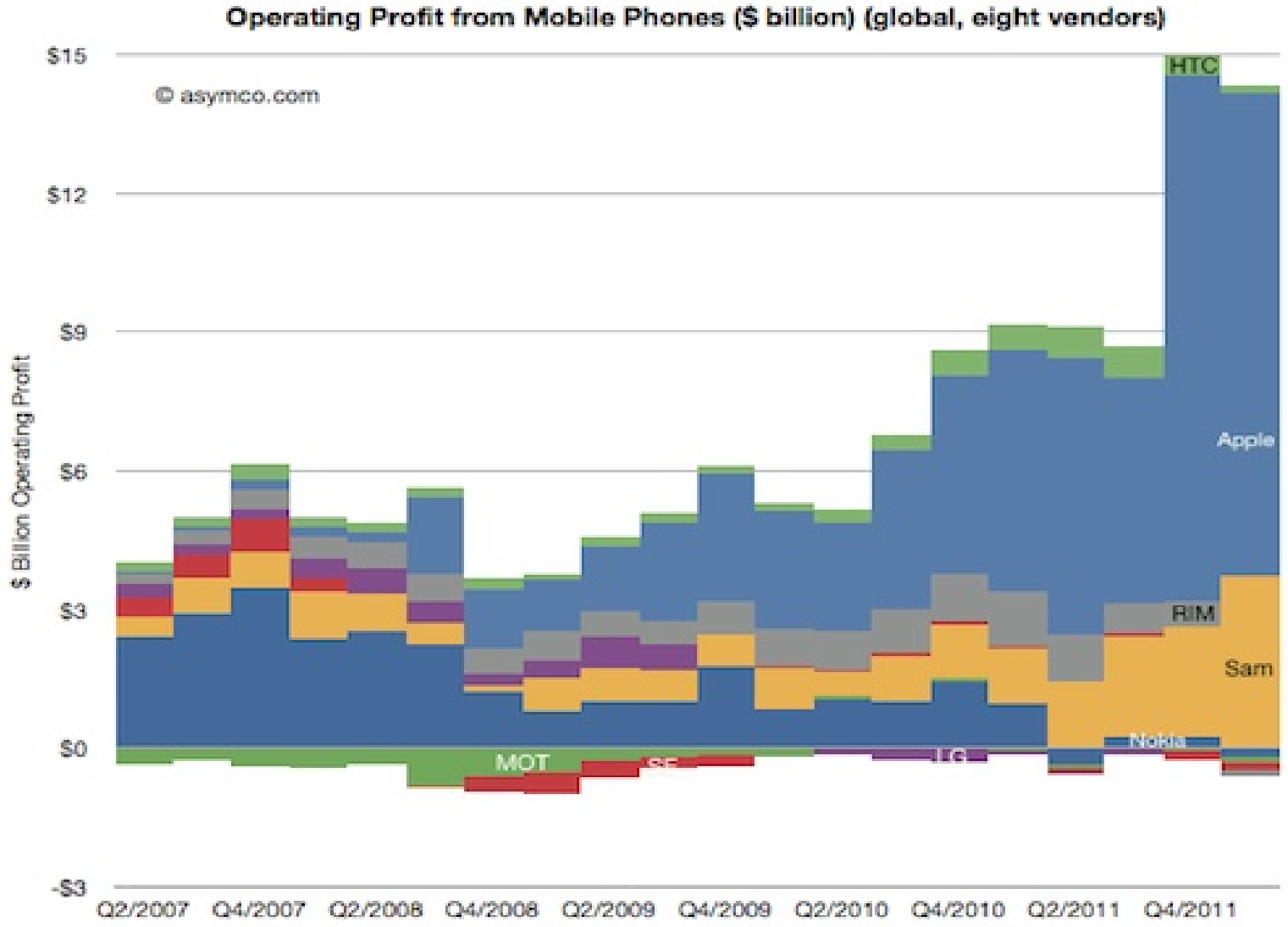
	Handset Shipments			Smartphone Shipments		
Vendor	**3Q 2012**	**3Q 2011**	**YoY**	**3Q 2012**	**3Q 2011**	**YoY**
Samsung	102.6	85.0	20.7%	55.5	26.5	109.2%
Nokia	82.9	106.5	-22.2%	6.3	16.8	-62.5%
Apple	26.9	17.1	57.6%	26.9	17.1	57.6%
ZTE	17.6	18.9	-6.8%	8.3	3.1	168.4%
LG	14.4	21.1	-31.8%	7.0	5.7	22.8%
Huawei	12.1	14.2	-14.8%	7.6	5.0	52.4%
RIM	7.4	11.8	-37.2%	7.4	11.8	-37.2%
HTC	6.0	13.2	-54.6%	6.0	13.2	-54.6%
Others	117.4	107.0		30.4	17.8	
Total	**387.3**	**394.7**		**155.5**	**117.1**	
Growth (YoY)	-1.9%	12.6%		32.8%	44.3%	
Growth (Sequential)	2.3%	3.8%		4.5%	9.9%	

Source: ABI Research

Apple's winner take all approach

- Apple collects 71% of the world's smartphone profits, analysts reckon; Even though Samsung ships the most phones, it takes 37%; Taiwan's HTC gets 1%. (That total exceeds 100% because it's offset by losses at Nokia, BlackBerry-maker RIM, Motorola, Sony, LG and others.)

-cont. but things could change



Apple's Five Secrets of the World's Best Marketing Machine

- Don't sell products -- *People buy what other people have.*
- Never be first to market -- *Make something good greater.*
- Empower the early adopter -- *Help your customers help you.*
- Make your message memorable -- *Boil the story down to its syrupy goodness.*
- Go one step further -- *Surprise and delight your customers.*
- *and more !*

http://www.marketingapple.com/Marketing_Apple_eBook.pdf

Apple biggest market secret was revealed in Federal Court

- Apple no longer actually needs to do ANY advertising when it launches new products, marketing chief Phil Schiller testified Friday in the Apple v. Samsung patent trial in a San Jose, Calif., federal court. Instead, the company relies on these two strategies:
  - Rely on the media to create buzz for its products through positive reviews.
  - Product placement in TV shows and movies.
- The media is so reliably disposed to favor Apple's products that when the iPhone was launched in 2007, the company didn't do any advertising for a period, according to Bloomberg:
  - Schiller, discussing the iPhone, said Apple decided not to pay for any advertising during a brief period after the device was introduced in January 2007 and when it went on sale later in the year.
  - "We didn't need to," Schiller said. He read from several rave reviews of the iPhone and iPad, explaining that such stories did a better job than advertising to build buzz.
- Apple also relies heavily on product placement, Bloomberg says:
  - "We would love to see our products used by stars," Schiller told the jury.
  - One of Apple's employees works closely with Hollywood on so-called product placement so its gadgets are used in movies and television shows, Schiller said.
- None of the tactics are a surprise. Anyone who has ever watched a movie or a TV show has seen actors turning to their iPads and MacBooks as props. But Apple, famously, hates talking about its own advertising and marketing. That's why it's so interesting to hear one of Apple's senior executives actually say this stuff aloud, on the record.

http://www.businessinsider.com/apples-biggest-marketing-secret-just-got-revealed-in-federal-court-2012-8

Steve Chazin's moment with Steve Job's come-back story

Steve spent nearly a decade at Apple where he managed a New England sales territory, drove a strategic partnership with the Harvard Business School, and worked with Steve Jobs to rebuild Apple's marketing efforts which helped return the company to profitability in the late 90's.

- …….. After a bit of negotiating with Steve, I accepted the challenge to help him resurrect Apple (sorry Cisco), and I consequently became part of the fairytale turnaround story that business schools will teach for decades. Without new technology available to save Apple, we did the only thing we could do. We stalled. We trotted out the now famous "Think different." campaign in order to cleanse people's palettes. We washed away the multicolored logo (and by extension the memory of overpriced, underpowered, children's computers), and we replaced it with a simple, solid black and white logo amid images of enduring heroes who had the passion, courage and dedication to change the world. In short, we focused on improving Apple's image while we treaded water and slowly built a better designed computer, the iMac, which would one day save the company.

http://www.marketingapple.com/marketing_apple/about-steve.html

Apple Retail Strategy

- http://www.forbes.com/sites/carminegallo/2012/04/02/enrich-lives-reinvent-your-business-the-apple-store-way/
- Samsung's Apple-alike App store
  - http://www.droid-life.com/2012/08/24/samsung-opens-first-retail-store-cant-help-but-make-it-look-like-an-apple-store/
  - http://www.theverge.com/2012/5/3/2996858/samsung-pop-up-retail-stores

Apple's Retail Store Success

- Apple stores were launched in May 2001; the stores were not initially a huge success, and were losing money until the fourth quarter of 2003. The stores have since revolutionized the retail sector. By 2009, when the retail sector was down roughly 2.4% for the first time in decades, Apple's retail stores were up around 7%, according to retail consultancy Customer Growth Partners. In 2011, Apple's retail stores had net sales over $14 billion, a 44% increase over 2010. From 2009 to 2011 Apple's retail stores more than doubled net sales and, if you have been by any Apple store recently, this should come as no surprise. At the end of 2011, Apple had 357 stores worldwide (245 U.S. and 112 international) compared to 273 in 2009. http://www.apple.com/retail/
- Broken down, this means that Apple's retail stores have risen from roughly $24 million in net sales per store/per year to over $39 million per store/per year from 2009 to 2011, representing an approximate $15 million increase per retail store. This means that in 2011, each Apple retail store made approximately $108,000 per day. This clearly shows that, although some Apple analysts thought entering into the retail sector was a death wish, the right business model can be successful in a challenging retail space.
- http://www.investopedia.com/financial-edge/0612/can-samsung-compete-with-apples-retail-stores.aspx#ixzz2Ah2uc2oM

Apple's Retail Stores: Magics or what

- Emergency First Aid to Emotional Customers
  http://online.wsj.com/article/SB10001424052702304563104576364071955678908.html#ixzz1PWIoz79K%3D%26project%3DWSJPDF%26s%3Ddocid%253D110615025604-52bf1c48d22543dc9684f146ca4cf95e%257Cfile%253Dappletrainingmanual%26articleTabs%3Ddocument

http://online.wsj.com/article/SB10001424052702304563104576364071955678908.html#ixzz1PWIoz79K

http://www.forbes.com/sites/stevedenning/2011/06/17/apples-retail-stores-more-than-magic/

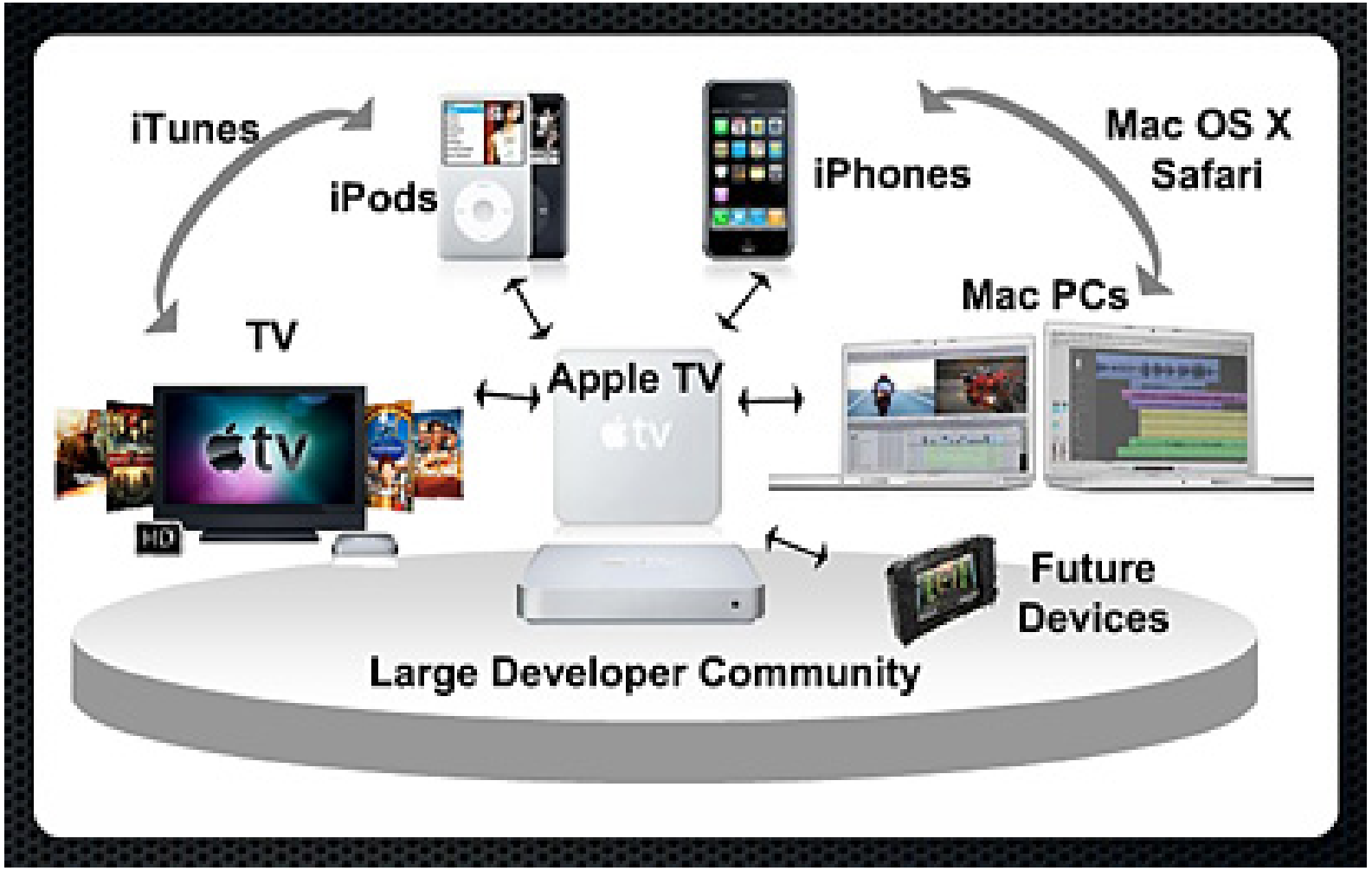
iPhone Product Timeline

Apple & Samsung

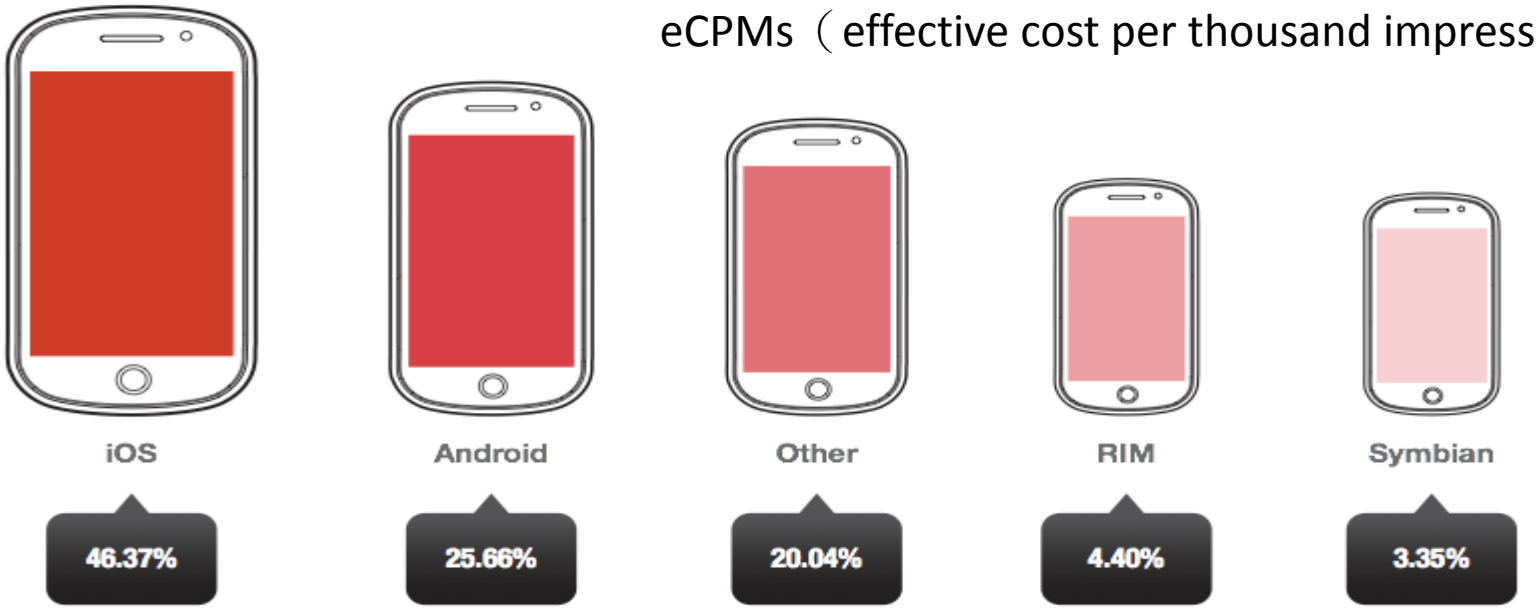
Apple from iPod to iPad

- http://www.johnashcroft.co.uk/wp-content/uploads/2012/06/Apple-From-the-iPod-to-the-iPad-Case-study-2012.pdf

Apple Product: Champion Ecosystem with strong brand ruling the market

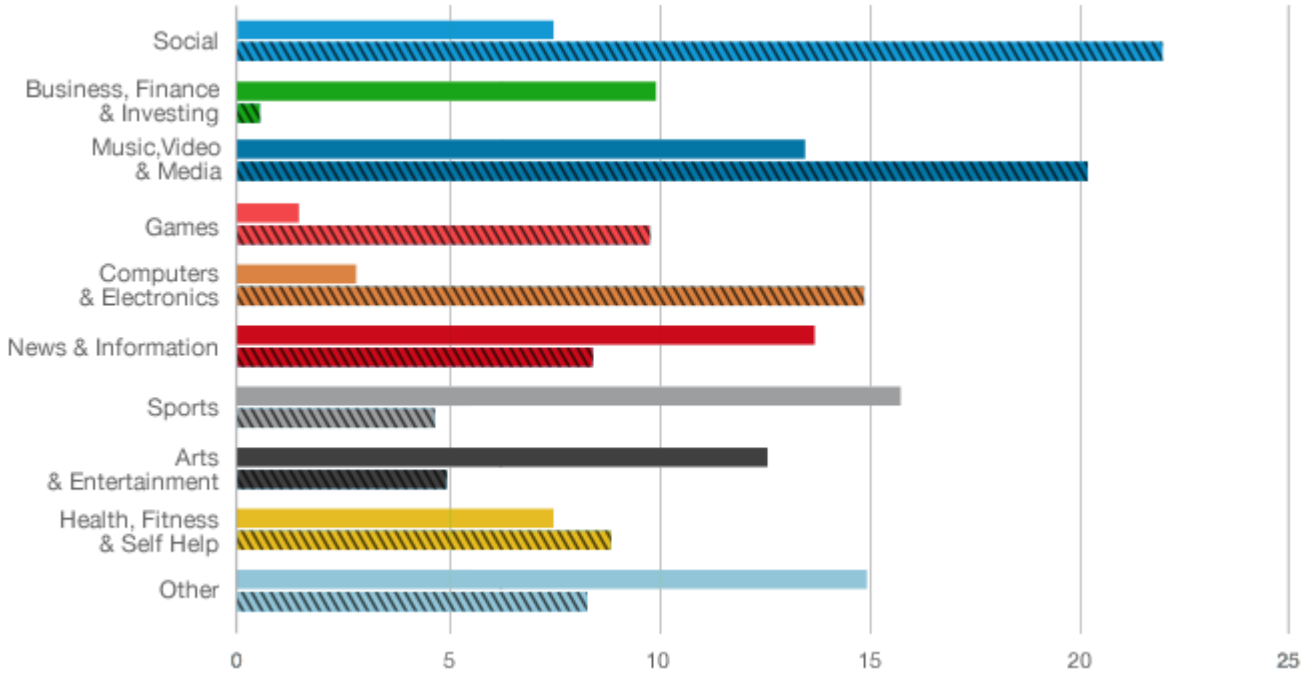


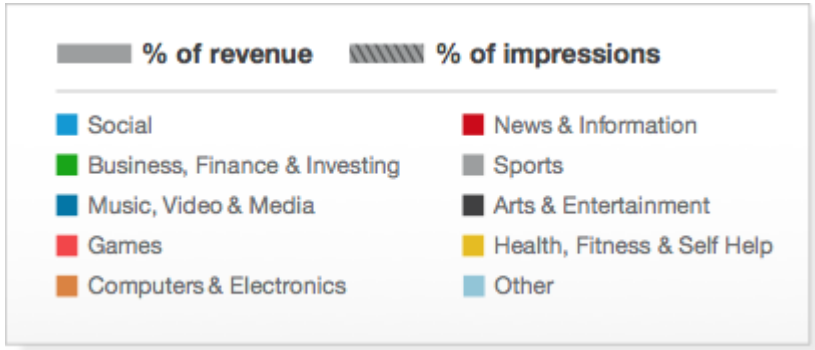
Traffic share



eCPMs（effective cost per thousand impressions ）

OS share	% of traffic	% of revenue	eCPM
iOS	46.37%	58.40%	$1.64
- *iPhone*	30.43%	34.38%	$1.48
- *iPad*	5.08%	17.19%	$4.42
- *iTouch*	10.81%	6.83%	$0.82
Android	25.66%	16.79%	$0.88
RIM	4.40%	4.15%	$1.06
Symbian	3.53%	0.99%	$0.37
Other	20.04%	19.67%	$1.28


Social
Business, Finance & Investing
Music,Video & Media
Games
Computers & Electronics
News & Information
Sports
Arts & Entertainment
Health, Fitness & Self Help
Other
0
5
10
15
20
25


% of revenue
% of impressions
Social
Business, Finance & Investing
Music, Video & Media
Games
Computers & Electronics
News & Information
Sports
Arts & Entertainment
Health, Fitness & Self Help
Other

Samsung Product Ecosystem: Smart TV taking the lead ?

http://www.fastcodesign.com/multisite_files/codesign/imagecache/inline-expanded/post-inline/samsung-smart-tv-smat-hub.jpeg

Global Brand

2012 RANK	2011 RANK	BRAND	SECTOR	2012 BRAND VALUE $m	% CHANGE (Brand Value)
1	1	Coca-Cola	Beverages	77,839	8%
2	8	Apple	Technology	76,568	129%
3	2	IBM	Business Services	75,532	8%
4	4	Google	Technology	69,726	26%
5	3	Microsoft	Technology	57,853	-2%
6	5	GE	Diversified	43,682	2%
7	6	McDonald's	Restaurants	40,062	13%
8	7	Intel	Technology	39,385	12%
9	17	Samsung	Technology	32,893	40%
10	11	Toyota	Automotive	30,280	9%
11	12	Mercedes-Benz	Automotive	30,097	10%
12	15	BMW	Automotive	29,052	18%
13	9	Disney	Media	27,438	-5%
14	13	Cisco	Business Services	27,197	7%
15	10	HP	Technology	26,087	-8%
16	16	Gillette	FMCG	24,898	4%
17	18	Louis Vuitton	Luxury	23,577	2%
18	20	Oracle	Business Services	22,126	28%
19	14	Nokia	Electronics	21,009	-16%
20	26	Amazon	Internet Services	18,625	46%

http://www.unwiredview.com/2012/10/03/samsung-enters-top-10-of-global-brands-lifted-by-galaxy-s-iii-and-galaxy-note-buzz-apple-now-no-2/

Apple Inner Circle

- Apple Executive Refused to Sign Maps Apology - WSJ.com.htm
  http://online.wsj.com/article/SB10001424052970204840504578087192497916304.html?mod=igoogle_wsj_gadgv1#project%3DAPPLEBENCH1012%26articleTabs%3Dinteractive

- An Apple Exit Over Maps
  - *Mobile Software Head Forstall Refused to Sign Apology; Retail Chief Is Also Ousted*

  http://online.wsj.com/article/SB10001424052970204840504578087192497916304.html?mod=igoogle_wsj_gadgv1#project%3DAPPLEBENCH1012%26articleTabs%3Darticle

Samsung Leadership Training (SKKU owned by Samsung)

- http://gsb.skku.edu/2008_home/faculty/01_introduction.htm

Apple University

- A secretive "Apple University" program that the company initiated in 2008 has been clarified to be a way to teach executives to emulate and perpetuate the successful strategies of Steve Jobs.

http://thenextweb.com/shareables/2011/07/18/apple-university-how-will-apple-succeed-post-jobs-infographic/

Apple University

When a leader is deeply connected to a company, he can impact it in many ways. Such is the case with Steve Jobs and Apple, and many wonder what will happen to Apple if Jobs ever has to leave the company. So what's Apple to do? The company may have found a solution in Apple University.

Apple with & without Steve Jobs

It all started in 1976, when Steve Jobs, Steve Wozniak and Ronald Wayne decided to develop and sell the Apple I. Since then the company has been through a number of highs and lows.

1976

Apple was established on April 1.

1979

Xerox made a deal with Apple to buy 100,000 shares at the pre-IPO price of $10/share.

In return, Xerox granted Apple engineers three days of access to the PARC facilities.

1980

Apple's IPO generated more capital than any since Ford Motor Company's 1956 IPO.

This generated a high number of millionaires instantly.

1980-1985

During the early '80s, Apple traded in the $2 to $3 range.

1985

Industry sales dropped and Jobs goes through a power struggle with CEO John Sculley. Jobs leaves Apple and soon afterward founded NeXT.

1985-1989

Its stock steadily rose into the double digits in the late '80s. It was Apple's First Golden Age.

1990 - 1995

Apple had a three-year record-low stock price and crippling financial losses.

It began to lose its appeal, giving up market share to competitors like Dell.

Apple barely rose above a few billion in market cap before Jobs returned to Apple.

1997

Apple purchased NeXT. That brought Steve Jobs back to Apple and soon he became the interim CEO.

Apple neared bankruptcy.

Microsoft bought 18.2 million shares of Apple stock for about $151 million.

2004

Steve Jobs announced he had pancreatic cancer on August 2.

Apple stock declined 2.4% that day, and bottomed out on August 6 after falling 7.9%.

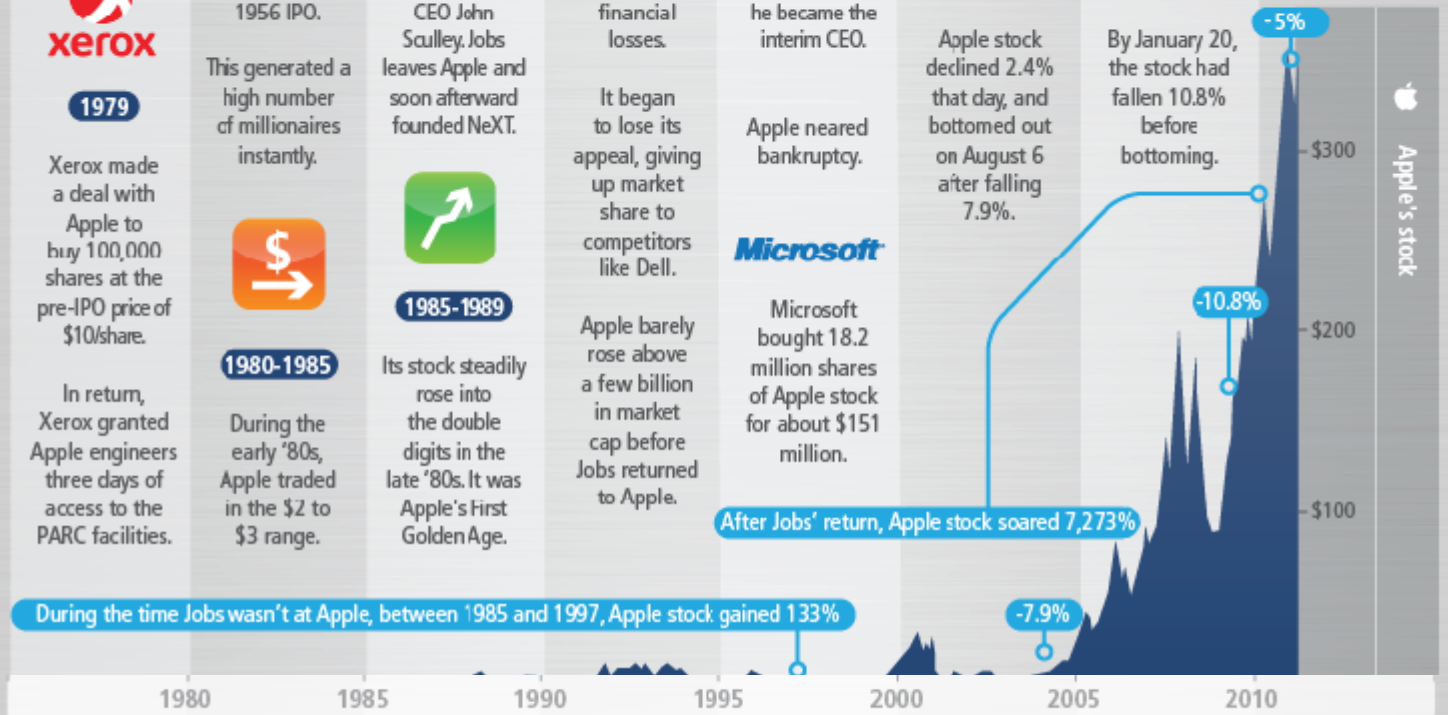
2009

Shares dropped 2.7% when Jobs announced his leave of absence on January 14.

By January 20, the stock had fallen 10.8% before bottoming.

2011

On January 18, Apple shares fell 5% after Jobs announced his leave of absence.



Steve Jobs' Leave of Absence

Since Jobs is seen as inseparable from his company's success, Apple's share price tends to rise and fall depending on his health. Learn more:

2004
Jobs was diagnosed with a cancerous tumor in his pancreas. He underwent surgery to remove it.

2009
Jobs said that he had been suffering from a "hormone imbalance" for several months.

2009
He took a medical leave for six months and underwent a liver transplant in Memphis, Tennessee.

2011
Jobs took a medical leave of absence for an indefinite period of time to focus on his health.

Steve Jobs' **medical leave of absence** caused shares to **drop 5%**, and closed down 2.3%. Many were concerned about his future and the future of the company. Fortunately, the company may have found a way to become independent and survive his absence:

Apple University

Apple University was created in 2008 to teach Apple employees how to think like Steve Jobs and make decisions he would make.

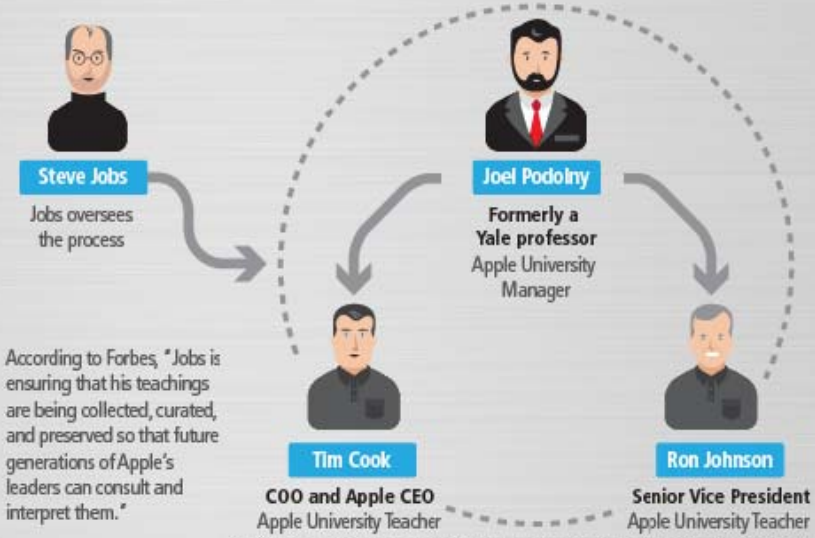
Learn more about it:

Apple University has been called the **solution to Apple after Steve Jobs.**

The goal is to teach the executive team's **thought process to future leaders.**

How Apple University is Structured*

*According to reports. Actual structure may vary as little is known about Apple University.



According to Forbes, "Jobs is ensuring that his teachings are being collected, curated, and preserved so that future generations of Apple's leaders can consult and interpret them."

As of Nov. 1, 2011, Ron Johnson will become the chief executive of J. C. Penny.

Other Educational Endeavors

Apple University is not the only educational initiative of Apple. There is also Apple University Consortium, iTunes U and a special store developed specially for students and educational institutions. Learn more:

AUC

Apple University Consortium

How it works: This consortium fosters Apple technologies in universities.

Who uses it: 37 member universities and associate members, including Australian National University, University of Melbourne, and University of Queensland.

What it offers: Low cost technologies innovation grants and scholarships.

iTunes U

iTunes U is a powerful distribution system for high quality content developed by public or private colleges and universities in the United States, Australia and many countries in Europe.

How it works: Institutions create their own iTunes U site and post content.

Who uses it: Members of more than 800 universities, including Stanford, MIT, UC Berkeley, Yale and more.

What it offers: Over 350,000 files for download, induding course lectures.

Apple in Education

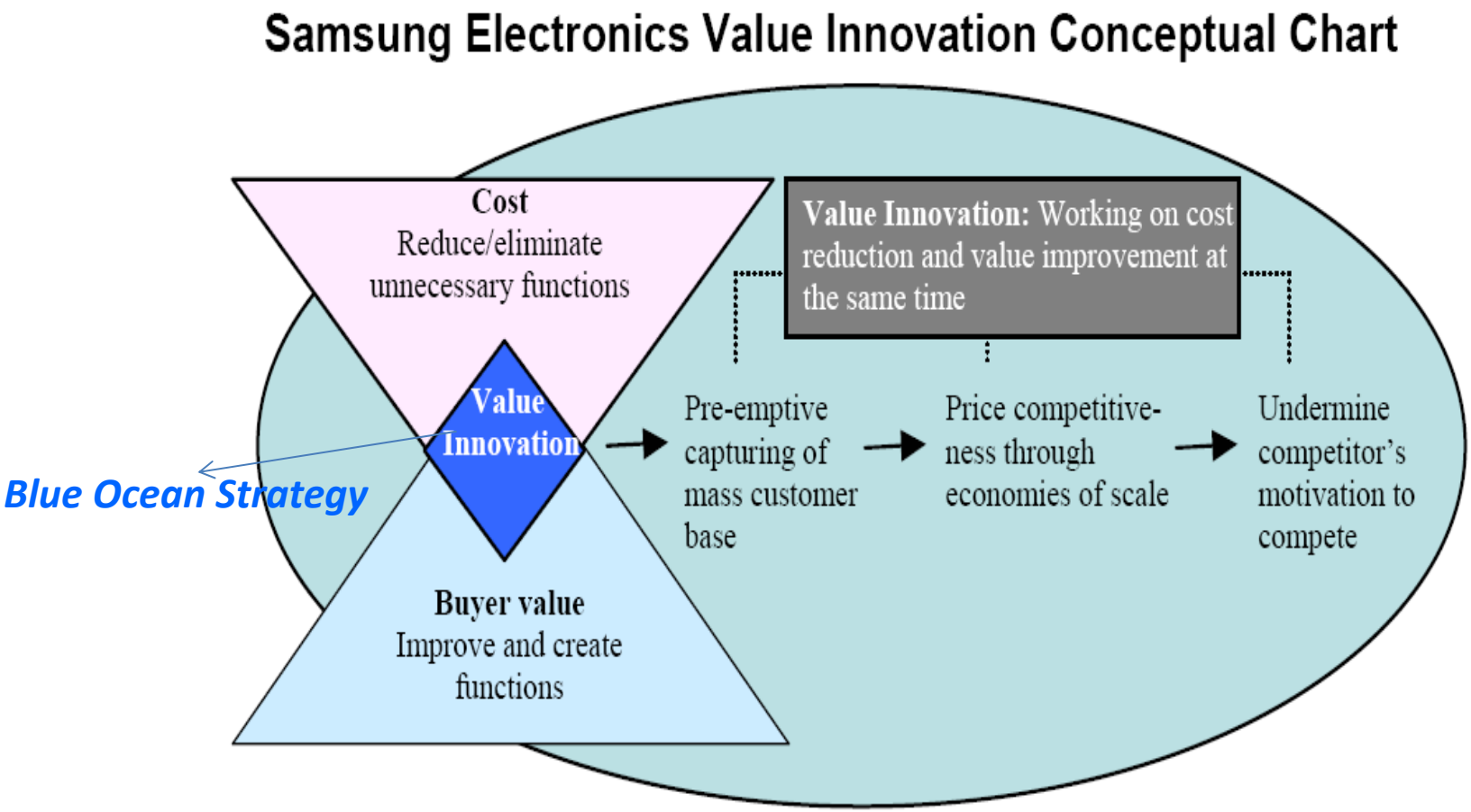
How it works: It is a special store with discounts for students and schools.

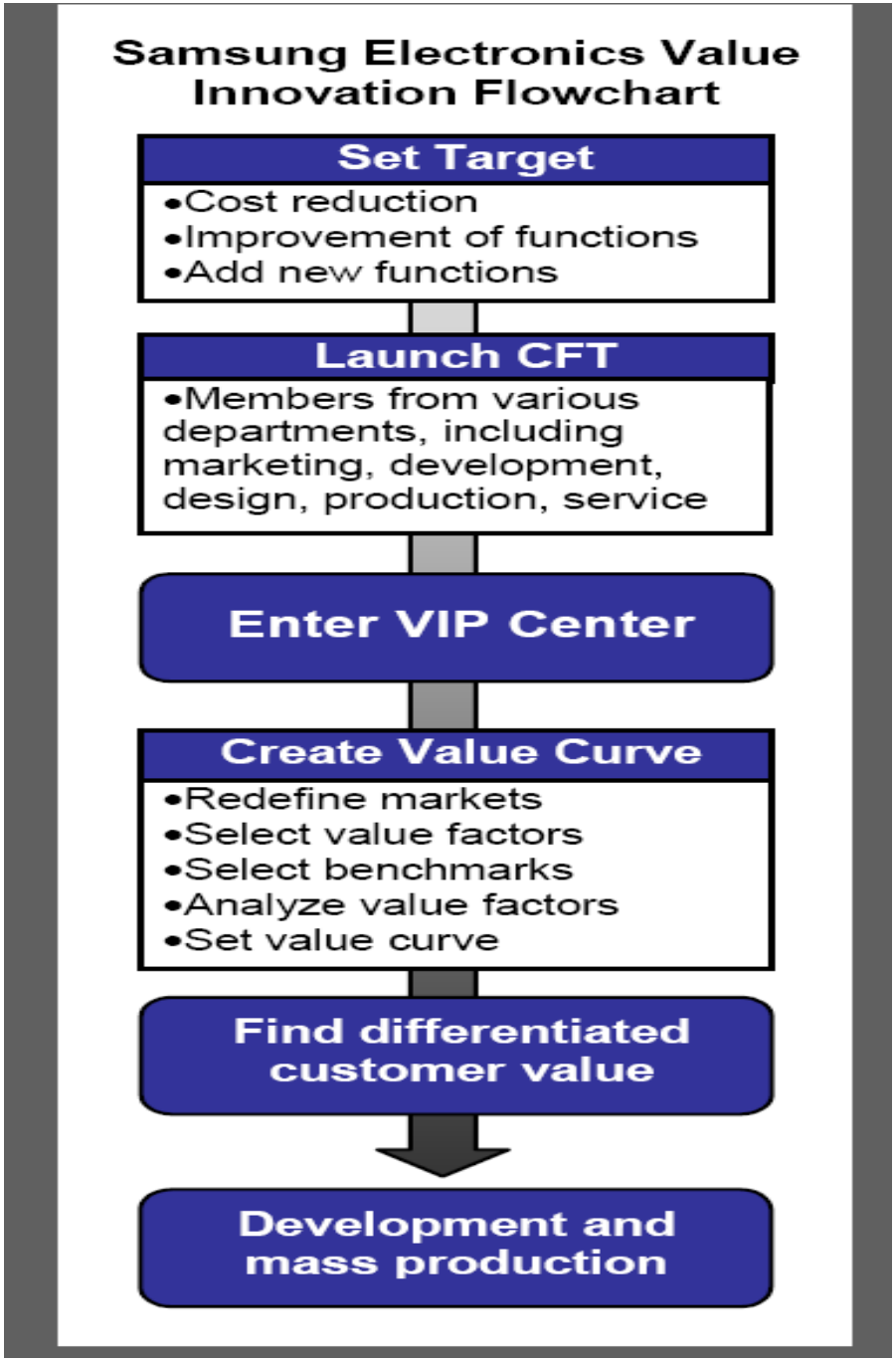
Who uses it: Students and educational institutions in the United States.

What it offers: Products and educational applications at a lower cost.

Samsung Overall Development Strategy

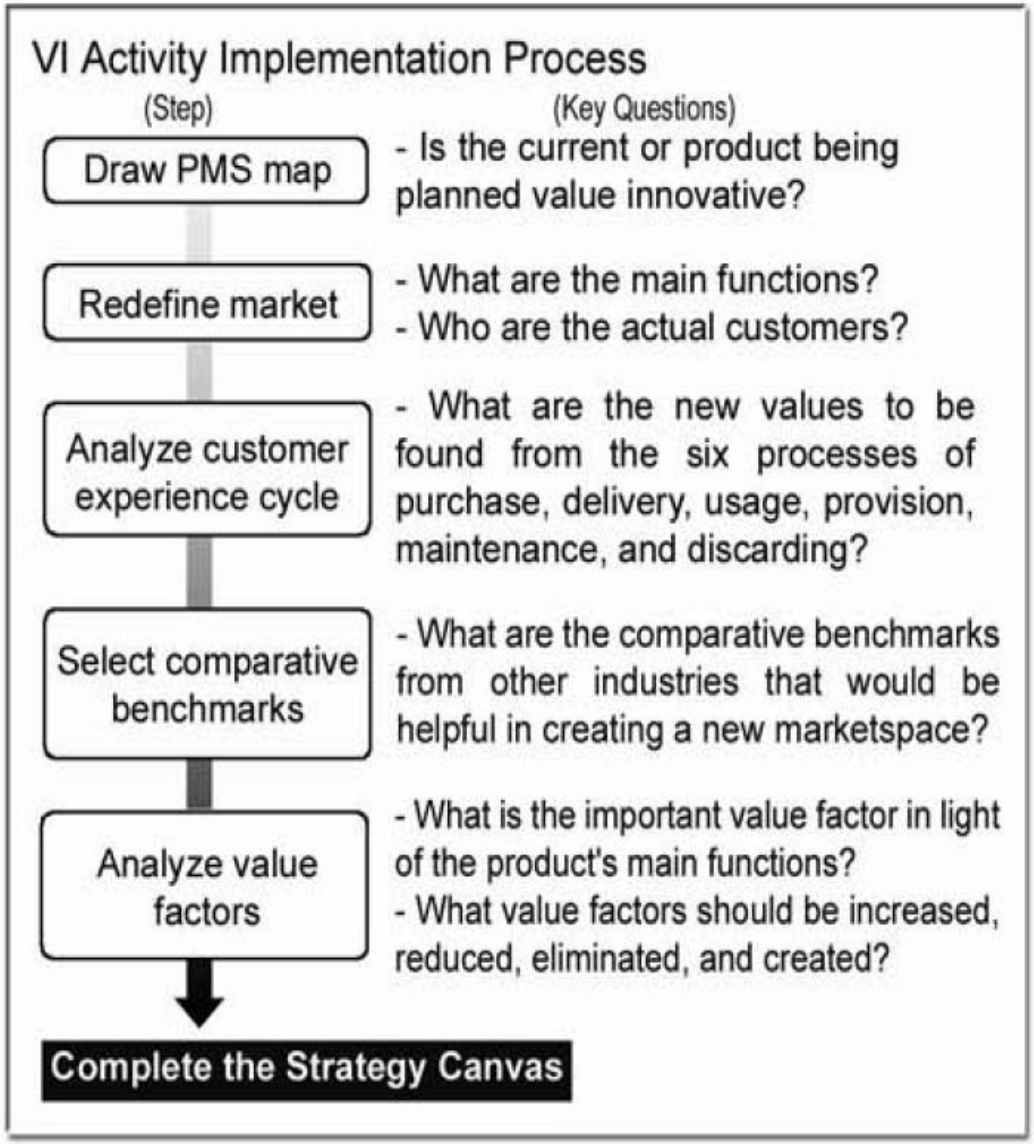
1998 Samsung launched VI




Samsung Electronics Value Innovation Flowchart
Set Target
•Cost reduction
•Improvement of functions
•Add new functions
Launch CFT
•Members from various departments, including marketing, development, design, production, service
Enter VIP Center
Create Value Curve
•Redefine markets
•Select value factors
•Select benchmarks
•Analyze value factors
•Set value curve
Find differentiated customer value
Development and mass production

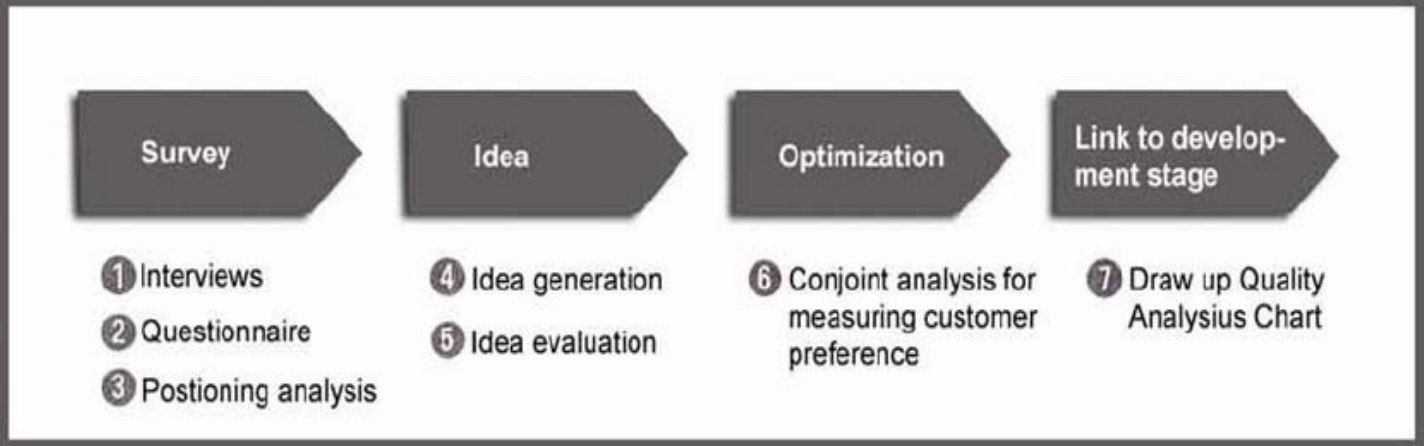
History of the VIP Center

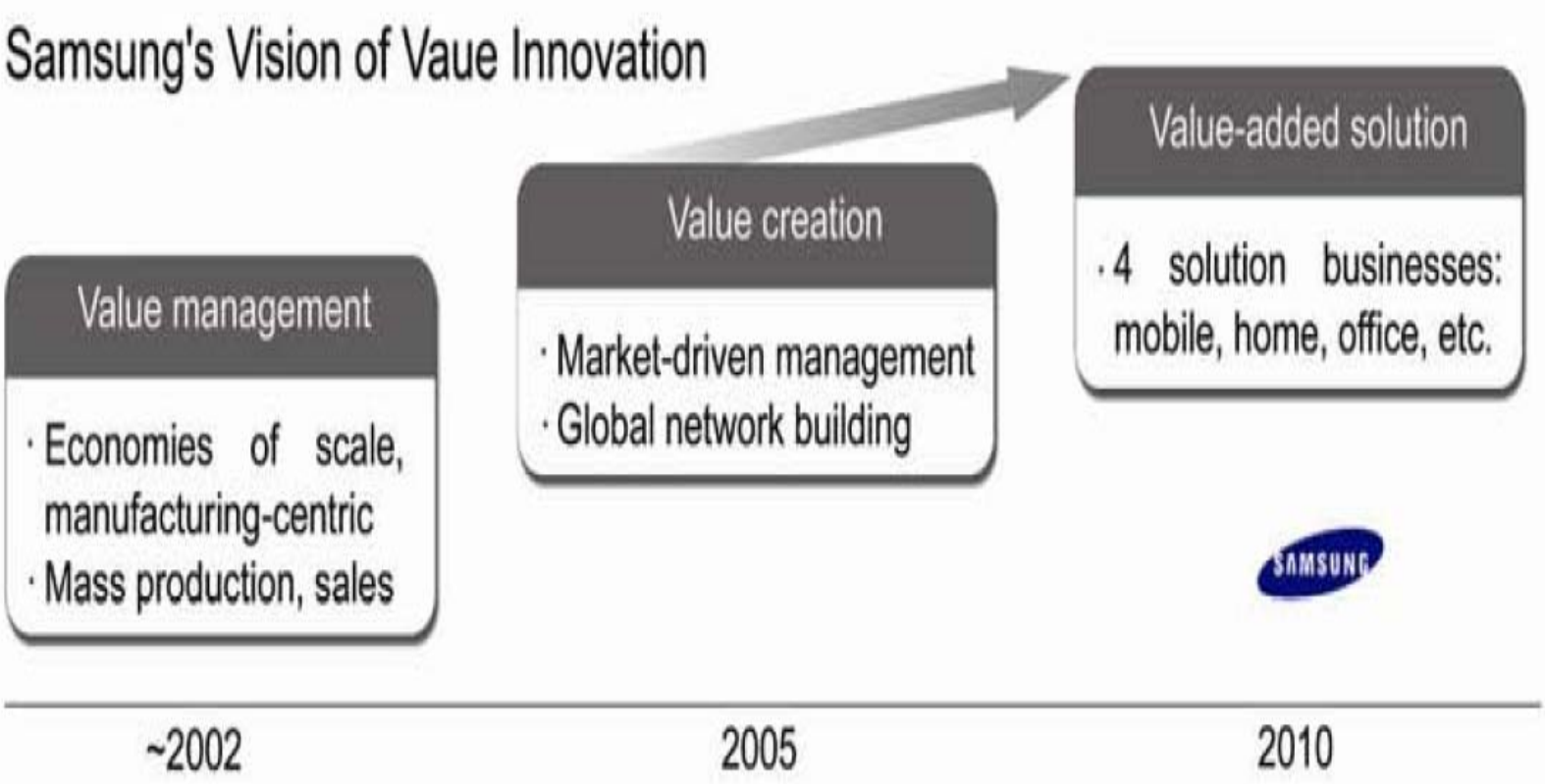
- 1998
  - Center opened
- 1999-2001
  - Study on adapting VI idea to Samsung
  - Building infrastructure
  - Cultivation of specialists
- 2002
  - VI consulting on major strategic product groups
- 2003
  - Expansion of VI process to allproduct groups except semiconductor
  - 82 projects conducted
- 2004
  - Expansion of VI to corporate level, including semi-conductor product group
  - Plan to implement 90 more projects


VI Activity Implementation Process
(Step)
(Key Questions)
Draw PMS map
- Is the current or product being planned value innovative?
Redefine market
- What are the main functions?
- Who are the actual customers?
Analyze customer experience cycle
- What are the new values to be found from the six processes of purchase, delivery, usage, provision, maintenance, and discarding?
Select comparative benchmarks
- What are the comparative benchmarks from other industries that would be helpful in creating a new marketspace?
Analyze value factors
- What is the important value factor in light of the product's main functions?
- What value factors should be increased, reduced, eliminated, and created?
Complete the Strategy Canvas

IV. Customizing VI to make Samsung's own version

The theory of Value Innovation was first introduced to Samsung Electronics through a special lecture in 1997 by Professor W. Chan Kim, the co-founder of the theory. Impressed by Professor Kim's argument to " capture non-customers rather than focusing on competitors", the top management made a decision to apply this theory to the everyday business at Samsung. However, applying a very new theory in business strategy to real life was a daunting task. Consequently, Samsung established the basic framework for its own version of VI by redefining a process and creating various supporting tools. A good case in point is using "7 Tools", developed by Professor Kanda Noriyaki of Seijo University in Japan, for the quantification of customer needs. We introduce the know-how of Samsung's version of VI through the example of the Sense-Q laptop computer.




Samsung's Vision of Vaue Innovation
Value management
· Economies of scale, manufacturing-centric
· Mass production, sales
Value creation
· Market-driven management
· Global network building
Value-added solution
· 4 solution businesses: mobile, home, office, etc.
SAMSUNG
~2002
2005
2010

Quote from CEO of Samsung Semiconductor Division

- Can you apply this "value creation side" to the semi-conductor business unit?

"For semi-conductors, we do not use a tool such as the Strategy Canvas. However, we already applied Value Innovation to developing memory chips. For instance, we did not only focus on increasing the memory capacity at the conceptualization and planning phases. Instead, to attract our main customer companies such as PC or mobile phone manufacturers, internet game and entertainment companies, we conceptualized new products such as Rambus DRam and Nanflash memories. This is the reason Samsung, unlike our global competitors, generated high profits."

Samsung View of BOS and Beyond

- http://www.samsung.com/Features/BrandMagazine/magazinedigitall/2007_fall/feat_04a.htm
- http://www.samsung.com/Features/BrandMagazine/magazinedigitall/2007_fall/printPDF/Digitall2007FALL.PDF

Formulating Blue Ocean Strategy(BOS)

Reconstruct Market Boundaries
Focus on the Big Picture, Not the Numbers
Reach Beyond Existing Demand
Get the Strategic Sequence Right

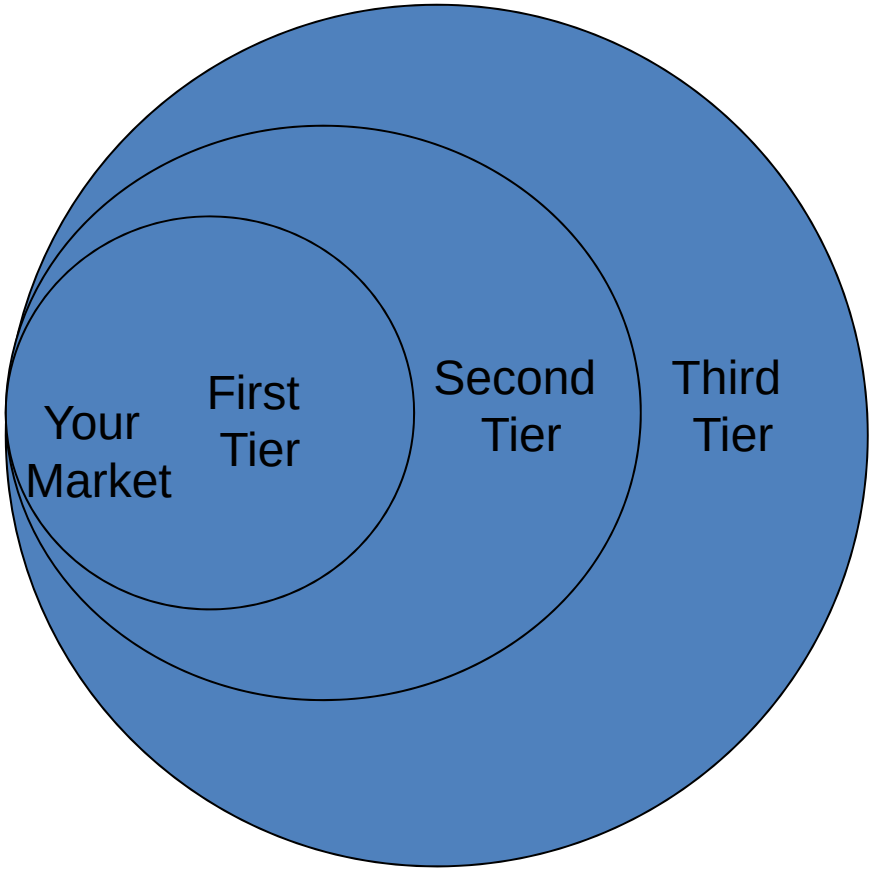
Head-to-Head Competition to Blue Ocean Creation

	Head-to-Head Competition		Blue Ocean Creation
Industry	Focuses on rivals within its industry	→	Looks across alternative industries
Strategic group	Focuses on competitive position within strategic group	→	Looks across strategic groups within industries
Buyer group	Focuses on better serving the buyer group	→	Redefines the industry buyer group
Scope of product or service offering	Focuses on maximizing the value of product and service offerings within the bounds of its industry	→	Looks across to complementary product and service offerings
Functional-emotional orientation	Focuses on improving price performance within the functional-emotional orientation of its industry	→	Rethinks the functional-emotional orientation of its industry
Time	Focuses on adapting to external trends as they occur	→	Participated in shaping external trends over time

Four Steps of Visualizing Strategy

1. Visual Awakening	2. Visual Exploration	3. Visual Strategy Fair	4. Visual Communication
•Compare your business with your competitor' by drawing your "as is" strategy canvas •See where your strategy needs to change	•Go into the field to explore the six paths to creating blue oceans •Observe the distinctive advantages of alternative products and services •See which factors you should eliminate, create, or change	•Draw your "to be" strategy canvas based on insights from field observations •Get feedback on alternative strategy canvases from customers, competitors' customers, and noncustomers •Use feedback to build the best "to be" future strategy	•Distribute your before-and-after strategic profiles on one page for easy comparison •Support only those projects and operational moves that allow your company to close the gaps to actualize the new strategy

The Three Tiers of Noncustomers



First Tier: “Soon-to-be” noncustomers who are on the edge of your market, waiting to jump ship. Second Tier: “Refusing” noncustomers who consciously choose against your market. Third Tier: “Unexplored” noncustomers who are in markets distant from your.

Six Stages of Buyer Experience Cycle

Purchase	Delivery	Use	Supplements	Maintenance	Disposal
How long does it take to find the product you need?	How long does it take to get the product delivered?	Does the product require training or expert assistance?	Do you need other products and services to make this product work?	Does the product require external maintenance?	Does use of the product create waste items?
Is the place of purchase attractive and accessible?	How difficult is it to unpack and install the new product?	Is the product easy to store when not in use?	If so, how costly are they?	How easy is it to maintain and upgrade the product?	How easy is it to dispose of the product?
How secure is the transaction environment?	Do buyers have to arrange delivery themselves? If yes, how costly and difficult is this?	How effective are the product's features and functions?	How much time doe they take?	How costly is maintenance?	Are there legal or environmental issues in disposing of the product safely?
How rapidly can you make a purchase?		Does the product or service deliver far more power or options than required by the average user? Is it overcharged with bells and whistles?	How much pain do they cause?		How costly is disposal?
			How easy are they to obtain?		

Uncovering the Blocks to Buyer Utility

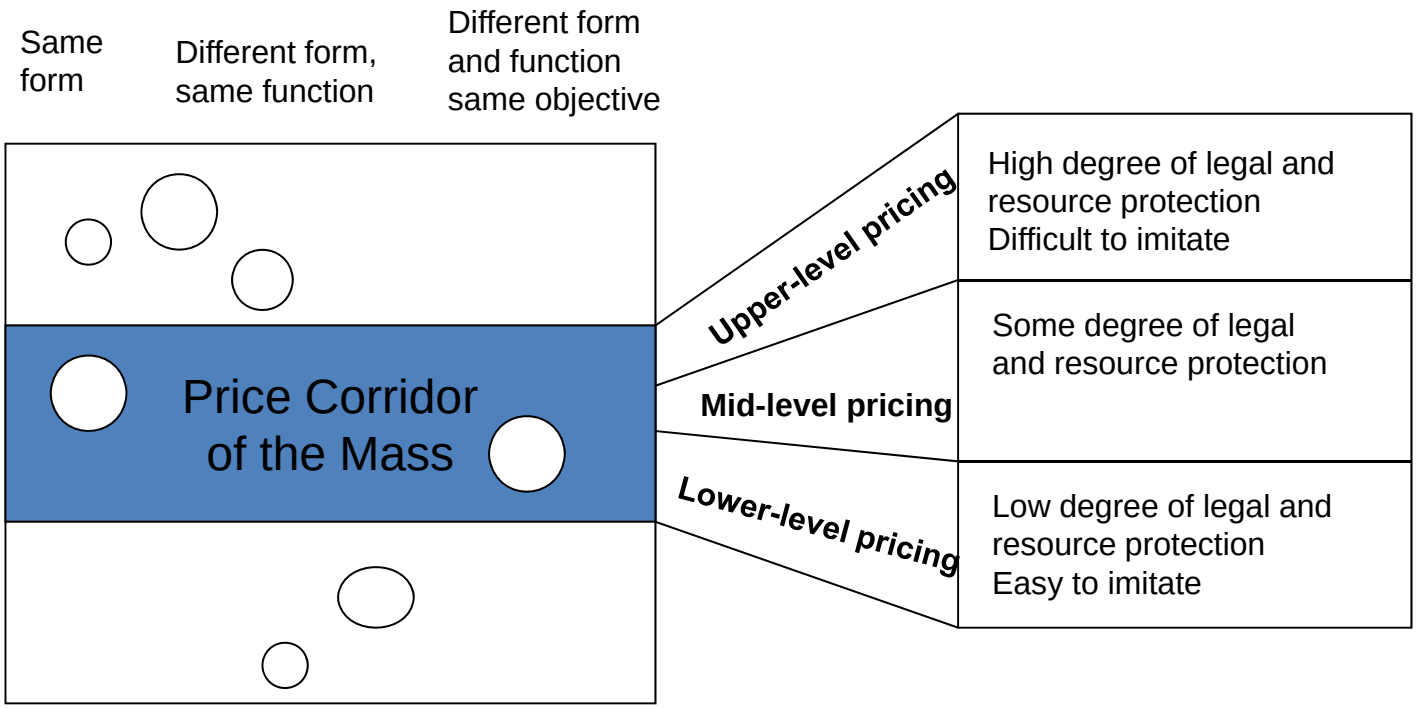
Purchase	Delivery	Use	Supplements	Maintenance	Disposal
Customer Productivity: In which stage are the biggest blocks to customer productivity?					
Simplicity: In which stage are the biggest blocks to simplicity?					
Convenience: In which stage are the biggest blocks to convenience?					
Risk: In which stage are the biggest blocks to risk?					
Fun and Image: In which stage are the biggest blocks to fun and image?					
Environmental Friendliness In which stage are the biggest blocks to environmental friendliness?					

Price Corridor of the Mass

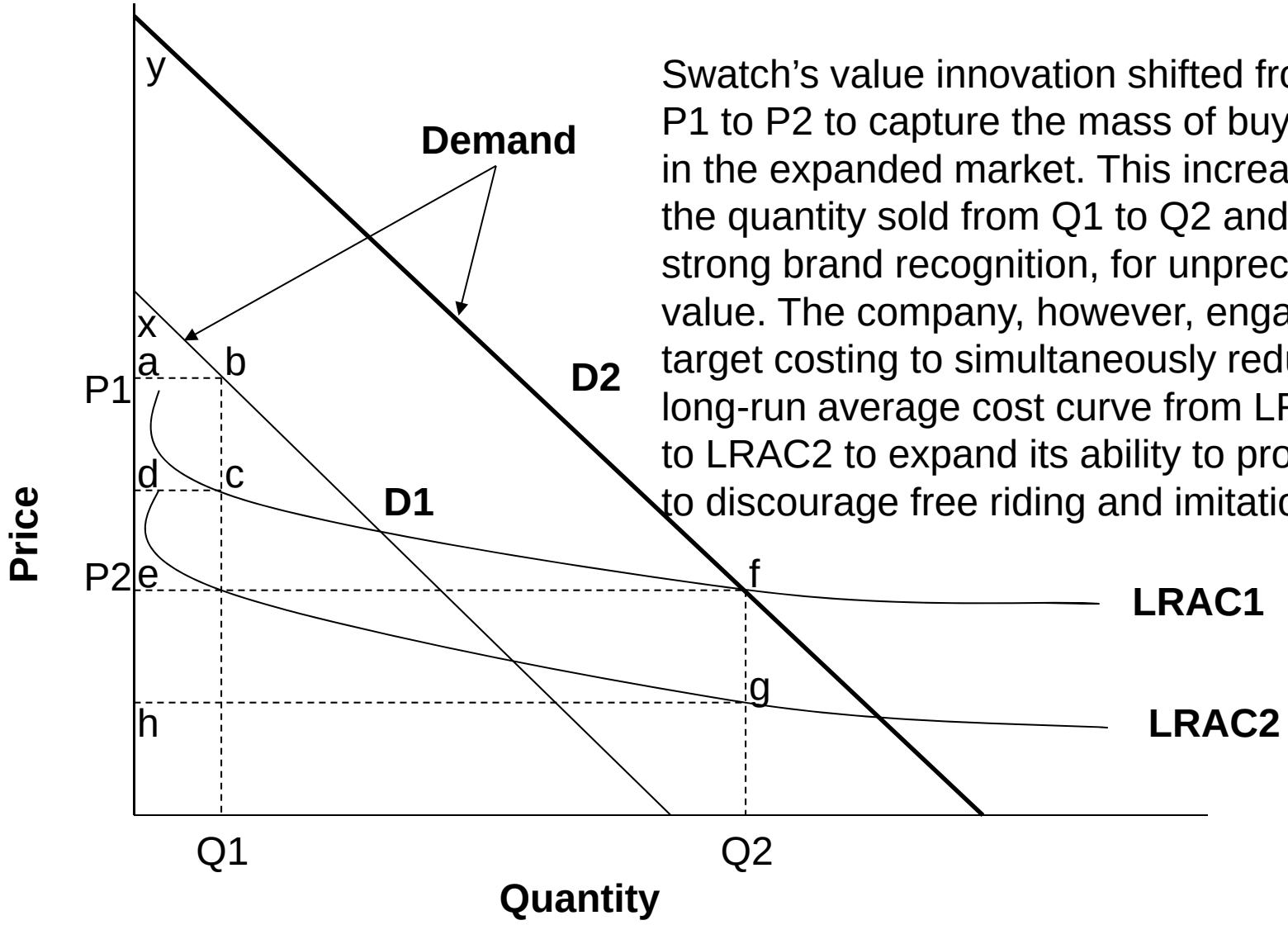
Step 1: Identify the price corridor of the mass

Step 2: Specify a price level within the price corridor

Three alternative product/service types:

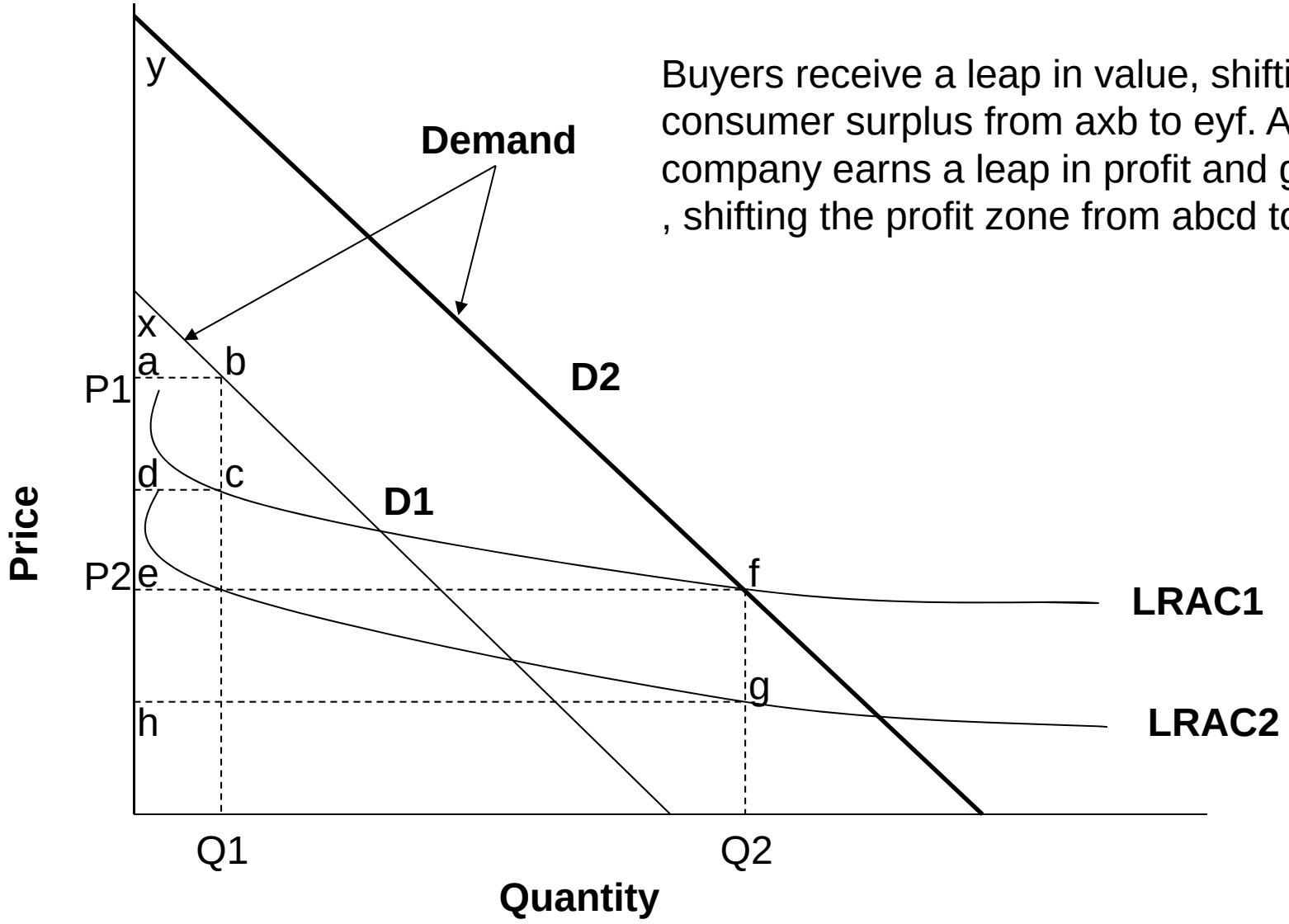


The Market Dynamics of Value Innovation: SWATCH Case



Swatch's value innovation shifted from P1 to P2 to capture the mass of buyers in the expanded market. This increases the quantity sold from Q1 to Q2 and builds strong brand recognition, for unprecedented value. The company, however, engages in target costing to simultaneously reduce the long-run average cost curve from LRAC1 to LRAC2 to expand its ability to profit and to discourage free riding and imitation

The Market Dynamics of Value Innovation



Buyers receive a leap in value, shifting the consumer surplus from axb to eyf. And the company earns a leap in profit and growth , shifting the profit zone from abcd to efgh

Blue Ocean Idea (BOI) Index

		Philips CD-i	Motorola Iridium	DoCoMo i-mode Japan
Utility	Is there exceptional utility? Are there compelling reasons to buy your offering?	-	-	+
Price	In your price easily accessible to the mass of buyers?	-	-	+
Cost	Does your cost structure meet the target cost?	-	-	+
Adoption	Have you addressed adoption hurdles up front?	-	+/-	+

NTT DoCoMo's Case

- i-Mode service brought together the key advantages of two alternative industries---the cell phone industry and the PC-Internet industry---and created unique and superior buyer utility
- i-Mode service offered exceptional buyer utility at a price accessible to the mass of buyers. The monthly i-mode subscription fee, the voice and data transmission fee, and the price of content were in the "nonreflection" strategic price zone, encouraging impulse buying and reaching the masses as quickly as possible.
- After setting a price that was attractive to the mass of buyers, NTT DoCoMo strove to obtain the capabilities it needed to deliver the service within its cost target in order to turn a profit. In achieving this end, the company was never bounded by its own assets and capabilities. While it focused on its traditional role as an operator to develop and maintain a high-speed, high-capacity network in the i-mode project, it sought to delvier other key elements of its offering by actively partnering with handset manufacturers and information providers.
- By creating a win-win partnership network, the company aimed to meet and sustain the target cost set by its strategic price. Although there are many partners and dimensions involved in its partnership network, a few aspects are particularly relevant here; First, it regularly and persistently shared know-how and technology with its handset manufacturing partners to help them stay ahead of their competitors. Second, the company played the role of the portal and gateway to the wireless network, expanding and updating the list of i-mode menu sites while attracting content providers to join the i-mode list and create the content that would boost user traffic. Thirdly, it used c-HTML which is more attractive to content providers because under c-HTML, software engineers needed no retraining to convert their existing Web sites. Fourthly, the project team was set up and given a clear mandate and autonomy---open discussion internally and externally with partners

Blue Ocean Strategy (BOS) – Samsung Electronics 2006-2010

- Value Innovation, first component of Blue Ocean Strategy is Samsung's primary tool for product development. Value Innovation Program centre was started in 1998 and by 2004 the centre was playing a very key role in rapid growth of Samsung to become the world's top consumer electronics company. Many cross-functional Blue Ocean project teams were at work, and had ingrained the approach in the corporate culture with an annual conference presided over by their entire top management. One of the key successes of VIP centre was, within five years of entering the mobile phone market, in 2003 Samsung has become the No2 player in the mobile phones market.

- Samsung BOS strategy has also helped it to maintain top position in TV market (since 2006-2010), Global; LCD panel market since 2002. BOS is still at the core of the Samsung product strategy and company has been able to make the necessary adaptations according to the business environment and changing consumer preferences. In 2006 Samsung launched Market Driven Change (MDC) where its focus was on the consumer insights and how to develop better and new products using consumer insights. One of the successful results of the MDC was Flat panel LCD TV Bordeaux.

Executing Blue Ocean Strategy

Overcome Key Organizational Hurdles

Build Execution into Strategy

The Sustainability and Renewal of Blue Ocean Strategy

Smart Phone Market: Samsung vs Apple Strategy Comparison

Blue Ocean Strategy in Smart Phone Business

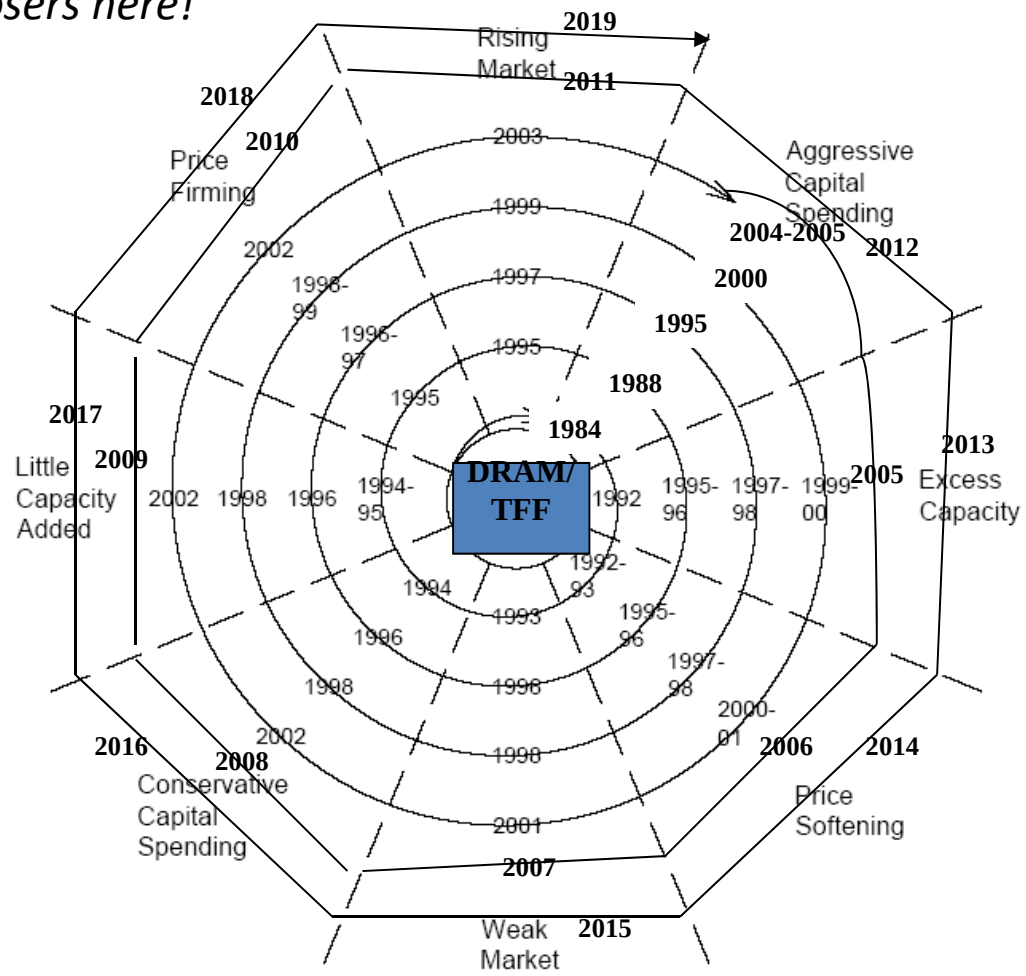
- http://technorati.com/technology/gadgets/article/blue-ocean-vs-red-ocean-is/
- http://analysiscasestudy.blogspot.tw/2011/12/blue-ocean-strategy-essential-to.html

Samsung Memory Product: It’s more than BOS can cover

DRAM/TFT Crystal Cycle (Dizziness?)

Crystal cycle is so obvious; why so many companies were falling down!

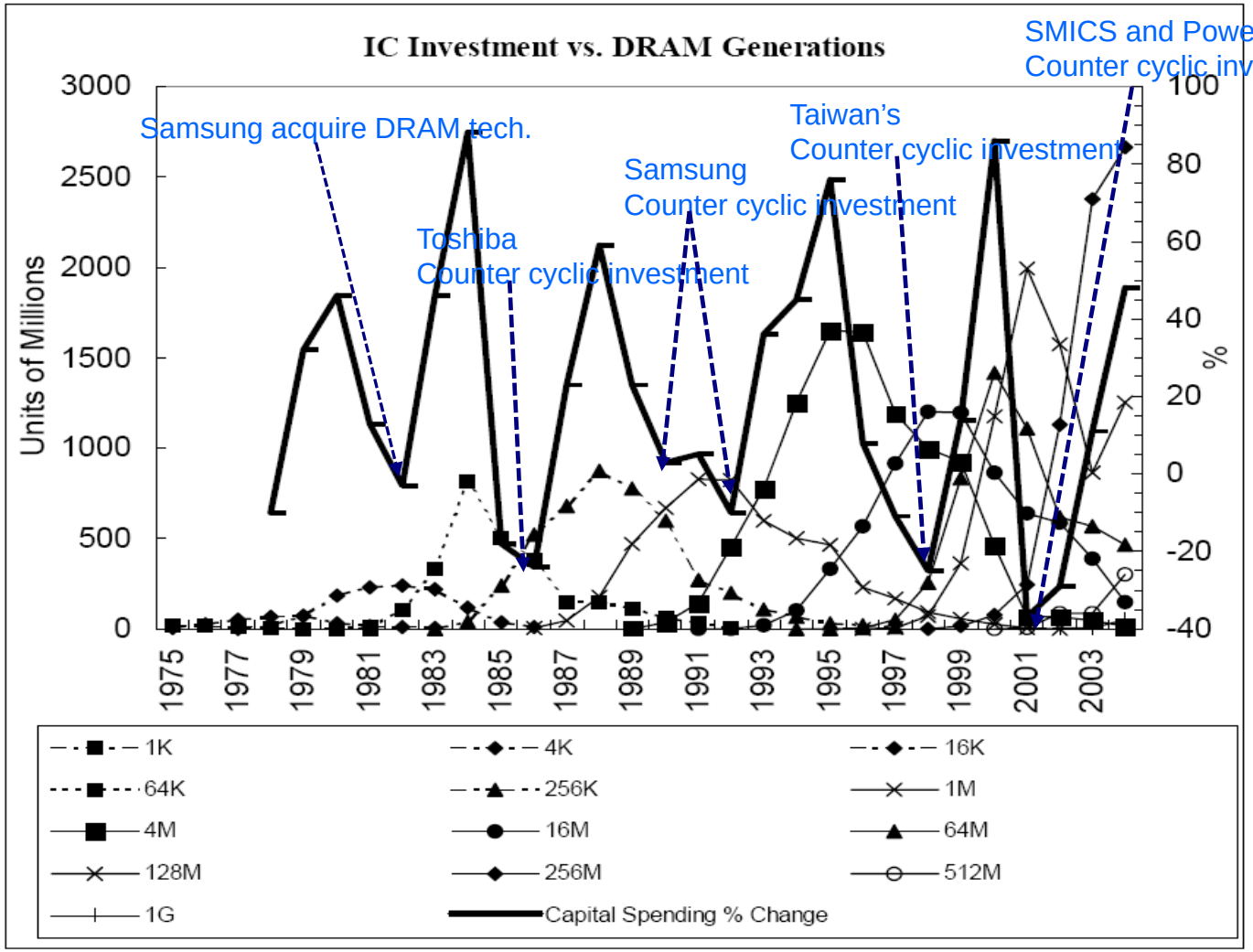
Q's: Winners and Losers here!



Source: Adapted from IC Insights.

Downturn Opportunities

Chart 11c IC cycles and DRAM product generations, 1975-2004



Source: IC Insights

Business Reality (1) cont.

Q's: why happened this way!

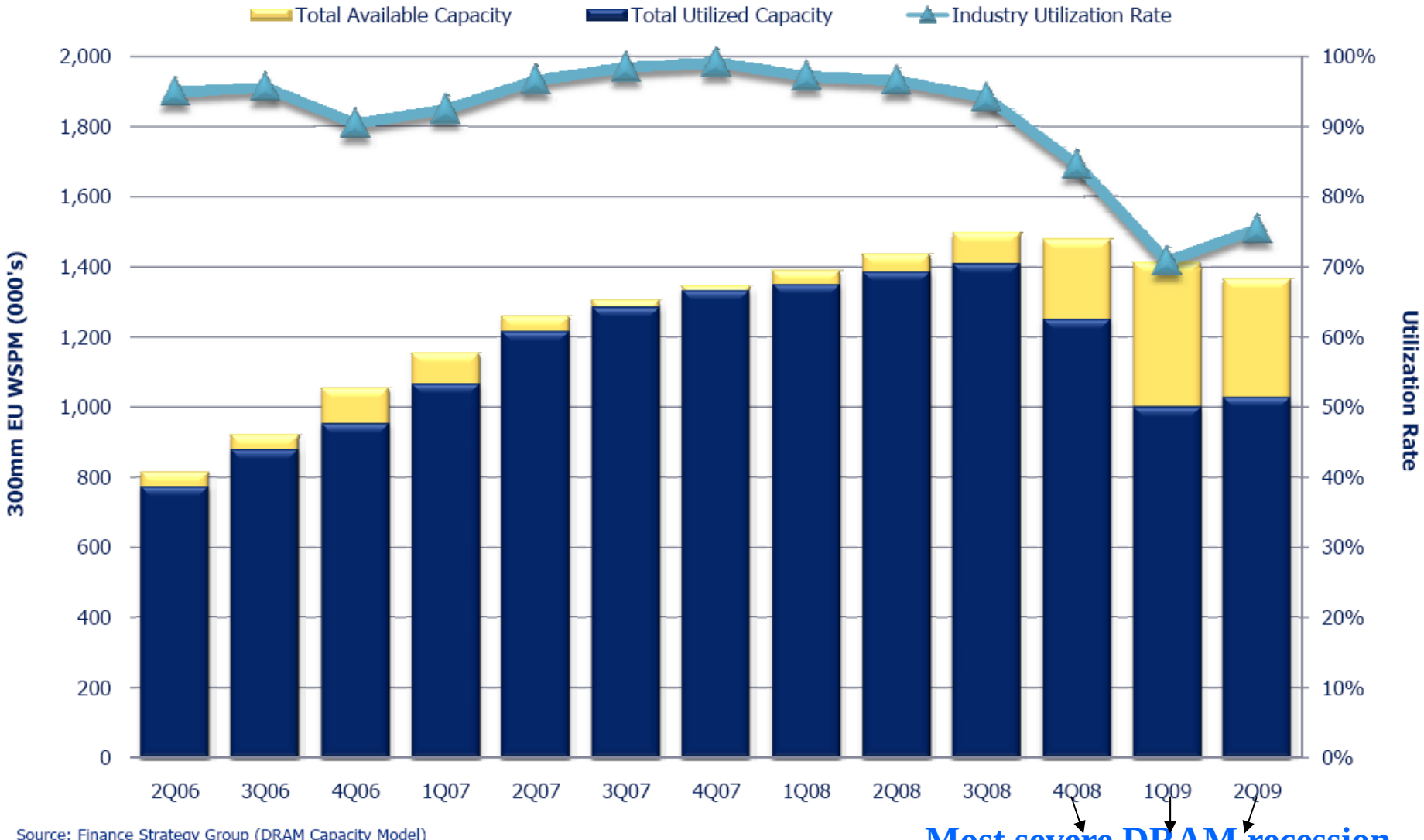
When Industry Output Growth Far Outruns Growth in Sales, Selling Prices Will Tend To Collapse

		2001	2002	2003	2004	2005	2006	2007	2008E	2009E
Sales growth	DRAM	-61%	36%	9%	61%	-5%	32%	-7%	-21%	-16%
	NAND	-54%	107%	113%	91%	67%	6%	26%	-3%	-19%
	DRAM/NAND	-61%	41%	20%	66%	10%	24%	1%	-15%	-17%
Bit growth	DRAM	63%	**-30%**	40%	60%	51%	47%	**92%**	**79%**	**42%**
	NAND	60%	200%	230%	196%	257%	217%	191%	141%	86%
Average Selling Price change	DRAM	-76%	**94%**	-22%	0%	-37%	-10%	**-52%**	**-56%**	**-41%**
	NAND	-71%	-31%	-35%	-35%	-53%	-67%	-57%	-60%	-57%
Capex/Sales	DRAM/NAND	55%	**28%**	36%	38%	47%	50%	**67%**	**52%**	**39%**
Capex growth	DRAM	-37%	-33%	40%	76%	21%	18%	50%	-49%	-35%
	NAND	-49%	69%	125%	76%	94%	65%	14%	-1%	-40%
	DRAM/NAND	-38%	-27%	52%	76%	36%	32%	37%	-34%	-37%

Source: Merrill Lynch

as Warren Buffet says, "Investing is like playing baseball with a no-called-strikes rule. You can just take every pitch until you find a fat one to swing at." --- But DRAM business might take more than a fat one.

DRAM Capacity Utilization (12” Equivalent Wafers per Month)

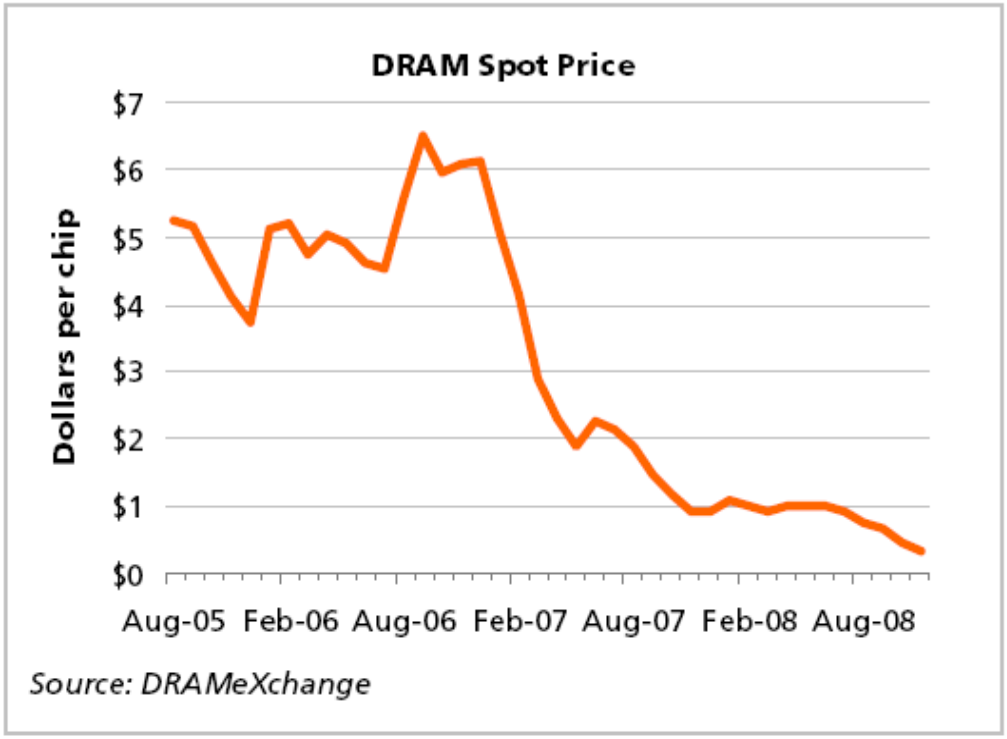


Source: Finance Strategy Group (DRAM Capacity Model)

Most severe DRAM recession

Business Reality (2)

DRAM Chip ASPs: A Free Fall To All-Time Lows

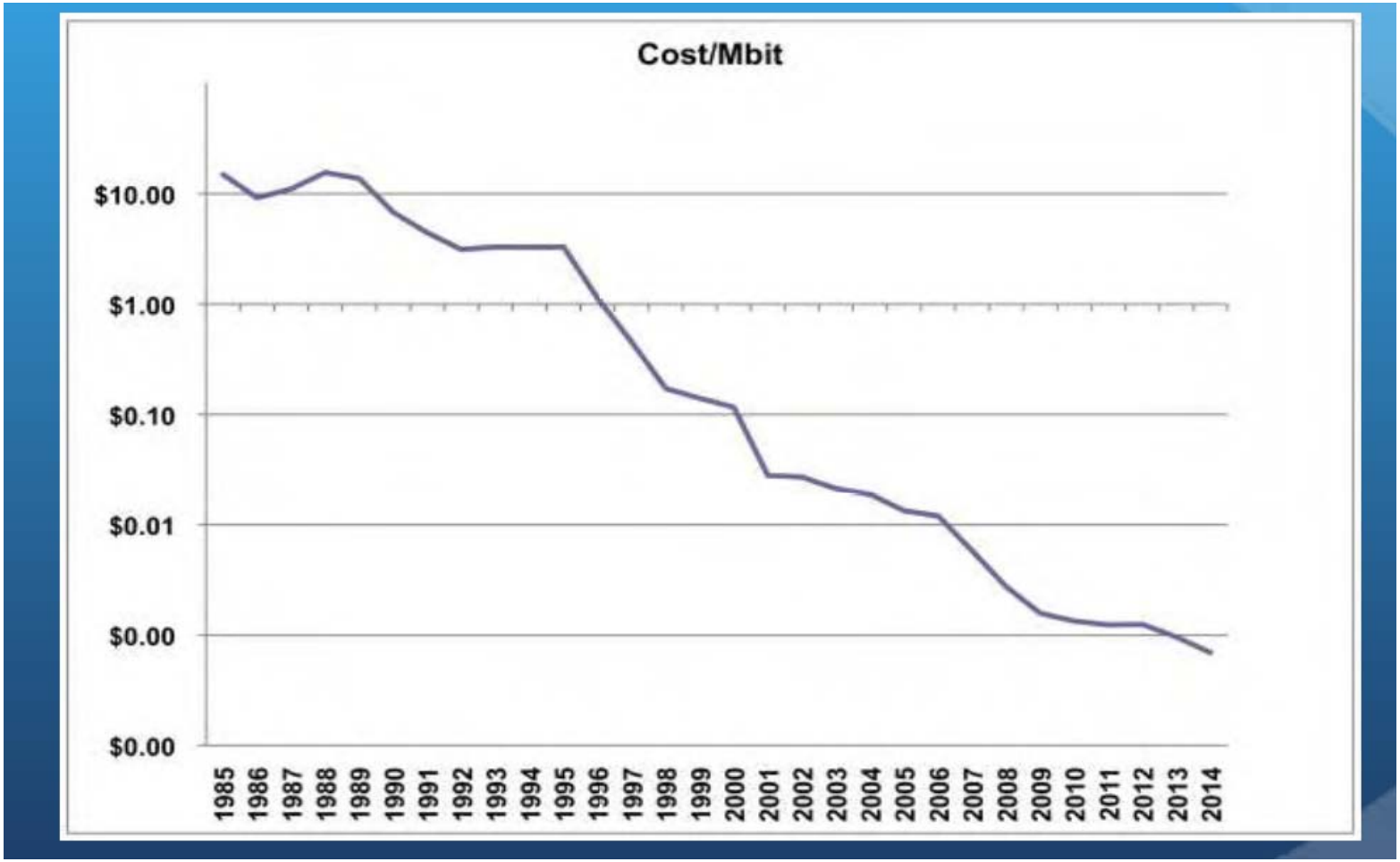


@Q2'09 DRAM prices amount to only one-third-level of Taiwanese suppliers' cash costs

"The oversupply has been a disaster for the global DRAM industry," iSuppli Kim@July 2009 said, with its combined operating loss for the last three years totalling $15 billion.

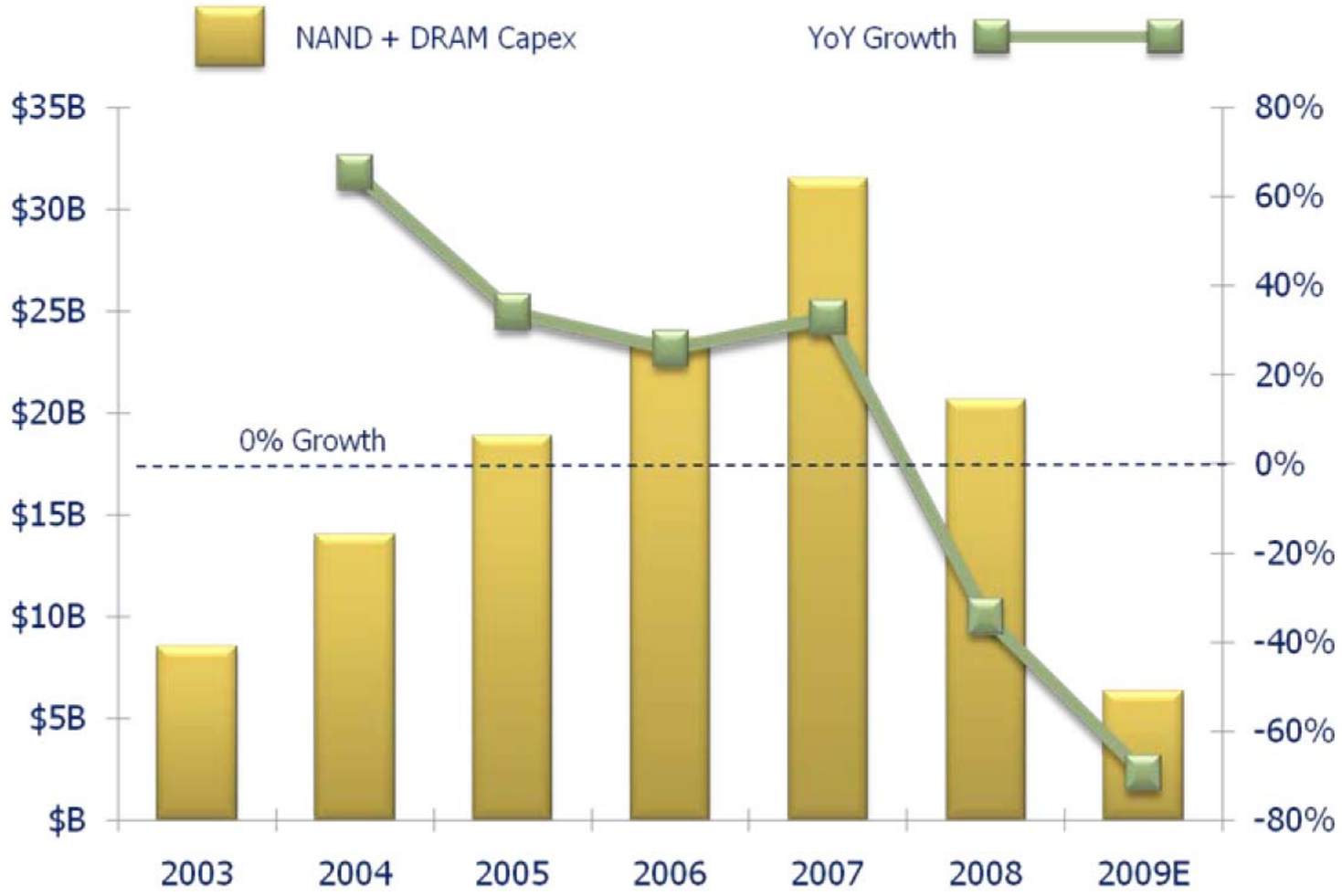
"DRAM makers have lost about $20B over the last 18 months"—Quote from Delani 2009

The Result Established DRAM as Dominant Memory Technology



Courtesy of Convergent Semi. 2009

NAND and DRAM Capex

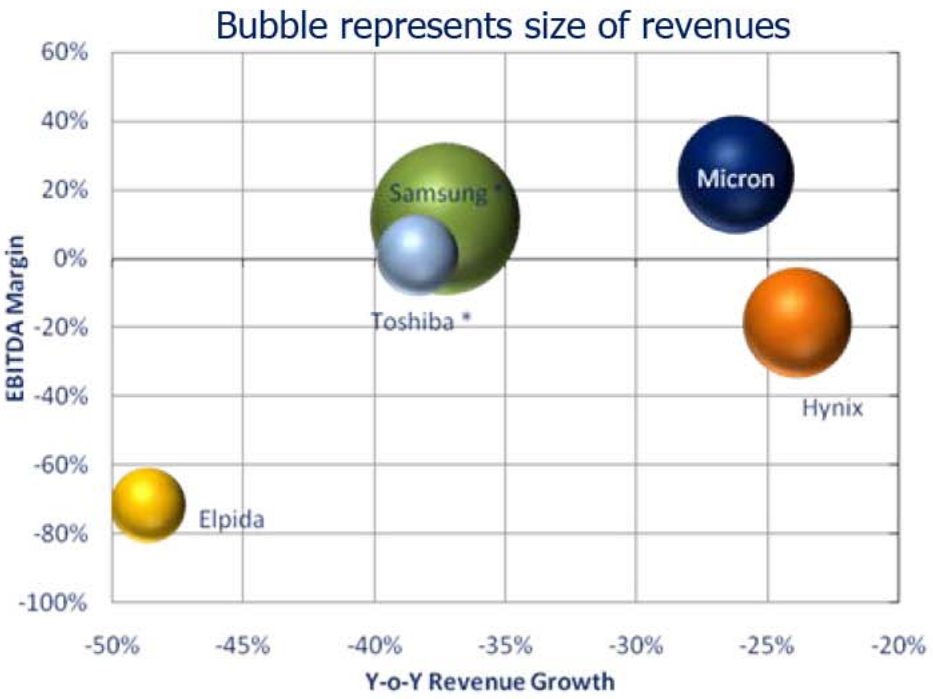


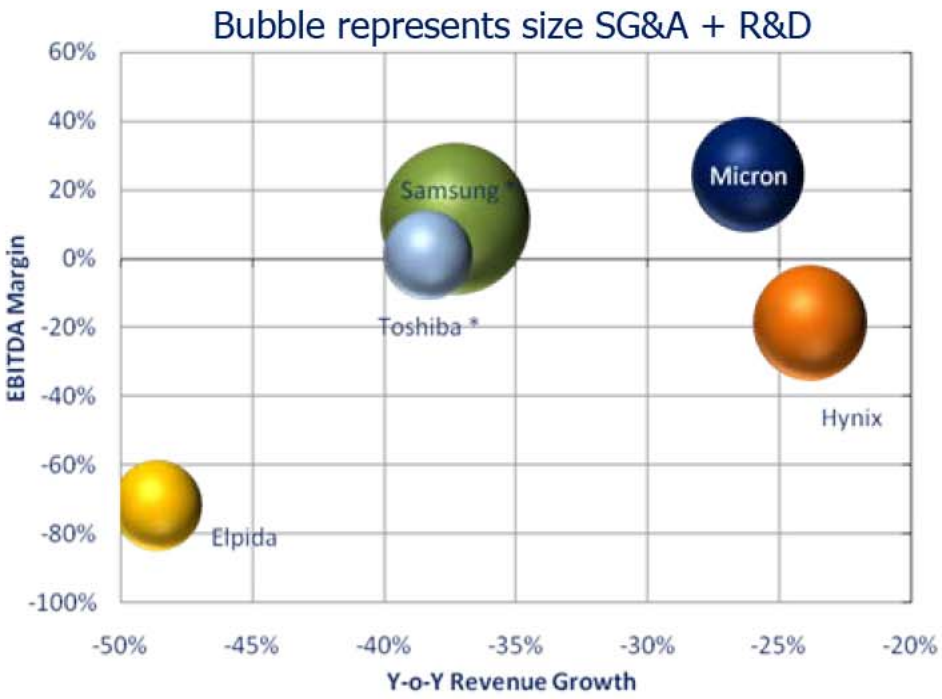
Source: iSuppli

Shrinking Revenue Pressures R&D

Q's: is this a good news ?

OpEx and R&D are generally aligned to revenue

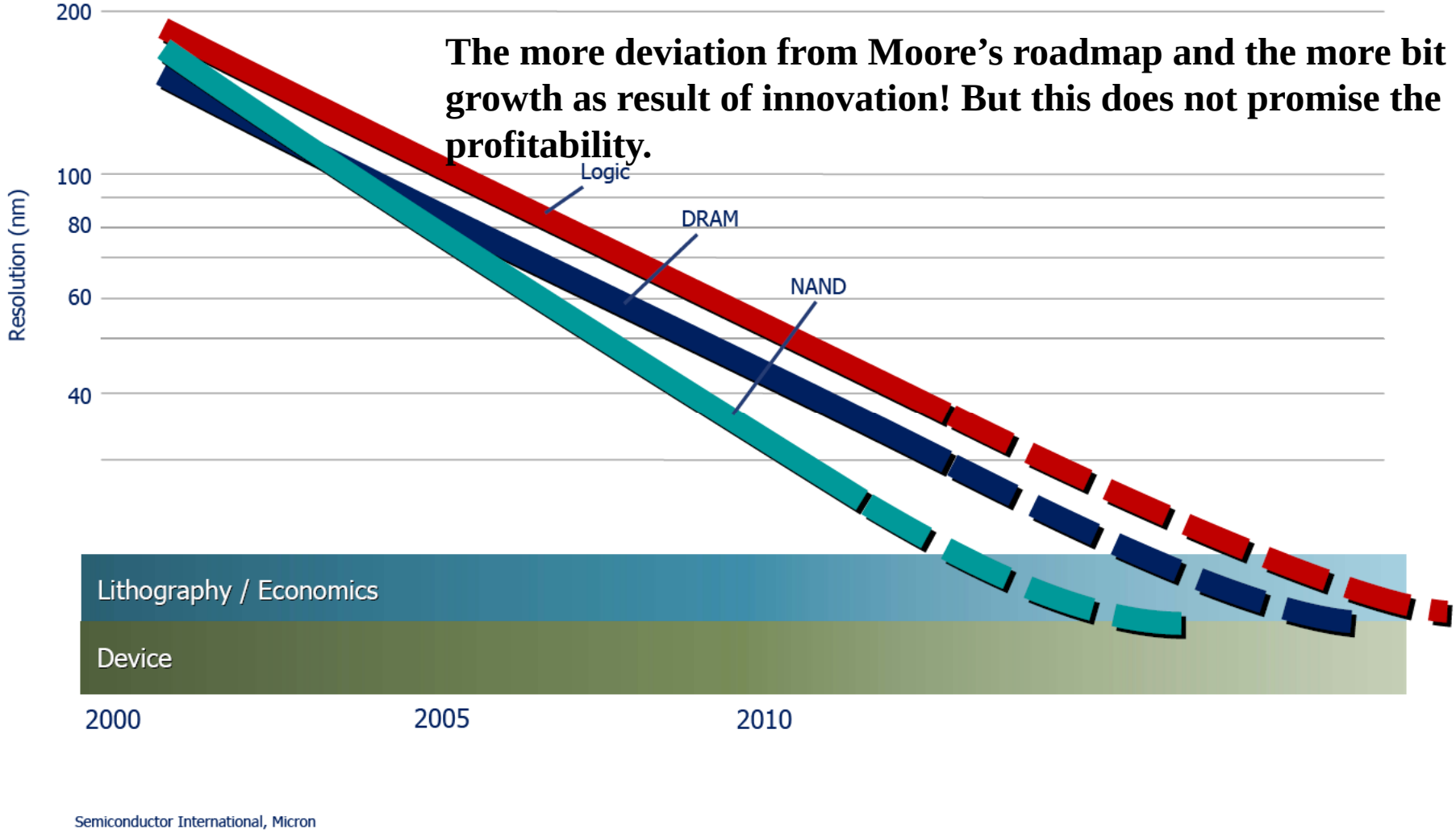




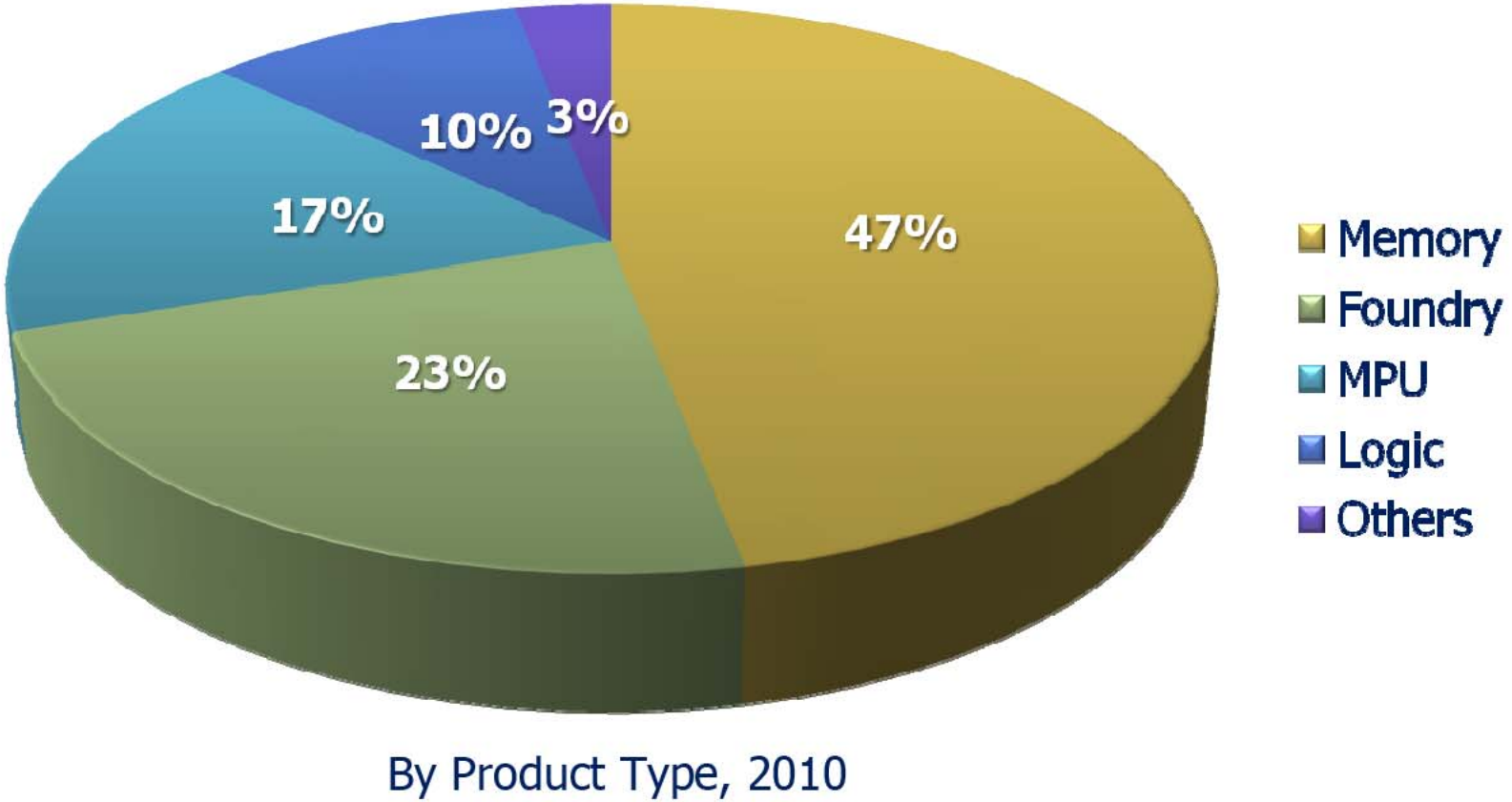
- Samsung and Toshiba data reflects only memory business except for EBITDA number

Source: Mark Durcan, Micron 2009

“Bending” of Moore’s Law (what this means?)



Semi: Share for Spending on Equipping Front-end Facilities



By Product Type, 2010

Source: SEMI, compiled by Digitimes, July 2009

DRAM Producers - 1980

- AMD
- AMI
- AT&T
- Elpida
- Eurotechni
- Fairchild
- Fujitsu
- Hynix
- Hitachi
- IBM
- Infineon
- Intel
- Intersil
- Inmos
- ITT
- LG
- Matsushita
- Micron
- Mitsubishi
- Mosel Vitelic
- Mostek
- Motorola
- Nanya
- National
- NEC
- NMB/PNX
- Oki
- PowerChip
- ProMos
- Samsung
- Sanyo
- SGS
- Sharp
- Signetics
- TSMC
- TI
- Toshiba
- Vanguard
- Winbond
- Zilog
- SMIC

Source: de Dios and Associates

DRAM Producers 1985

- AMD
- AT&T
- Elpida
- Eurotechni
- Fujitsu
- Hynix
- Hitachi
- IBM
- Infineon
- Intel
- Inmos
- ITT
- LG
- Matsushita
- Micron
- Mitsubishi
- Mosel Vitelic
- Motorola
- Nanya
- National
- NEC
- Oki
- Powerchip
- ProMos
- Samsung
- Sanyo
- Sharp
- TSMC
- TI
- Toshiba
- Vanguard
- Winbond

Source: de Dios and Associates

DRAM Producers 1995

- Elpida
- Hynix
- Hitachi
- IBM
- Infineon
- LG
- Matsushita
- Micron
- Mitsubishi
- Mosel Vitelic
- Motorola
- Nanya
- NEC
- Oki
- Powerchip
- ProMos
- Samsung
- Sanyo
- Sharp
- TI
- Toshiba
- Vanguard
- Winbond

Source: de Dios and Associates

DRAM Producers 2000

- Elpida
- Hynix
- Infineon
- Micron
- Mitsubishi
- Mosel Vitelic
- Nanya
- PowerChip
- ProMos
- Samsung
- TI
- Toshiba
- Winbond

Source: de Dios and Associates

DRAM Producers 2005

- Elpida
- Hynix
- Inotera
- Infineon
- Micron
- Nanya
- PowerChip
- ProMos
- Samsung
- Winbond

Source: iSuppli

DRAM Producers 2009

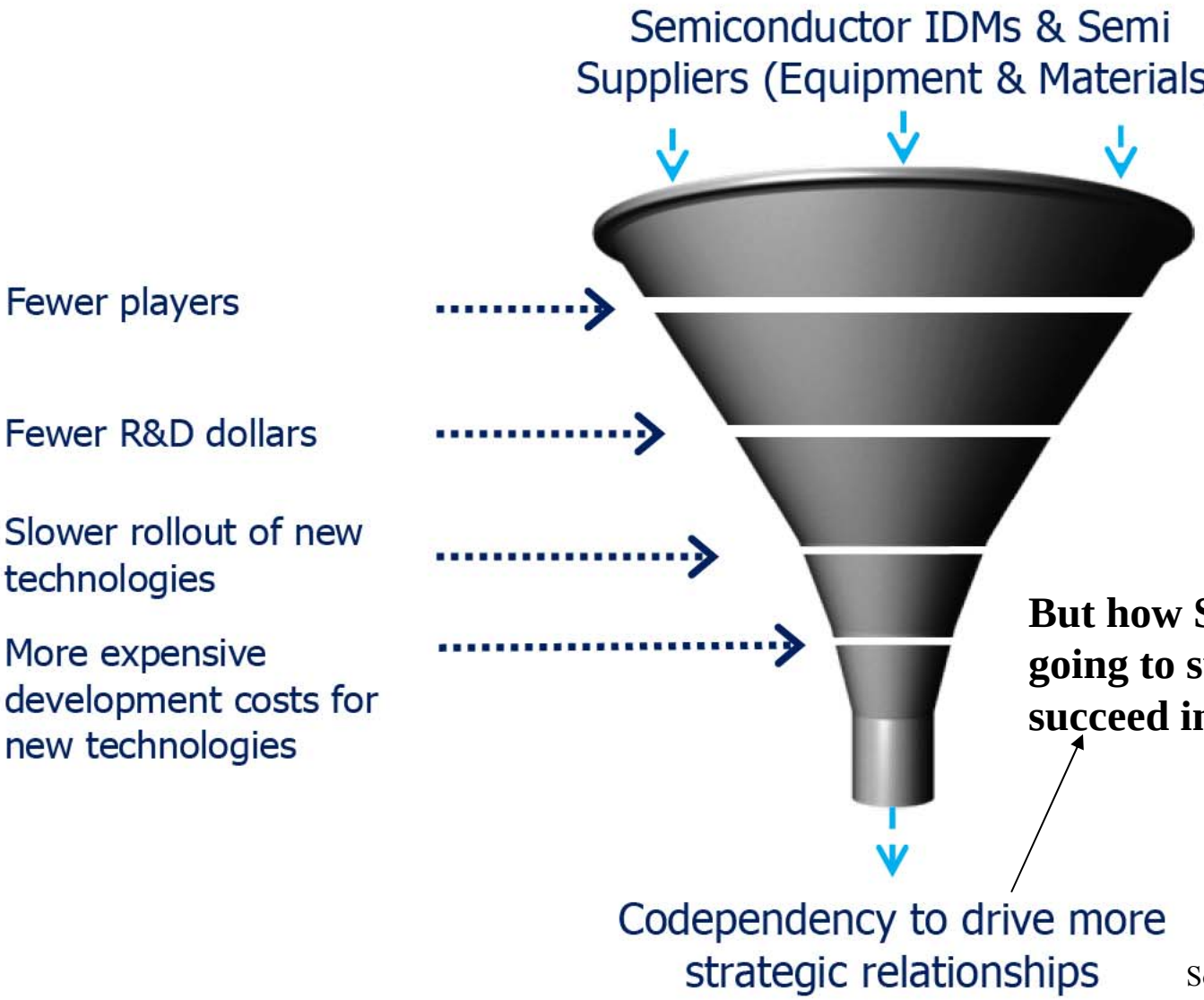
- Elpida
- Hynix
- Inotera

- Micron
- Nanya
- PowerChip

- ProMos
- Samsung
- Winbond

Source: iSuppli

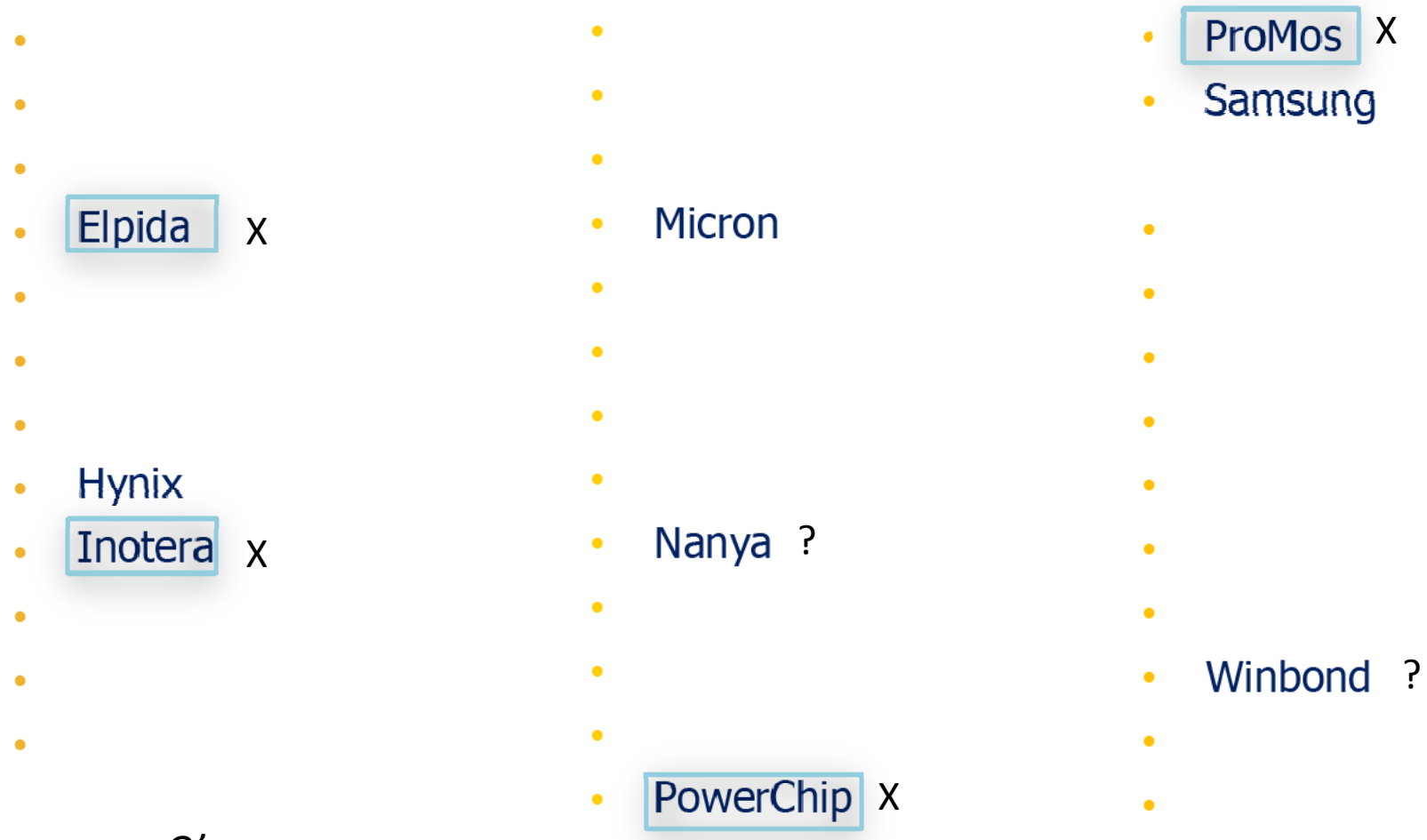
Evolving Landscape for Supplier Based Relationships



But how Samsung and alikes are going to survive if this model succeed in the future!

Source: Mark Durcan, Micron 2009

DRAM Producers 2012 (est.)



Q's:

1. *How many DRAM players are going to survive beyond 2010?*
2. *Any new business model or new partnership model for survivers?*

Source: iSuppli

Government Intervention

"Japan's Elpida secures lifeline with $1.7B aid" - June 2009

- Elpida

"Hynix to get $965M new funds, debt rollover" - April 2009

- Hynix
- Inotera

- Micron
- Nanya
- PowerChip

"Taiwan announces creation of TMC"

- March 2009

- ProMos
- Samsung
- Winbond

Sources: iSuppli, Reuters

Memory Product Business Model

Business View(Lesson Learned): Backgrounder on DRAM Crises

- Historically, getting into the DRAM business has proven far easier than getting out of it.
- For a long time, it was said, "You need DRAMs to drive the process technology", and that was that (at least until Intel said 'Logic drives processing", in the early 1990s.)
- Companies, owners, stakeholders and agents must have a clear understanding of why they are in the DRAM business. Real reasons, or make-believe reasons? --Can we ask and answer, 'Why are we making DRAMs?'
- Departing earlier is better than later. Indecision has a price, though the prospects of huge losses are sometimes needed to focus the mind on the other issues below.
- DRAMs are different, in size, scale and market dynamics, not to mention a host of 'emotional factors' not based on any reality or consensus. Outsiders making DRAMs have not fared well..but even insiders have been treated to a new twist in every market cycle.---why lots of outsiders and insiders to begin with
- Good decision-making demands a clear line of authority for making the decisions. Dictators are more decisive than Boards of Directors or shareholders, or than a herd of cats, with their different interests, though there's always need for discussion and 'consensus building'. Institutionally, companies need a clean process for responding to business crises...rights and responsibilities, pecking order for payback.--- otherwise wait for help from government or society pride.
- Even in a down DRAM market, an enlightened exit strategy can participate in some comeback of the surviving entity; a comprehensive exit strategy can clear up a lot of problem areas and complications in the seller's existing operation, and set them on a new path. TI's sales of its DRAM business to Micron exemplified how a comprehensive package could make an exit so beneficial to the seller.
- No companies ever regreted getting out of DRAMs, even though almost always the decision was painful for all those who abandoned the business.
- The threat of government involvement, or a rich parent who is willing to fund its child's DRAM addiction indefinitely, is a good reason to be extra cautious or stay away...The market stakes are too high already, and below-cost sales too frequent, but made worse by your competitor having a large reservoir of cash at their command...cash that is often not subject to 'market rational' behavior

Reference: The Great Escape, Part I: How These Companies Exited the DRAM Business, Denali 2009

Knowledge for Business

- There are three levels of knowledge: Intelligence, Wisdom and Prophesy.
  - When you know how things work you are intelligent
    - the intelligent person looks closely at facts and figures detailed definitions and uses logic, reason and deduction to know how things happen
  - when you know why things work you are wise
    - the wise person looks closely at the things that drive and motivate the subject, its needs and wants, and uses perception, understanding and induction to know why things happen
  - when you know what actually works you are prophetic
    - the prophetic person looks closely at the subjects' highest purpose, ideals and ultimate goals and uses intimate experiential knowledge of the subject, feeling and intuition to know what will actually happen.

DRAM Business Analogy

- Three men are going over a DRAM marketing plan for a new product. One of them is intelligent, one is wise and one is prophetic.
  - The intelligent man (DRAM foundry) knows how to make it a success, without knowing why it works.
  - The wise man (DRAM IDMs) knows how to make it work and why it works without knowing what will happen.
  - The prophetic(Intel/Microsoft/IBM) man knows not only how and why it works, but he also knows what will actually happen and what its effects will be.

A man can be intelligent without being wise, and he can be wise without being prophetic. He can also be too intelligent and too wise for his own good.

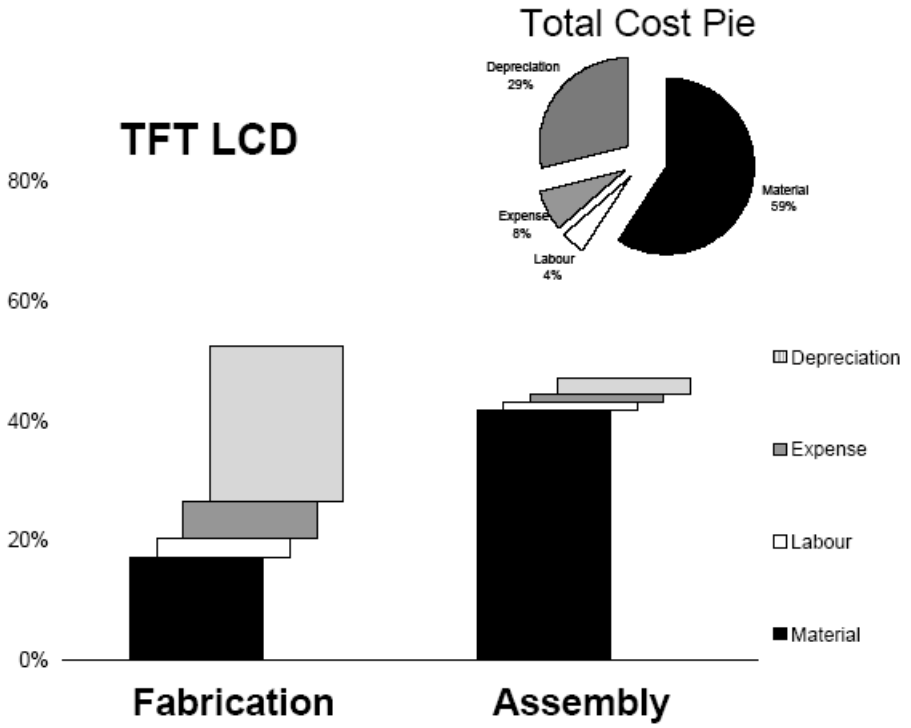
Business Model

- Innovation Successes and Failures: Leading Goose(technology innovator), Following Goose(technology catch-up), or Cooked Goose(liquidation e.g. Qimonda)
- Taiwan's high volume manufacturing experience to date
  - CMOS Foundry(following goose migrate to leading goose)
    - Pureplay foundry mode avoid vast amount of patient capital required by not trying to do everything—focus, granularizing production chain, specialized
    - Numerous fabless support (product design unbundled with process technology)
  - AMLCD(Following Goose)
    - No intensive innovation required
  - DRAM(Following Goose → Leading Goose or Cooked Goose)
    - No granularity, and no patient capital to scale to leader position (>20% market size) for copious streams of capital costs and the R&D costs to develop the next generation of DRAM
    - Product design un-seperatedly tied with process technology and limit flexibility on business.

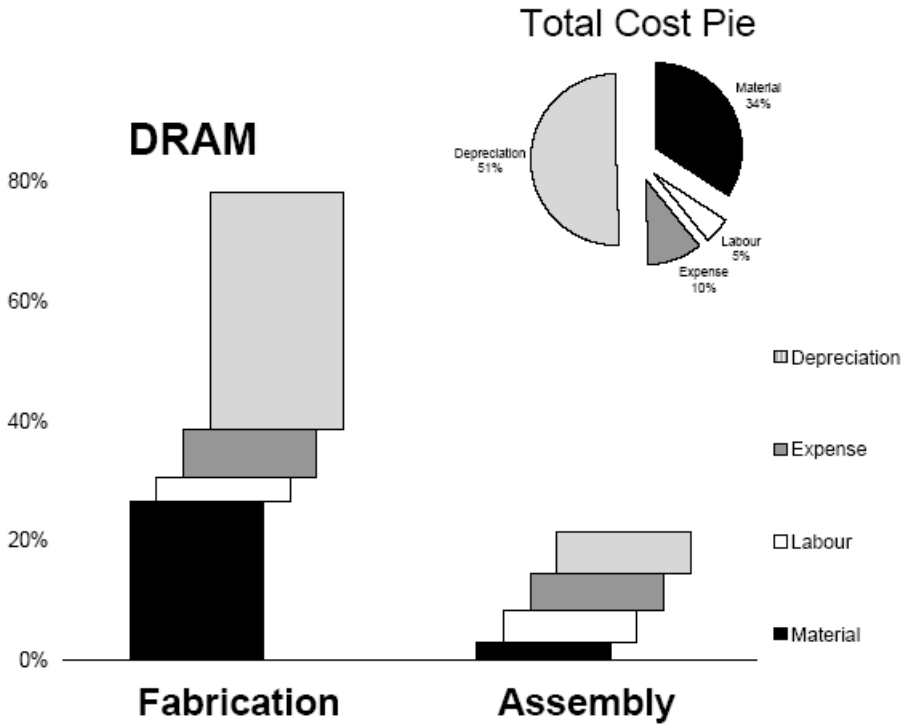
Cost Model (TFT vs DRAM)

- Like DRAM prices, TFT LCD prices respond to sudden changes in supply (capacity).
- Unlike DRAM cost, most TFT LCD cost is variable and assembly-related.

TFT LCD Cost structure:
Korean Fab start 2000, Product cost for 2002
[Gen-4 cost data for Tier-1]



DRAM Cost structure:
Korean Fab start 2000, Product cost for 2002
[Chipworks Co$tModel 5.1]



Q's: Can disintegrated partnership can compete cost with IDM?

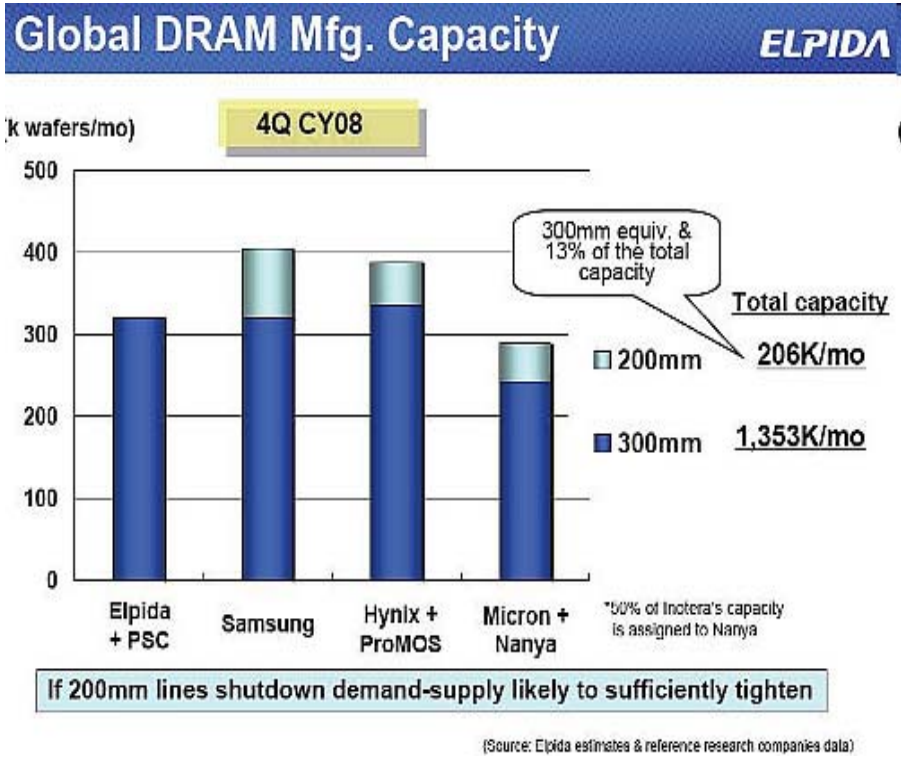
DRAM Business Model Review

- Leading goose without partnership (live and die with pride)
  - Samsung
  - Hynix
  - Micron(before 2008)
- Leading goose + Leading goose (exit with pride)
  - Micron + Ti(exit) + Toshiba(exit)
  - Elpida(NEC + Hitachi + Mitsubishi)
  - Hynix/Hyundai + LG Semi.(exit)
- Leading goose + following goose (share risk without self-ego out front)
  - Siemens + Mosel + ProMOS(JD foundry)
  - IBM + Nanya(JD foundry)
  - Elpida + Powership(foundry) + RexChip(foundry)
  - Infineon + SMICS(foundry)
  - Elpida + SMICS(foundry)
  - Micron + Nanya + Inotera(foundry)
  - Elpida + TMC? + ProMOS?(foundry) + Winbond(foundry)?

Surviving/Winning Business Strategy and Recipe of Samsung Memory Division

Technology and Capacity Partnership Model: Surviving?

Company	Time of Establishment	Technology Partners
Winbond	1987	1995: Toshiba 2002: Infineon/ Qimonda 2006: Qimonda
PSC	1994	1999: Mitsubishi 2003: Elpida
Promos	1995	1995: Siemens/ Infineon 2003: Hynix
Nanya	1996	1995: OKI 2000: IBM 2002: Infineon/ Qimonda March 2008 till now: Micron



Capacity and UTR Status

Q's: why UTR varied so much?

Vendors	Fab	Capacity(K unit)	Mar'09	
			Input	UTR
Samsung	12 inch	350	310	89%
Hynix	12 inch	240	170	71%
Micron	12 inch	75	75	100%
Elpida	12 inch	115	100	87%
PSC	12 inch	130	30	23%
Rexchip	12 inch	80	65	81%
Nanya	12 inch	30	12	40%
Inotera	12 inch	120	50	42%
ProMOS	12 inch	100	15	15%
Winbond	12 inch	30	21	70%
Total	12 inch	1270	848	67%

Business Model issues?

UTR told the die-hard story

Courtesy of Fabtech 2009

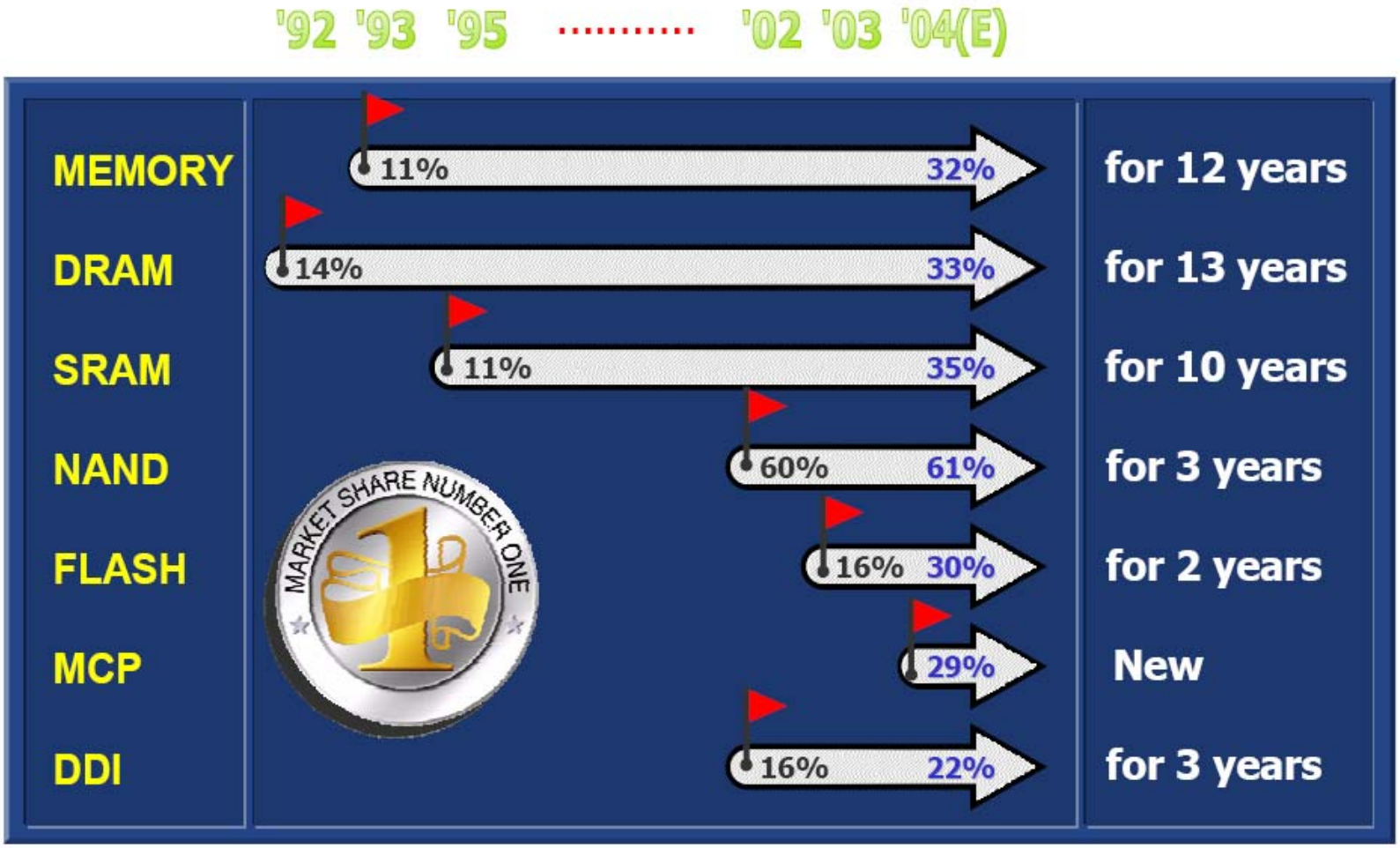
Infineon Alliance Strategy → Liquidation

Share Risks and Optimize Expenditures through Alliances

MP Alliance Model Today

Joint Development Partnerships	Manufacturing Partnerships
Secure mask technology development	Production of worldwide leading edge masks
Co-development of 90nm and 70nm DRAM technology	Setup of a joint manufacturing in Taiwan using 300mm technology
Joint venture with Saifun on Flash Memories Business	Infineon Flash Development and production of Data Flash and Code Flash
Development of MRAM	License 110nm DRAM technology in exchange for capacity
	Foundry agreements 8" & 12"

Samsung Historical #1 (Nomad Spirit)
Market Position (All in-house fully owned model)

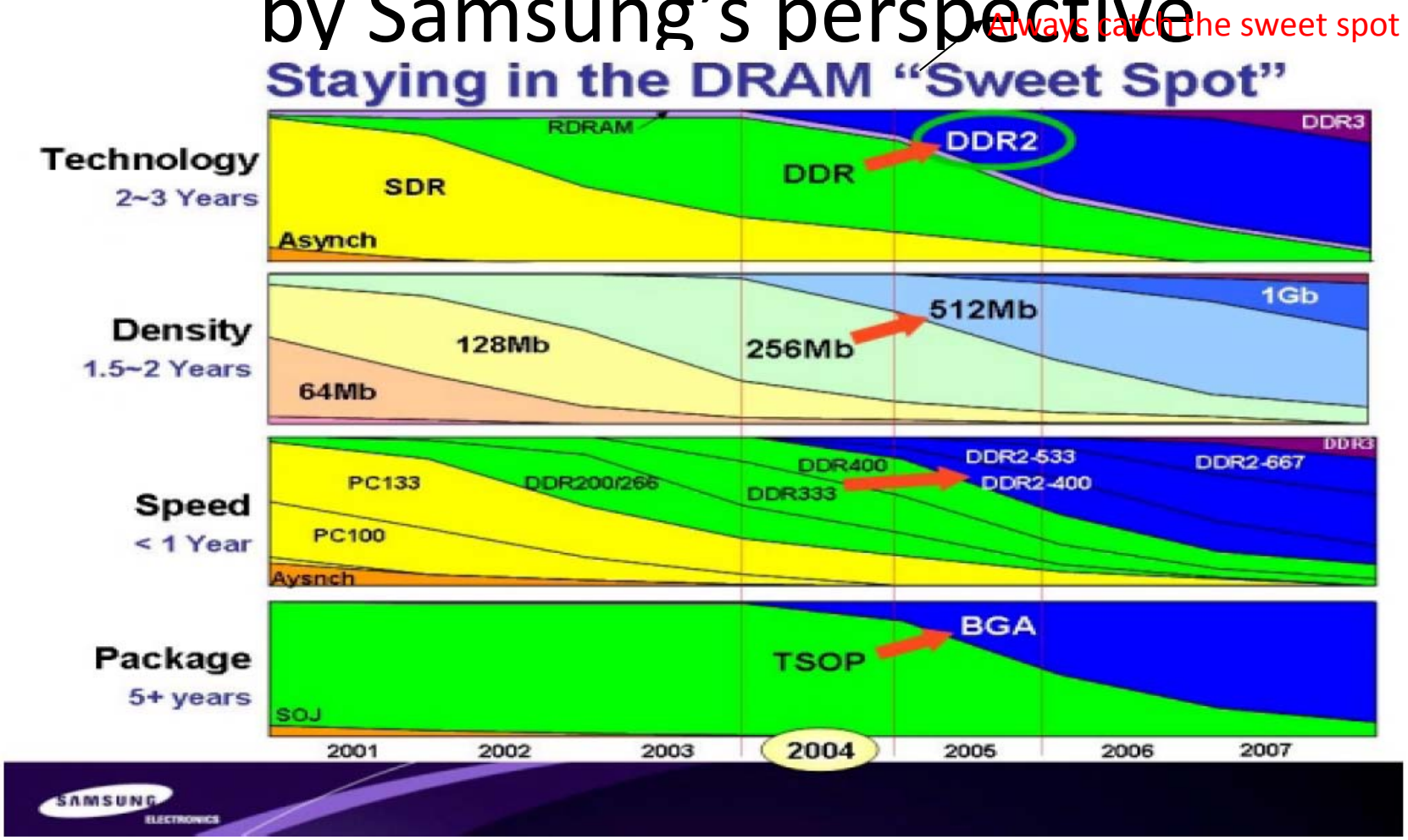


4/19/2005 C. Kim
POSTEC Seminar

Creating the Future with Digital Nomad Spirit

SAMSUNG ELECTRONICS

Perspective on the DRAM Transition by Samsung's perspective



Status quo: 2009Q1 validated 40nm for DDR4, DDR3, and DDR2 with 30% power saving, and 60% productivity compared to 50nm.

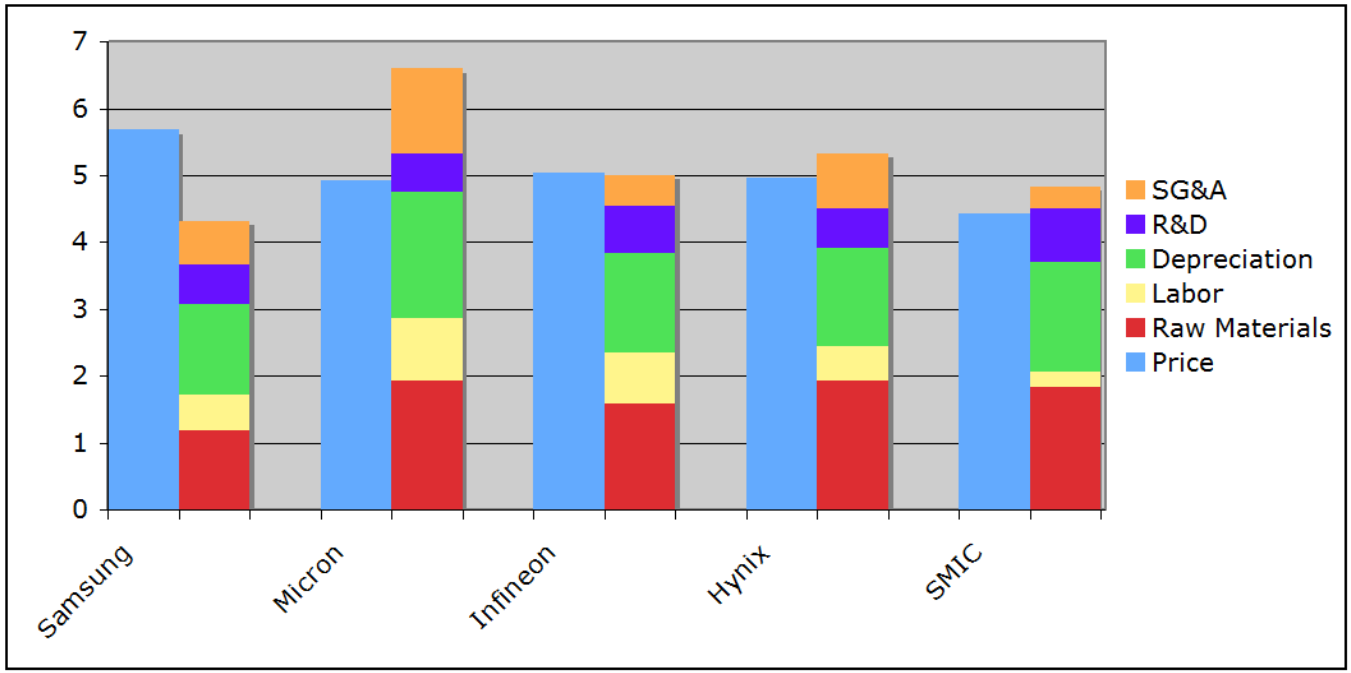
A Low Cost Advantage ?

Q's: why Samsung stayed so competitive @ ASP and OM.

	1Q00	1Q01	1Q02	1Q03	1Q04	
Average Selling Price ($)	39.08	20.82	9.31	5.76	6.15	
Operating Cost ($)	16.95	12.36	5.72	4.77	3.92	**Samsung**
Operating Margin	57%	41%	39%	17%	36%	
Average Selling Price ($)	32.49	12.59	5.01	5.10	4.51	
Operating Cost ($)	34.75	15.81	8.28	7.96	4.75	**Micron**
Operating Margin	-7%	-26%	-65%	-56%	-5%	
Average Selling Price ($)	26.62	10.58	8.90	4.89	4.95	
Operating Cost ($)	18.11	13.46	9.80	5.62	4.75	**Infineon**
Operating Margin	32%	-27%	-10%	-15%	4%	
Average Selling Price ($)	28.72	12.42	8.56	4.57	5.16	
Operating Cost ($)	22.21	11.82	6.08	6.16	3.89	**Hynix**
Operating Margin	23%	5%	29%	-35%	25%	
Average Selling Price ($)	36.00	14.30	8.58	5.12	5.06	
Price premium of **Samsung** / (**Competitors** Avg)	33%	75%	24%	19%	26%	**Comparison**
Operating Margin of (**Samsung** - **Competitors** Avg)	41%	57%	54%	53%	28%	

DRAM Operating Profits

	Samsung	Micron	Infineon	Hynix	SMIC
Average Selling Price	**$5.68**	**$4.93**	**$5.05**	**$4.97**	**$4.43**
Fully loaded costs	**$4.31**	**$6.61**	**$5.02**	**$5.33**	**$4.84**
Raw materials	1.18	1.93	1.58	1.93	1.84
Labor	0.54	0.94	0.76	0.51	0.23
Depreciation	1.35	1.88	1.50	1.48	1.63
R&D	0.60	0.57	0.71	0.58	0.80
SG&A	0.65	1.28	0.46	0.83	0.34
Operating Profit (a)	**$1.37**	**-$1.68**	**$0.02**	**-$0.36**	**-$0.41**
Operating Margin	**24.1%**	**-34.1%**	**0.5%**	**-7.3%**	**-9.3%**
Production Volume in 256Mbit equiv. (b)	**896.4**	**672.8**	**535.3**	**521.5**	**68.2**
Operating Profit in $Million (a x b)	**$1,224.3**	**-$1,129.5**	**$12.9**	**-$188.1**	**-$28.1**



Process vs Density in DRAM

DDR2 die-size comparison

Samsung's 512-Mbit 90-nm device leads in die efficiency

	Part number	Density (Mbits)	Die size (mm^2)	Process (nm)	Normalized (Mbit/mm^2)
Samsung	K4T51083QC	512	71	90	7.21
Infineon	HYB18T512	512	87	110	5.89
Infineon	HYB18T1G800AF-3.7	1,024	176	N/A	5.82
Micron	MT47H64M16BT-5E	1,024	180	110	5.69
Elpida	E5104AE-5C-E	512	91	110	5.63

Source: Semiconductor Insights, 2006

Samsung Performance

- Cost Advantages
  - Lowest raw materials cost (volume) (-5% from supplier)
  - Lowest depreciation (PPE advantage and lower fab cost)
  - Labor and SG&A not high
  - Shared core designs
  - Lower cost fabs (-12% fab collocation)
  - Flexible production lines (product mixes)
  - Higher yields (process quality)
- Highest Price
  - Highest reliability in industry: >$1 premium

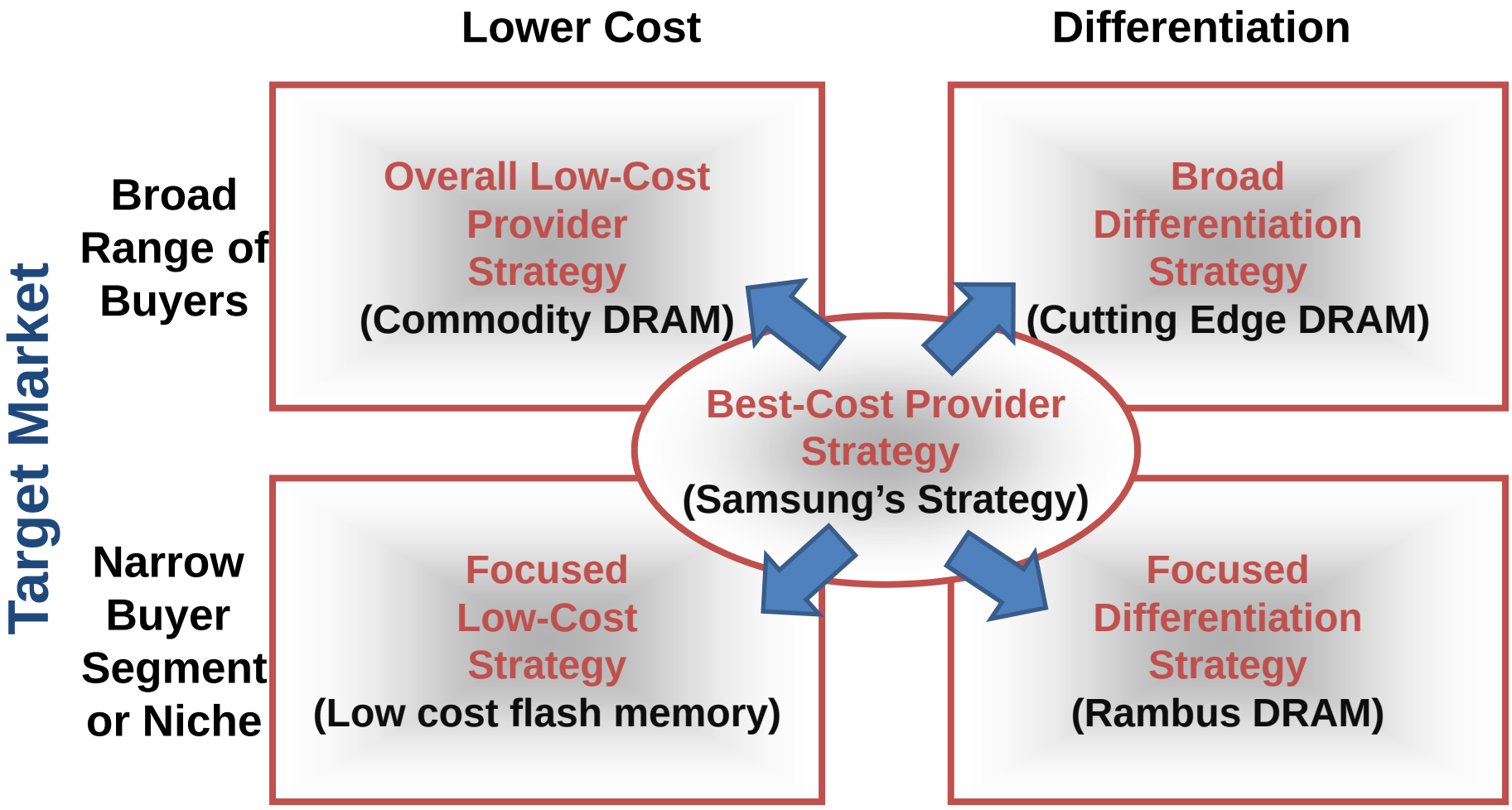
Ref. Stanford 2007

Generic Competitive Strategies

- Two dimensions of competitive strategy
  - **Competitive advantage** - low cost vs. differentiated play
  - **Target Market** - broad vs. niche play

- Samsung, because of the unique ecosystem created around it, has successfully spread its product line across both of these dimensions

Generic Competitive Strategies



Combined low-cost/differentiated strategy is difficult to achieve

- Difficult to implement
- Firms aiming to do this are often stuck in the middle
- Firm's products are too costly to compete with low costs provider's product, and too undifferentiated to command the price premium gained by the differentiated firm

A variety of internal and external factors have helped Samsung achieve this desirable position

Samsung's Combined Low-cost/Differentiated Strategy

Samsung's success has been due to a variety of factors:

- Successfully customize products around a core design
- Large product portfolio (occupy the entire spectrum for a broad market play >1500 types of memory product)
- Collocation of fab and R&D facilities (internal conversation among engineers to decrease time to market)

Samsung's Combined Low-cost/Differentiated Strategy (cont'd)

- Easy access to Asian market
- Combination of educated guessing and pure luck (e.g. stack design vs trench design)
- Talent pool strategy: Access to local talents, sponsoring employees for PhD and MBA education)
- Availability of capital: E.g. from 1983 to 1985 during recession of semiconductor industry, Samsung allocated significant capital to build capacity

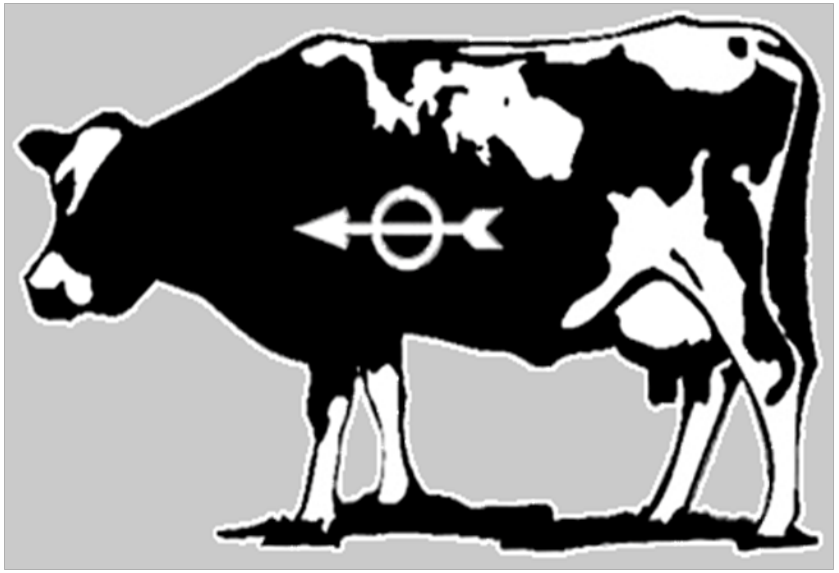
Top-Brand Thinking to Begin With

- Samsung is a top rated electronic & IT brand in various reports. In 2006, Business Week rated Samsung as 20th on the Top 100 global brands and the Number 1 in the electronics industry. Business Week also ranked Samsung as #12 in a ranking of the "Top 100 Most Innovative Companies" in a special report published April 24, 2006. In January 2007, BrandFinance ranked the company as the Number 1 global brand in electronics.---- Business Benchmark Against Intel
- Compared to other competitors, Samsung extensively improved their R&D to maintain product development and cost effective production processes. Their ability to make innovation through DRAMs is one the cost advantage of the company since they will not be needing any outside help to make DRAMs as they did previously in Micron. The quality of the products and original electronic materials created by Samsung is one of the sources of their premium prices. ---- R&D Benchmark Against Micron

What is a Brand?

A brand is:

- an identifier
- a connection
- a shortcut
- a relationship
- a promise



Branding is about 4 key principles

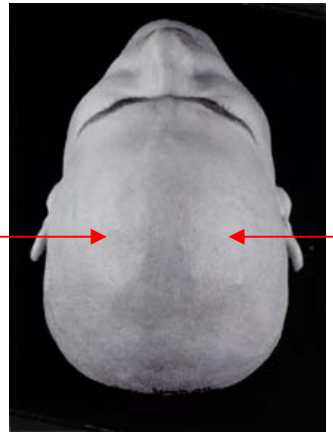
Differentiation
Relevance

Share of Heart
Share of Mind

What is a brand?

A brand is a meaningful and unique promise.

Rational
Tangible
Features
Functional
Measurable
Analytical
(mind share)



Emotional
Intangible
Benefits
Experiential
Judgmental
Intuitive
(heart share)

Head and Heart

Functional		Emotional
	**Computers, technology, Steve Jobs**	**Individualism, creativity, humanized and useful technology**
	**Running Shoes, apparel, Oregon**	**Personal achievement, innovation in sports, winning, courage, speed**
	**Automobiles, car company based in Germany**	**A fun and stylish transportation experience company that doesn't take itself too seriously**

How do you build a brand?

Know that building a brand is an ongoing process

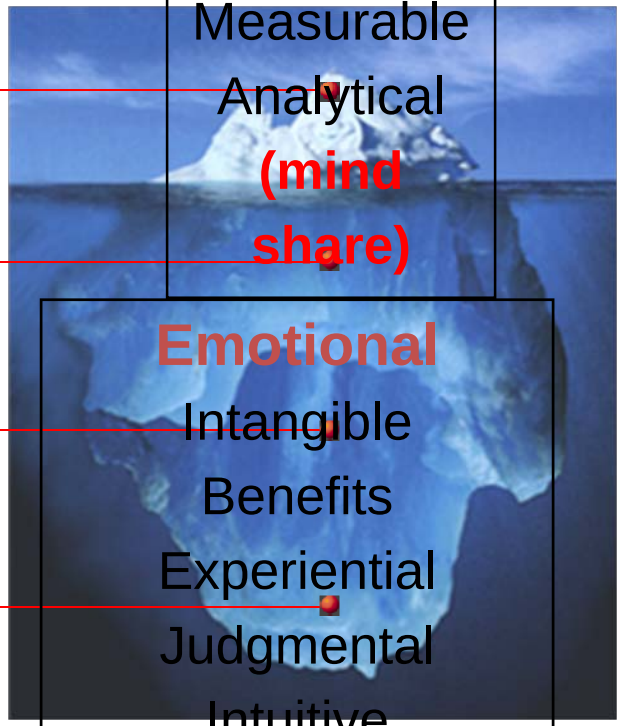
Ongoing Monitoring

Experience Points

Strategy

Analysis / Implications

Findings



Rational

Tangible

Features

Functional

Measurable

Analytical

(mind share)

Emotional

Intangible

Benefits

Experiential

Judgmental

Intuitive

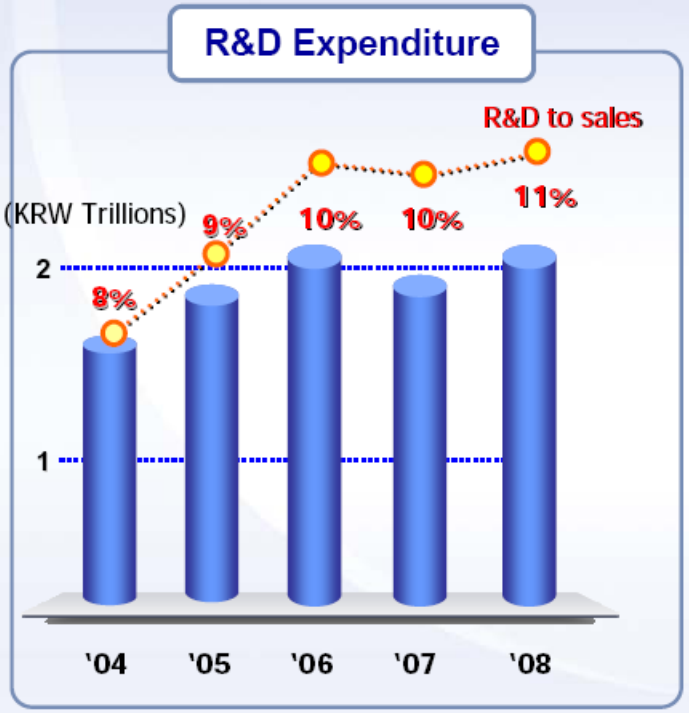
(heart share)

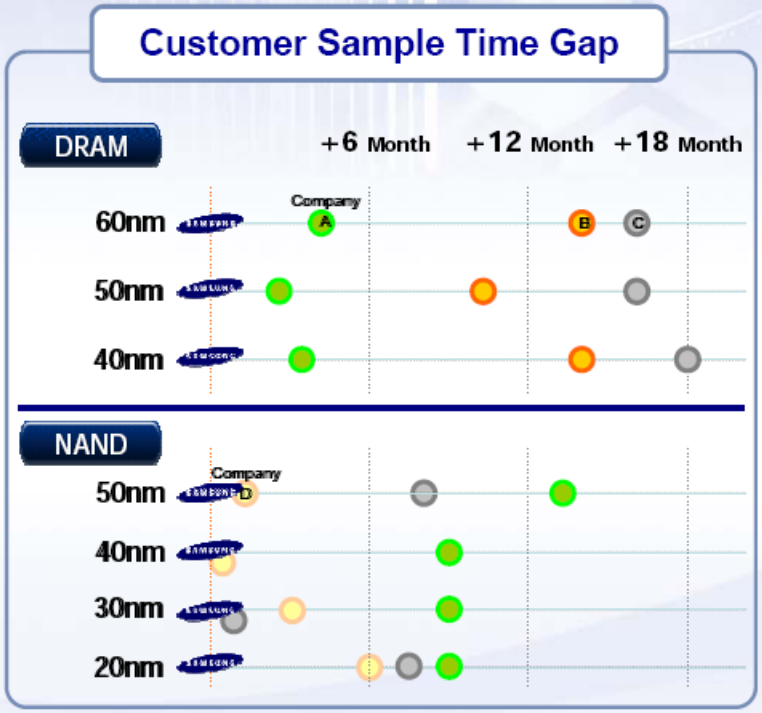
The New Forces (consumer driving the market and not Intel/MS dictate anymore!)

Regulated Roadmap and standardization might not be so critical here!

Samsung Adaptive Strategy: Strengthen Technology Leadership

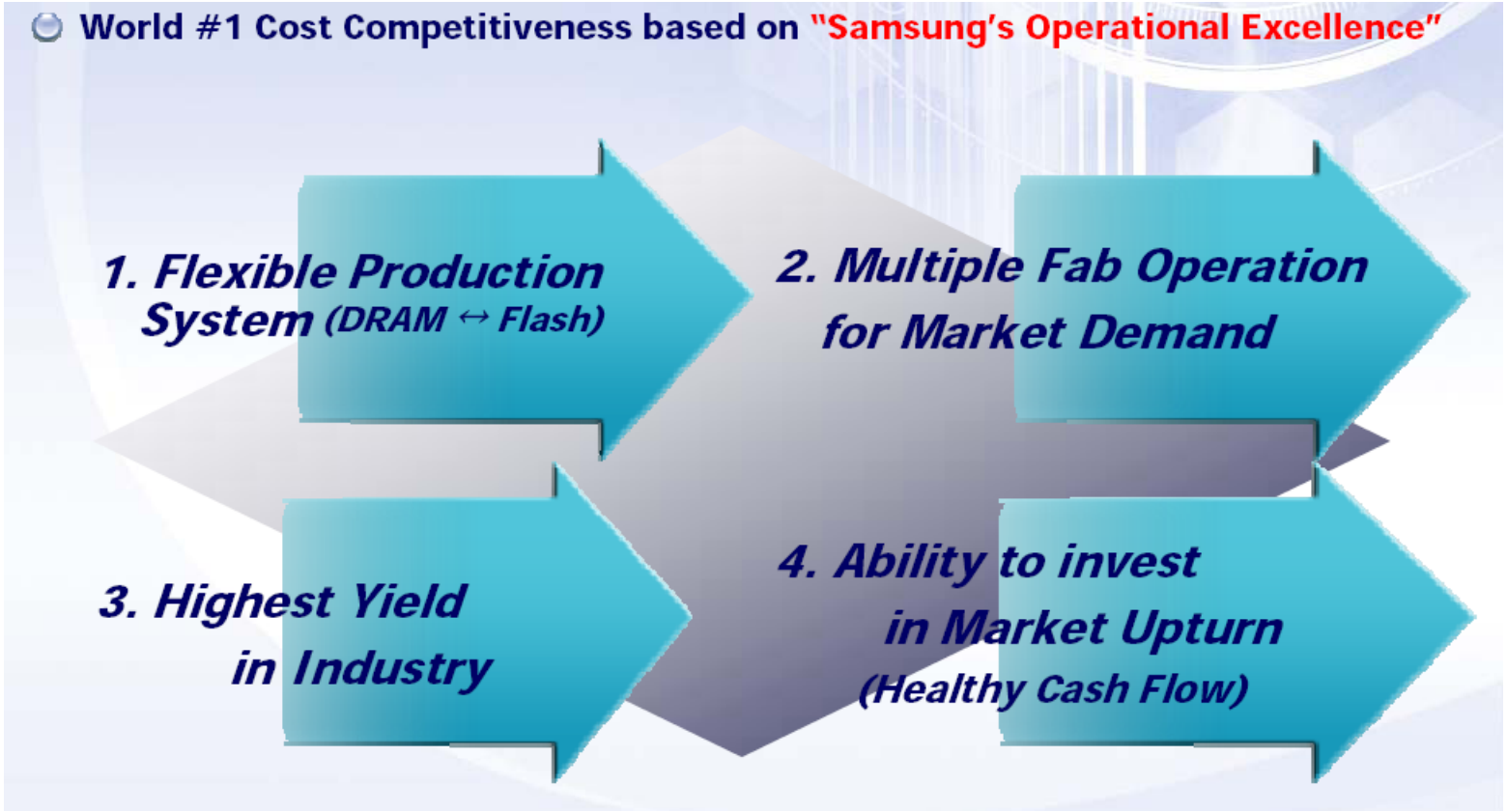
- Continued Strong R&D Investment throughout all Cycles : over 10% of Sales
- Leading-Edge Tech Leadership : 1~1.5 Generation Gap with major players





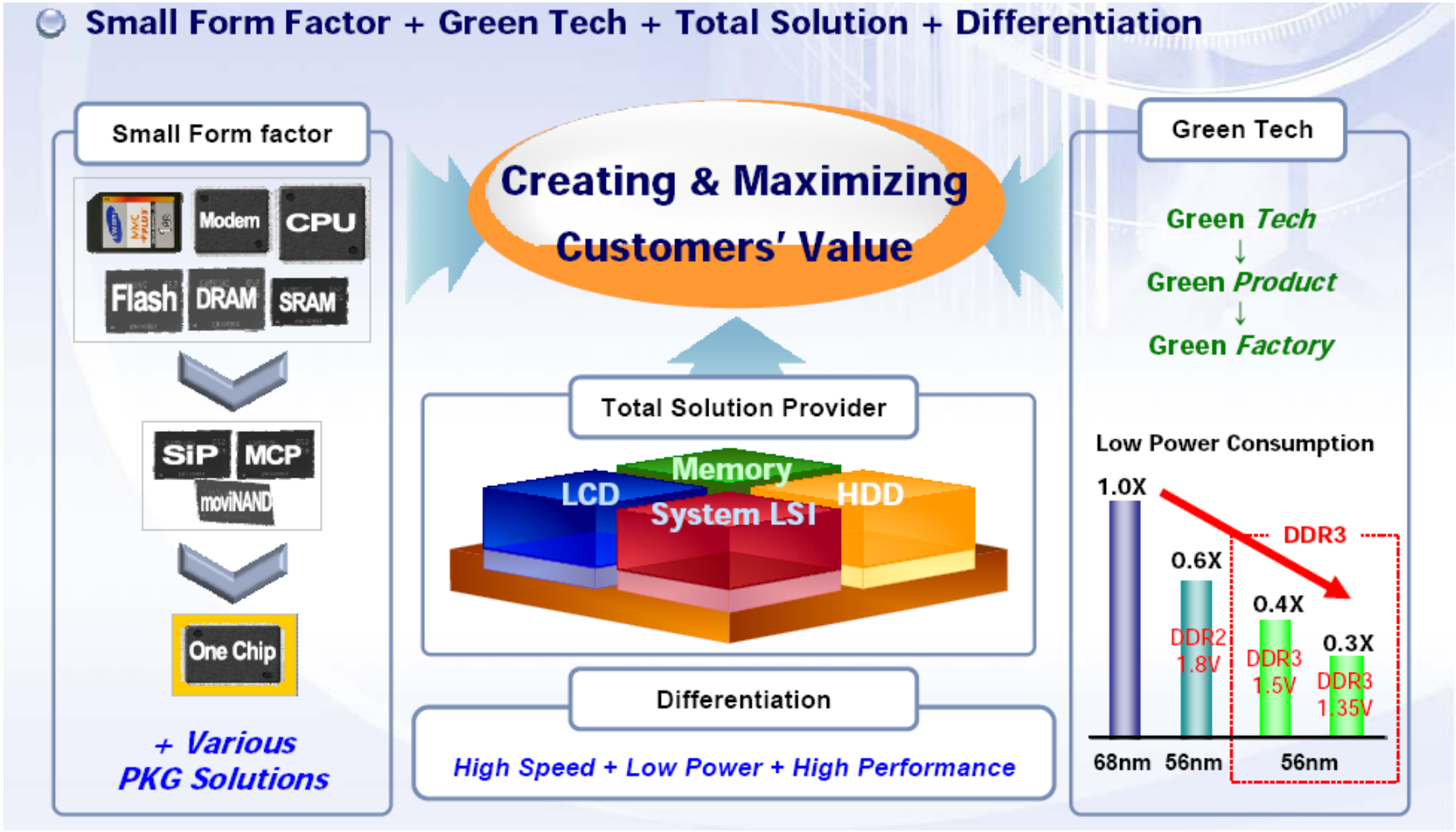
Courtesy of Samsung 2009

Samsung Adaptive Strategy: Pursue Operational Excellence



Courtesy of Samsung 2009

Samsung Adaptive Strategy: Create Value for Customer

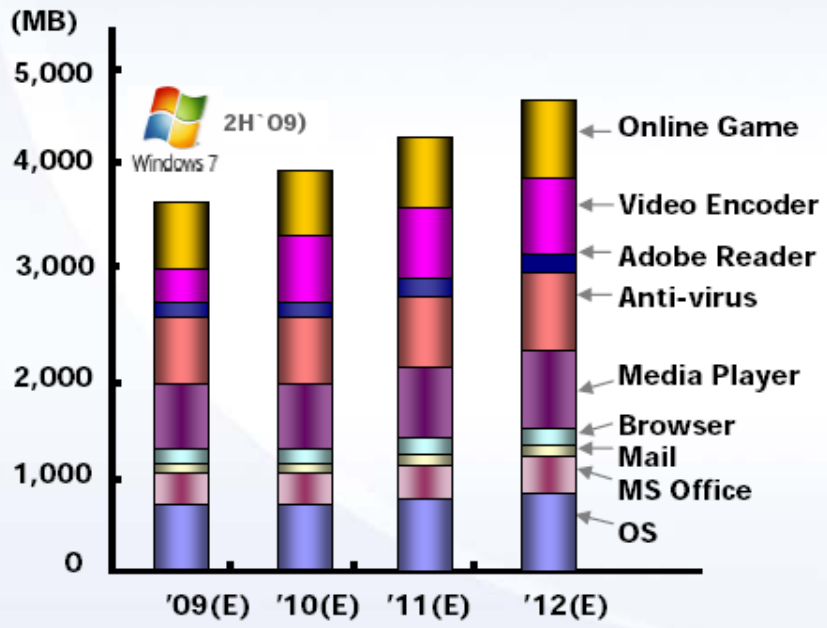


Courtesy of Samsung 2009

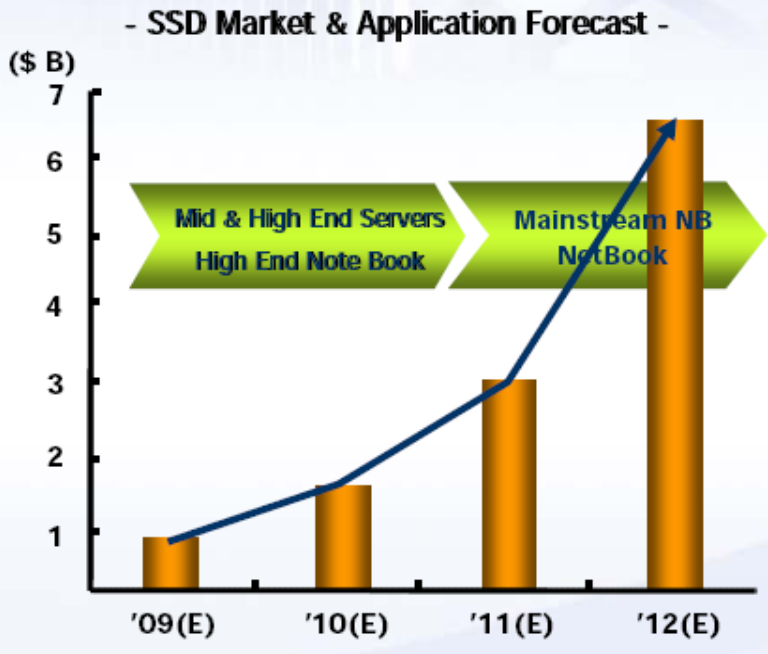
Samsung Adaptive Strategy: Enabling New Market Growth

- **New Architecture + New O/S, S/W + New Application**
  - **64 bit Computing , Windows7, SSD**

New O/S & S/W need More Memory

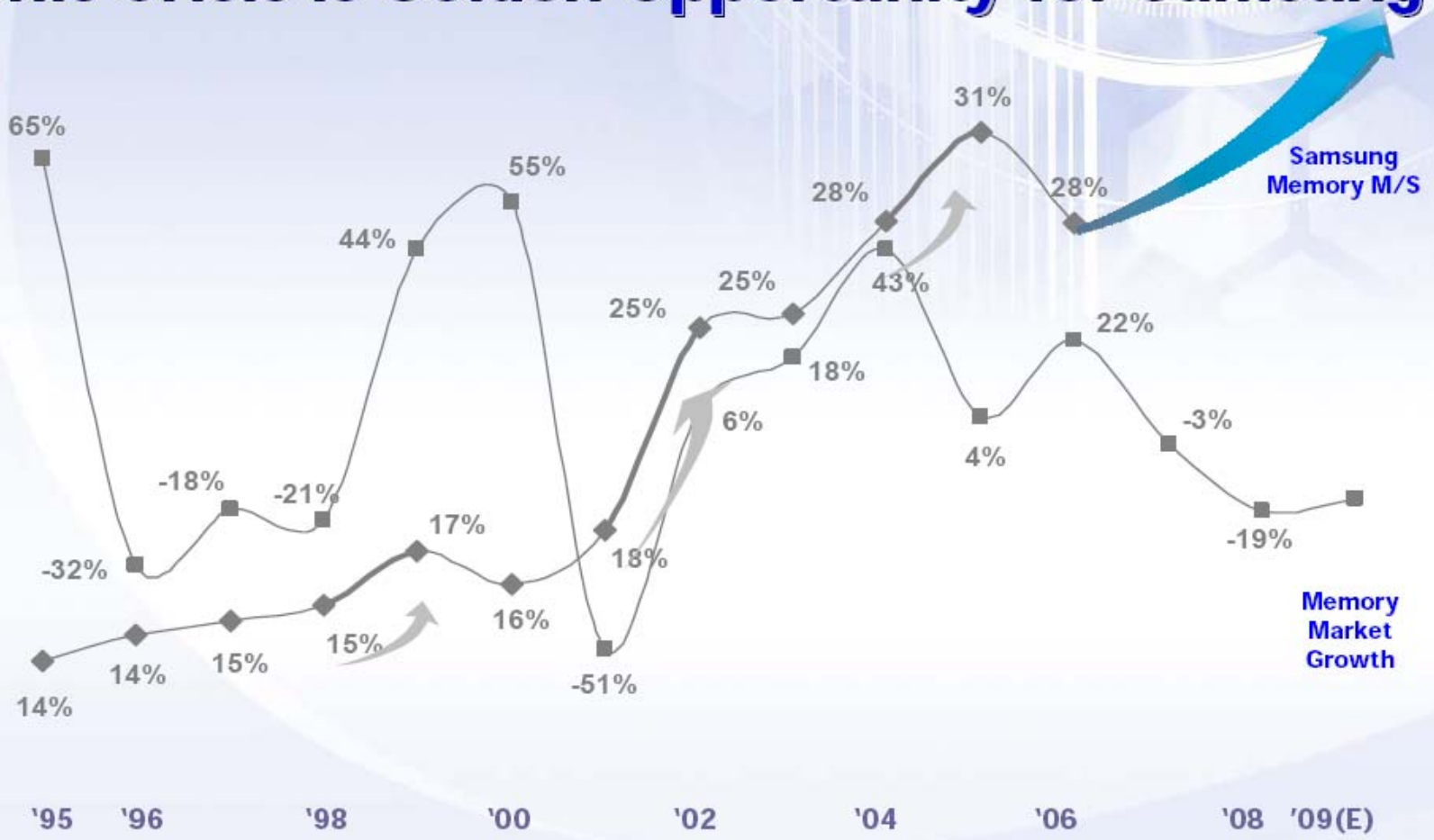


SSD to drive NAND Market Growth



Courtesy of Samsung 2009

This Crisis is Golden Opportunity for Samsung



Courtesy of Samsung 2009

Outlook for Main Stream DRAM Business Environment

- System:
  - Monopolized MS Window + Intel/AMD model reaching plateau and demand challenges
  - Linux (Chrome OS@2010) + others(ARM, Via, Qualcomm, RDC, others) is growing into both non-PC and PC domains—More varieties
  - Digital consumer products are booming

- Market: Market opportunities are growing with more population and infrastructure adopting digital life
  - PRC, India, SouthAsia, …others

Adaptive Strategy for Future DRAM Business or Market?

- Only IDM can survive? Or More granularity and disintegration is required?
- All in-house or partnership business?
- Can dedicated DRAM foundry survive?
- Can emerging market mandate a new business strategy for DRAM suppliers?
- Why no dedicated DRAM makers in PRC?

Surviving and Winning Strategy and Recipe

- Samsung: staying all in-house
- Micron + Nanya + Inotera: JV in RD and capacity
- Elpida + Powerchip + RexChip: JV in RD and capacity
- Hynix: staying all in-house
- TMC + Elpida? + ProMOS? + WB? + fabless +…: consolidated and disintegrated for low cost advantage?

- Other Winning References:
  - Winning Exit strategy
    - Intel successful exit story in the 1985
    - TI exit in the 1998
    - IBM exit in the 1999
    - Toshiba exit in the 2002
  - Winning Enter strategy
    - Samsung enter strategy in the 80's

Apple Strategy

Case Studies

- Apple (What the secret behind!)
  - Pursuit Mission of Great Product
  - Optimized to create the value for customers not optimized for maximum of the profit
  - Disrupt yourself within (i.e. iPad vs iMac)
  - Apple would solve problems customers didn't know they had with products they didn't even realize they wanted.
  - Modern day Medici Inc.

Apple iPod


Now Playing
1 of 14
Dani California
Red Hot Chili Pe
Stadium Arcadiu
3:27
MENU
iPod
Music
Photos
Extras
Settings
Shuffle Songs
MENU

21st Century Innovation: the iPod; iPhone and iPad follow through

The Apple iPod = 299$ of Chinese exports to US

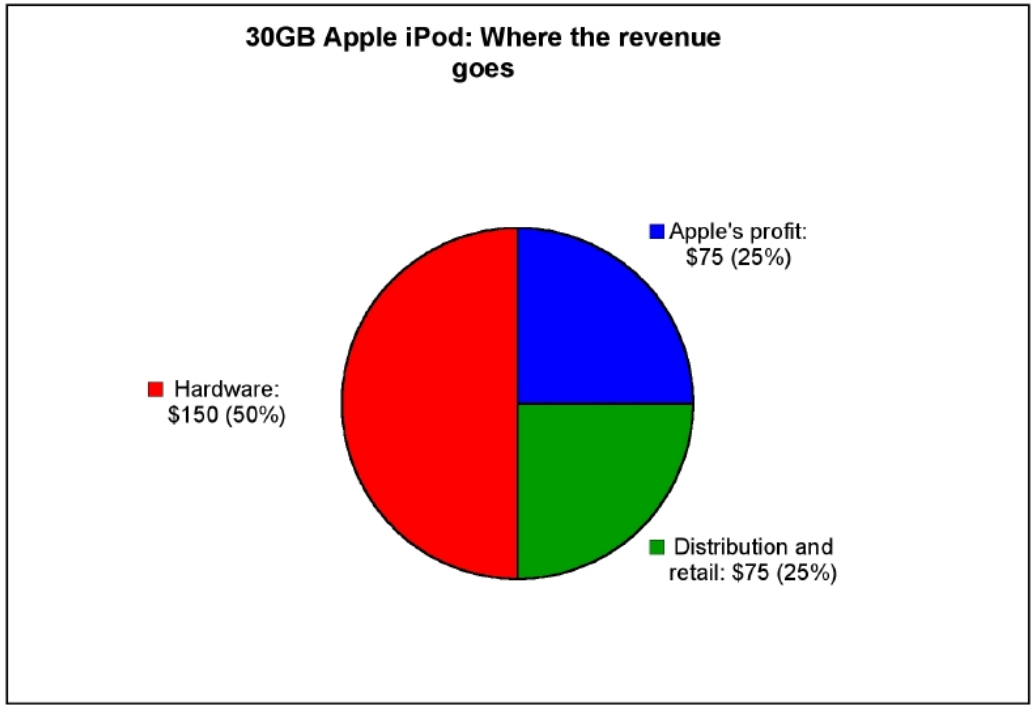
Distribution of the value added

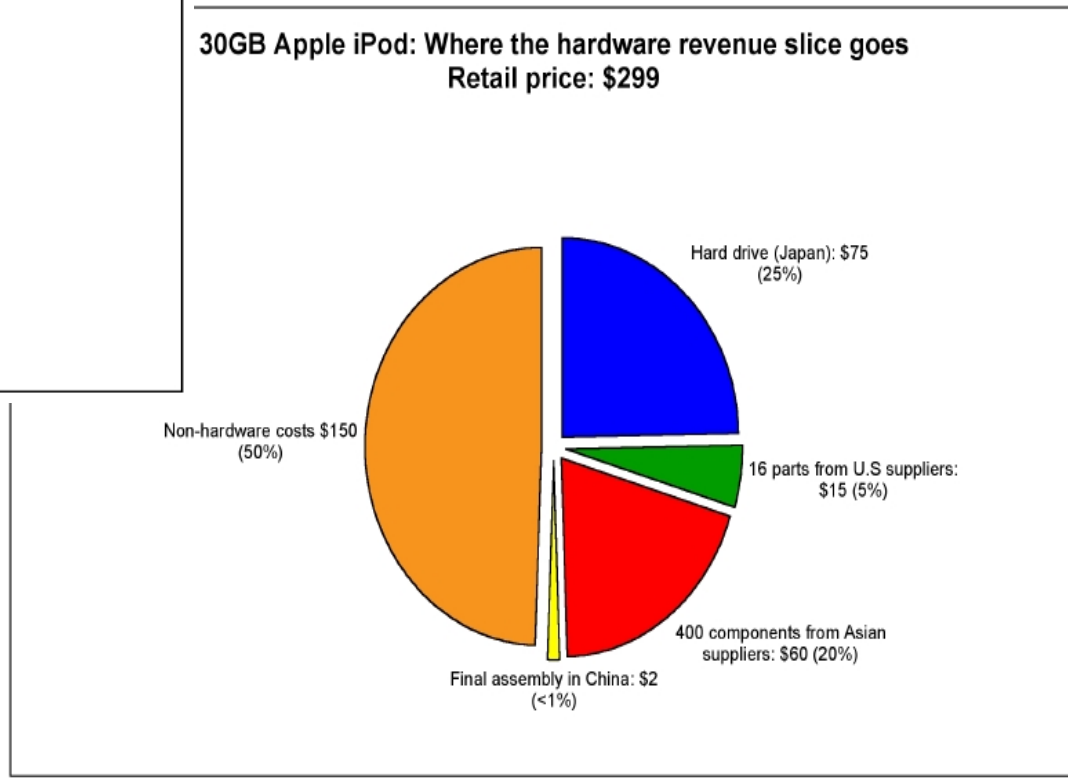
- 299 US$
  - 75$ **profit** to US (Apple)
  - 73$ **wholesale/retail** US (Apple)
  - 75$ to Japan (Toshiba)
  - 60$ 400 parts from Asia
  - 15$ 16 parts from the US
  - 2$ assembly by China

- iTunes Music Store (2003)
  - 70% digital market share
  - Big 5 recording companies

http://blogs.computerworld.com/node/5724

21st Century Innovation: the iPod; iTune and iPhone iPad follow through



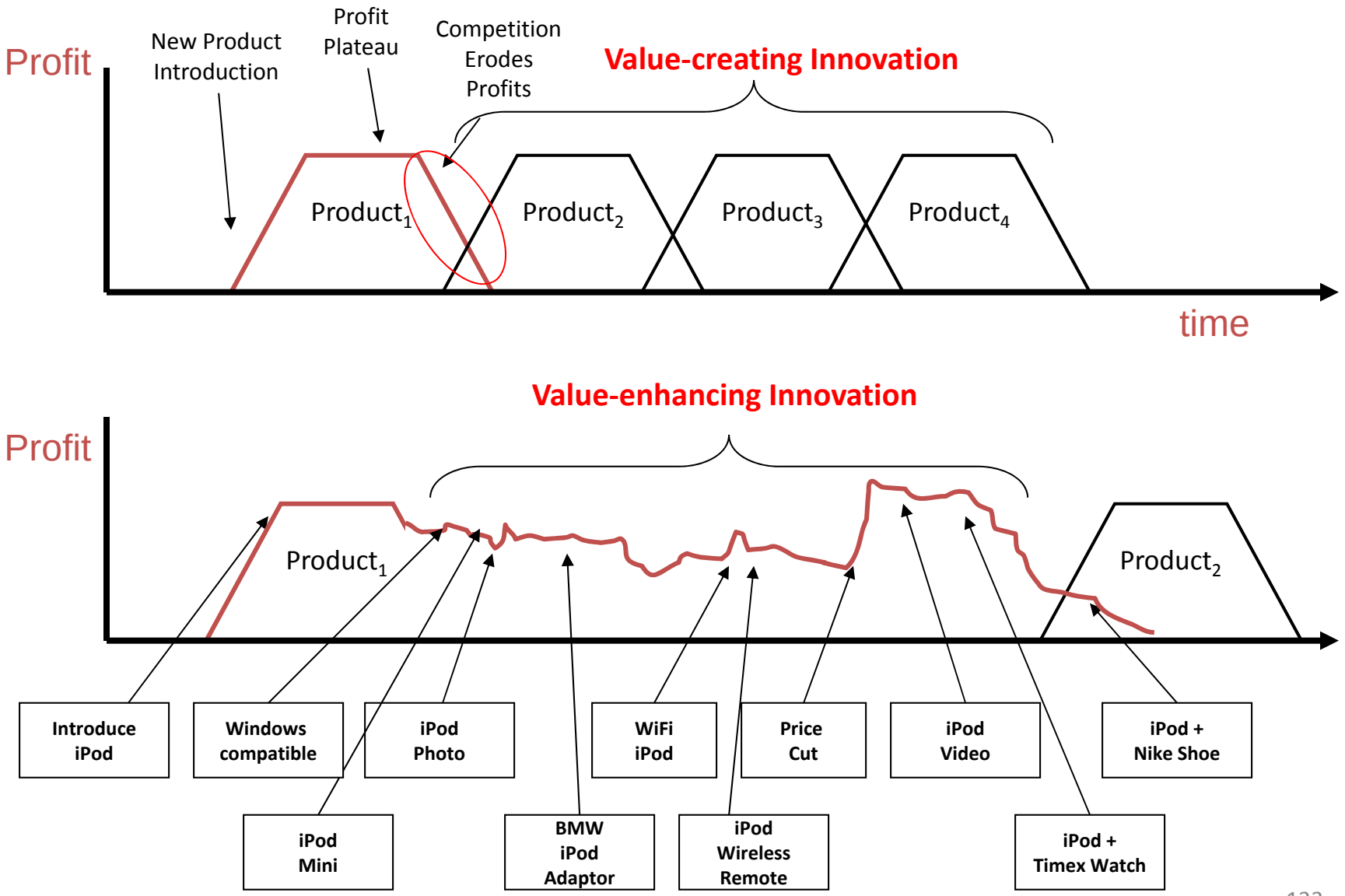


http://blogs.computerworld.com/node/5724

Innovation and Organic Growth

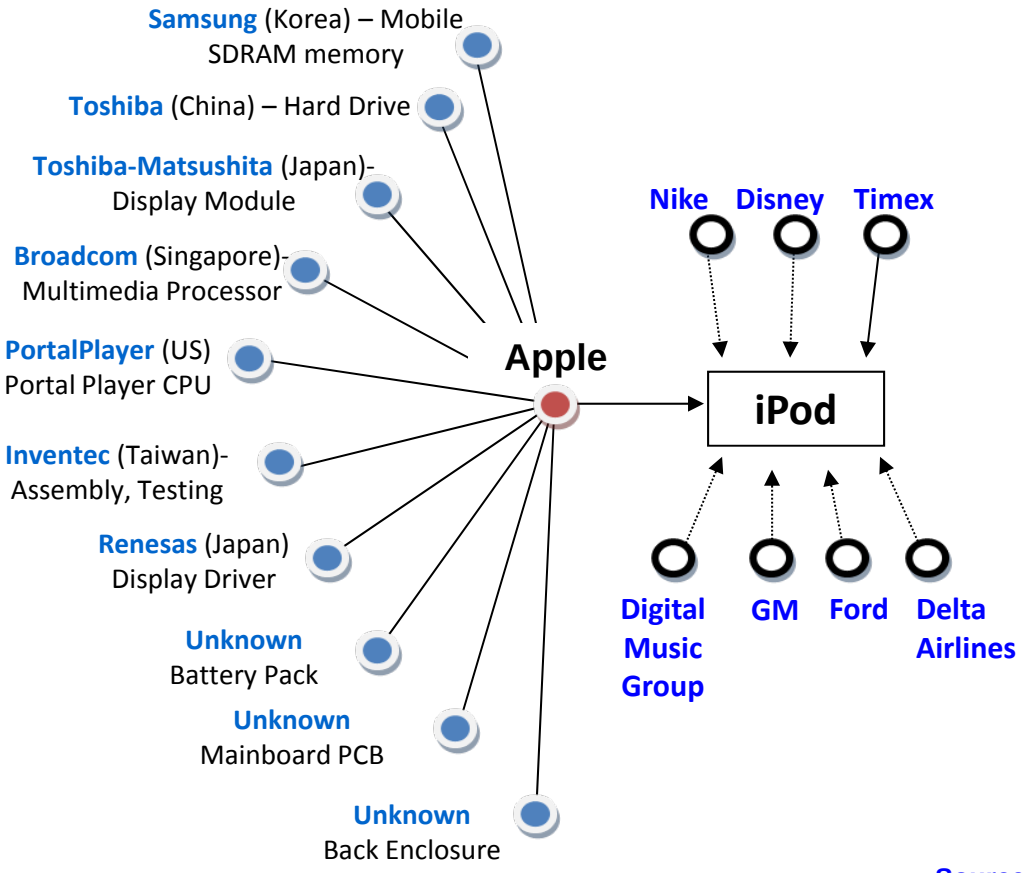
- Emphasis on:
  - Top-line revenue
  - Customer-centric, customer value
  - Internal and external social interactions
  - Cross-functional and cross-experiential teams
  - Empathetic, high EI people
  - Experimentation, learning
  - Entrepreneurial culture, boldness, audacity
- Value-creating strategy vs. Value-enhancing strategy

Value-creating vs. Value-enhancing Strategy



Apple's iPod Innovation Network

10 parts create 85% of the iPod's cost



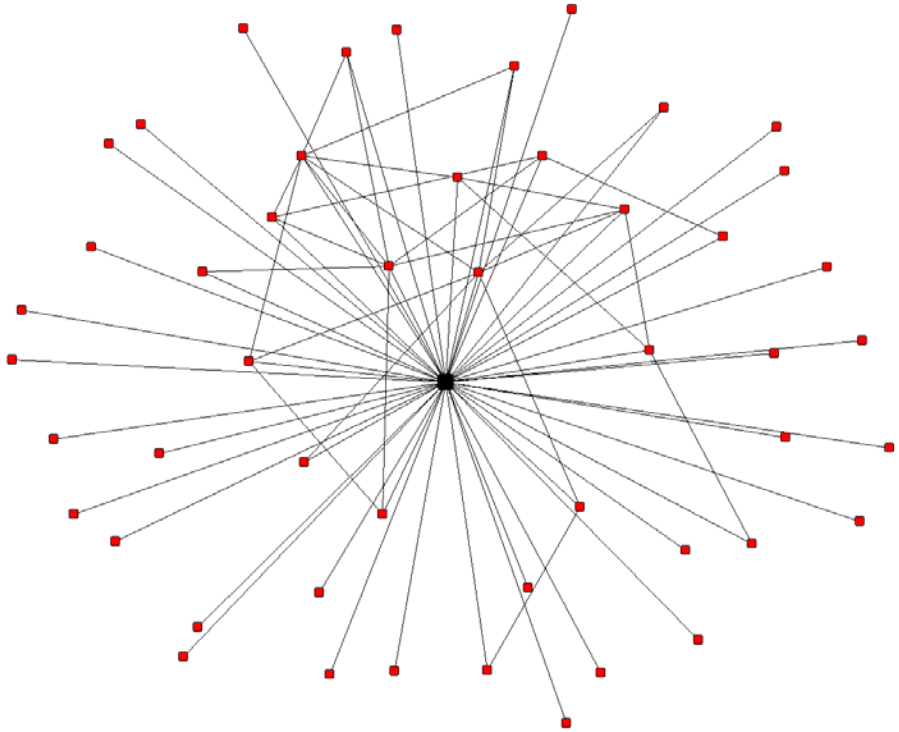
400 additional inputs with values from $2 to fractions of a penny, with an average value of $.05

Source: Portelligent, Inc. and Linden, Kraemer & Dedrick, 2007.

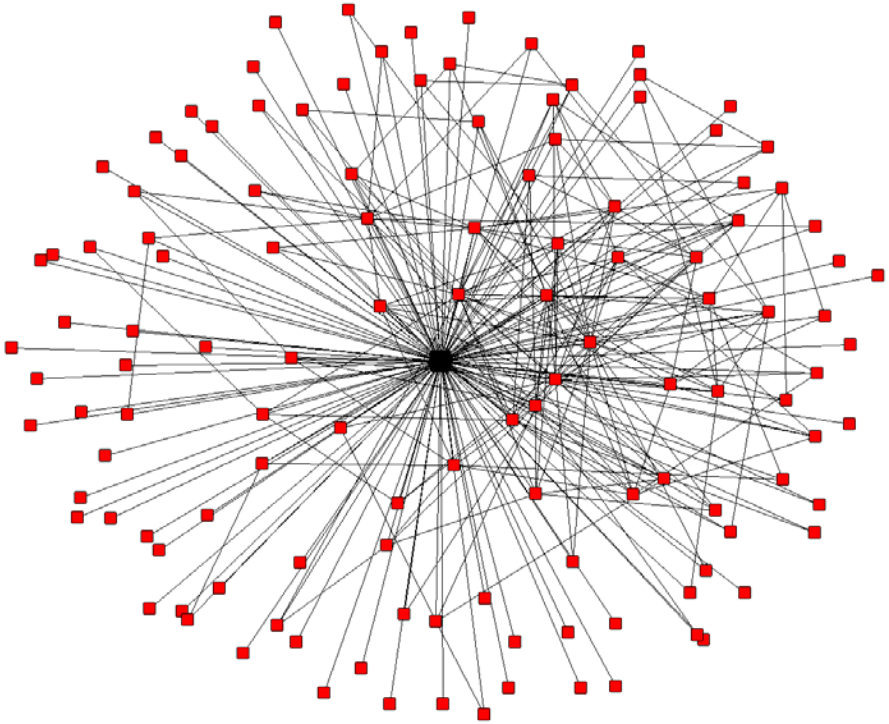
Apple Computuer

High Level of VC + VE

Apple – alliance network in 1995



Apple – alliance network from 1995-1997



Apple (Close System) vs Microsoft (Open EcoSystem)

- Apple
  - Key Ingredients of Apple Products
    - Very Efficient Integration of Hardware, Software, User Interface, and Service
    - Simplicity and Aesthetics, More Consumer Centric Products
    - Plus Steve Jobs to Break Rules and Apple Brand
  - Solid Continuity and Right Timing Launch of various Products
    - iMac, the MacBook line, iPod, iTunes, iPhone, iPad, iWork, and iCloud

- Microsoft
  - Complicated Ecosystem
  - More Business Centric Products

Google vs. Apple

Apple

- Launch *iPhone*
- Improvement
- Improvement
- Improvement
- Launch *iPad*

Google

- Android operating system
- Improvement
- Launch *Nexus One*
- Pull back *Nexus One*

Apple: 8 Easy Steps to Beat Microsoft (and Google)

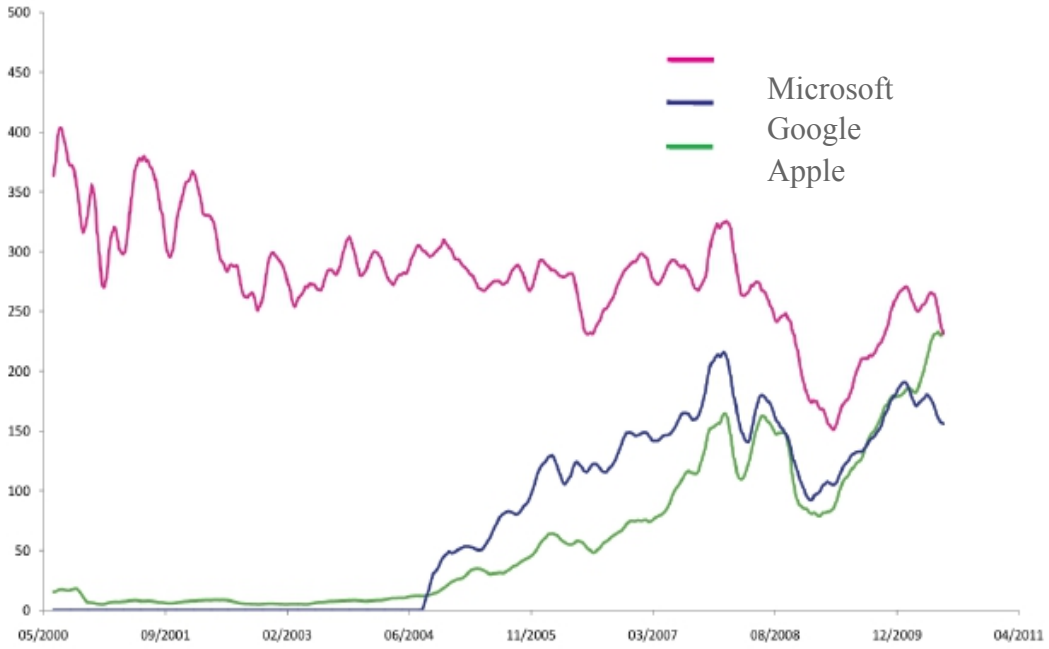
Paris, July 2010

faberNovel
ideas with legs

Courtesy of FaberNovel, 2010

Table of contents

Why and how did Apple beat Google & Microsoft?



In 6 years, Apple's market cap outweighed both the new and old tech champions

Source: Bloomberg

Step #1: Believe in the simple

Apple: the arrogance of simplicity

What is Apple's design process?

"When you first start off trying to solve a problem, the first solutions you come up with are very **complex**, and most people stop there. But if you keep going, […] you can often times arrive at some very **elegant** and **simple** solutions." Steve Jobs[1]

Apple identifies needs and use cases to make decisions about function and technologies.

Vision

Drops 20 % of non-required functionalities to perfectly design 80 % of key user needs.

Focus

Attention to details leads to excellence in user experience.

Global

[1] Q&A: Jobs on iPod's Cultural Impact, Newsweek, 10/16/2010

Case study: iMac (1998)
Simplicity & choices

Simplicity

All-in-one computer

Setup & go

Choices

No floppy disk

No extension stack

Case study: why does making choices implies constraint?

"It became an intense and almost religious argument about the **purity of the system's design** versus the **user's freedom** to configure the system he liked."
Christopher Espinosa (Apple employee #8) speaking about the Macintosh project, 1984

No sign of upcoming **blu-ray** support on Apple computers.

"**YouTube** now supports HD video." Steve Jobs[1]

Music can **only** be managed through iTunes.

"Other companies tried to do everything on the device itself and made it so **complicated** that it was **useless**." Steve Jobs[2]

App Store **approval** process as a quality insurance.

"We created an approval process [to] **avoid** applications that degrade the **core experience** of the iPhone." Apple Answers the FCC's Questions

[1]Email on 04/14/2010
[2]Q&A: Jobs on iPod's Cultural Impact, Newsweek, 10/16/2010

Step #2: Design a full experience

Apple adopts a comprehensive approach

Apple re-legitimize vertical integration

Customer-centric

Apple goes against the **outsourcing** trend.

Contrary to industrial vertical integration, Apple uses it to **control the global experience** of its customers.

App Store contributed to **only 1 % in profit**![1]

"Pure" financial management would have required it to be outsourced as soon as possible.

Business design

Apple adopts a **holistic approach** to its business.

Products
UX
Financial
Marketing

Apple advertisement are designed **internally**.

Mobile carriers are only allowed to show their logo at the end.

Focus

Apple focuses on a very **lean product line**.

Risk management on technological choices and consistency at all layers

"We've reviewed the road map of new products and axed more than 70 percent of them, keeping the 30 percent that were **gems**."

Steve Jobs upon his returning to Apple in 1997

[1]Source: Piper Jaffray

Apple's vertical integration offers three competitive advantages

"Our competitors, Dell and Compaq, are **distribution** companies […].
They don't create anything."
Steve Jobs, Time, Oct 1999

Simplicity

Apple acts as an **abstraction layer**.

Technical complexity hidden behind slick and **intuitive** UI: seamless experience.

Quality

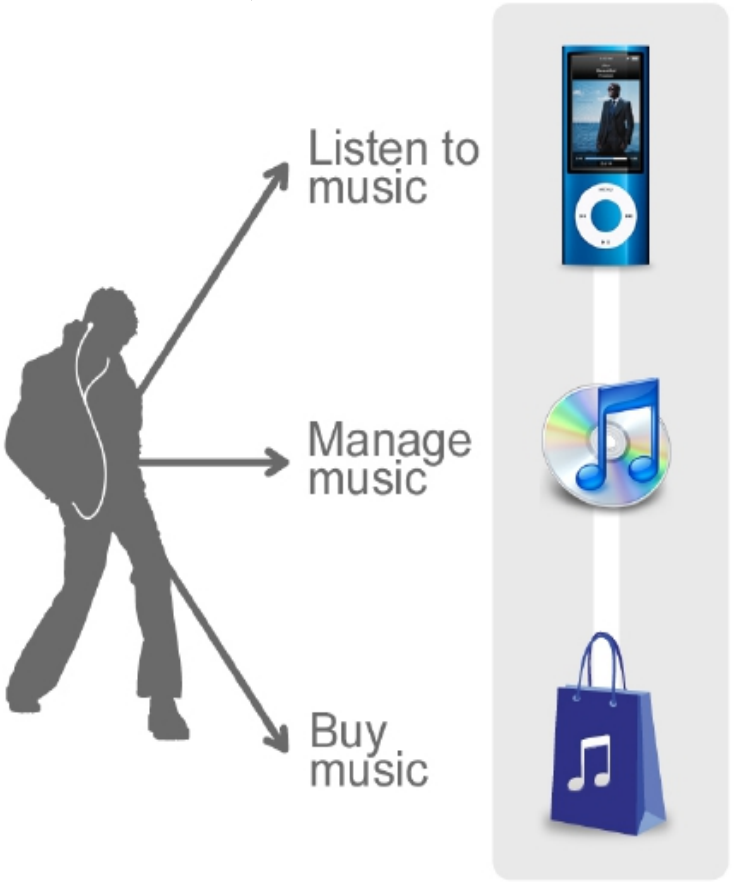
Thanks to hardware and software tight **integration**, Apple's products offers great quality.

Innovation

Apple does not depend on its suppliers' technical breakthroughs.

It can innovate on hardware and software at **its own pace**.

Case study: the digital music revolution (2001-2004)



- Chose high-speed FireWire instead of USB1
- Game-changing click wheel
- Apple's design guidelines applied

- iTunes software
- Available on Mac & PC
- Simple and reliable software

- Agreements with the music industry
- Distribution
- DRM1

Apple provides a **comprehensive** music experience

1Digital Rights Management (DRM): technologies used by content owners to control usage of music, movies…

Case study: Apple's vertical integration in hardware for consumer electronics



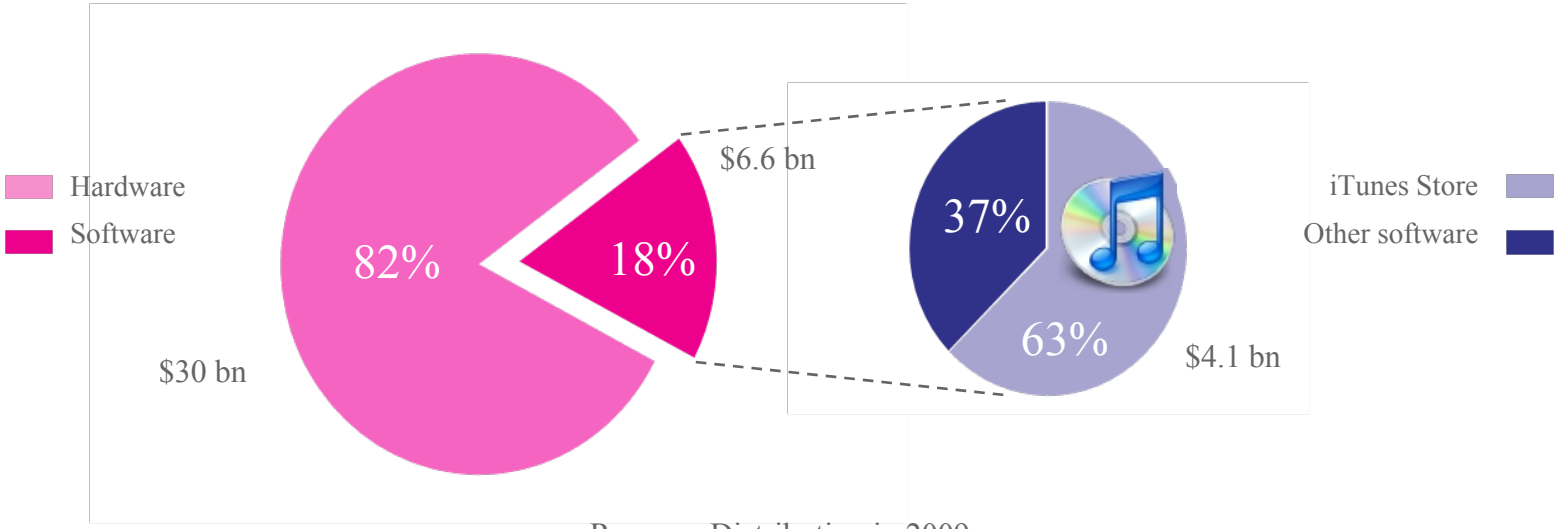
Hardware	Microprocessor	? most probably built on ARM technology		✗
	Integrated circuit	✓	✓	✗
	Design	✓	✓	✓
Software	OS	✓	✓	✓ Pixo OS acquired in 2004
	Hight-level software	✓	✓	✓

Apple controls every step: it ensures that almost every hardware and software parts are **customized** to **perfectly** fit its needs.

Step #3: Lock customers in

iTunes' goal is to lock the consumer in

iTunes revenues are insignificant



Revenue Distribution in 2009

The iTunes Store represented only **11 %** of Apple's revenues in 2009.

Source: Apple annual reports

Case study: App Store revenues are a drop in the bucket

$6.8 bn Revenues generated by iPhone (hardware) sales **in 2009** (22 % of Apple's revenues)

$400 m Revenues generated by App Store sales **since its creation**

< **1%** App Store contribution to gross profit **since its creation**

Apple authorizes and sometimes **promotes** apps **competitors** to its iTunes Store during keynotes.

Source: Keynote WWDC 2010, Piper Jaffray

Yet iTunes' goal is to lock the consumer in

iTunes-devices relationship is **locked**

One-way sync

(Palm controversy)

FairPlay

DRM software invented by Apple, protecting videos, eBooks, apps[2]

Consumers **lock themselves in**

$100

spent per device on av.[1]

125 m

iTunes accounts linked with credit card (painless buying experience)

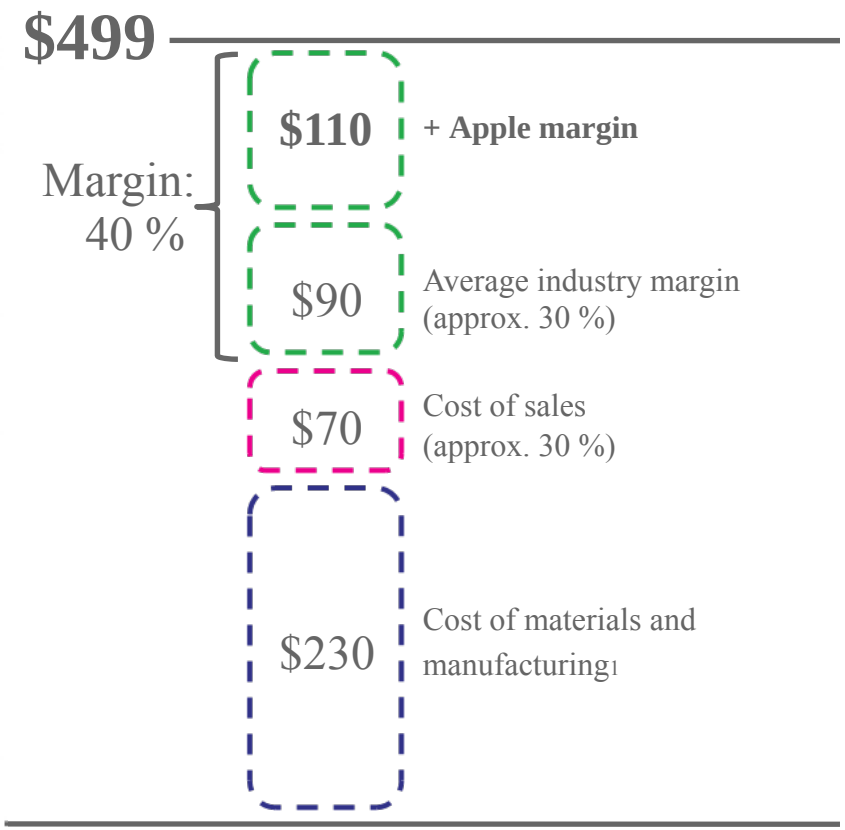
Great **customer loyalty** (user retention/walled garden)

[1] Deutsche Bank.
[2] There are no DRM on iTunes Music since 2009.

Step #4: Sell at a premium

Apple's revenues come from high margin hardware products

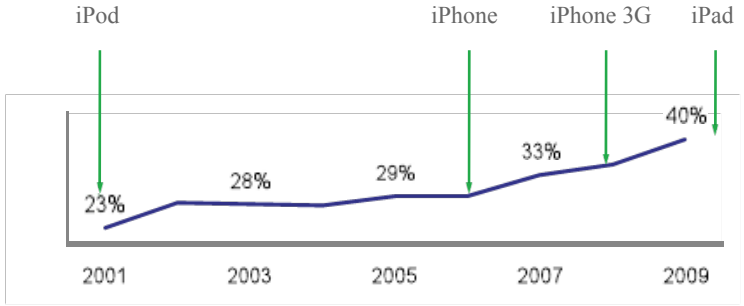
Case study: Apple's profit comes from margins in hardware (iPad)



1Source: iSuppli

Big picture: hardware drives Apple's gross margin

VS.



Biggest gross margin growth **in the industry**

Source: Apple annual reports

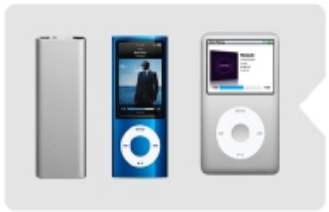
Step #5: Cross-sell your product line

Apple brand appeal drives its product line

Who is the *iCustomer*?

Product line covers all **markets**, all **price** ranges, all **needs** with an accurate segmentation.

iTunes
From $59 to $249[1]



Market leader

iOS
From $199 to $499[1]

100m iPhones sold by 2011 (est.)

Mac OS
From $699 to $1199[1]

8 % market share

+ **Product lifecycle**: each new product implements appealing new features, strongly inducing the loyal ***iCustomer*** to buy new products (iPhone 3GS to iPhone 4)

The *iCustomer* needs **all** Apple products to maximize his user experience.

[1]Prices for entry-level models.
Source: Apple, Morgan Stanley, Gartner.

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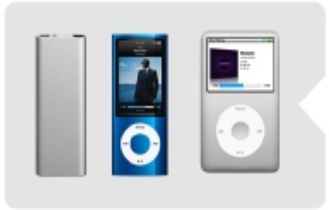

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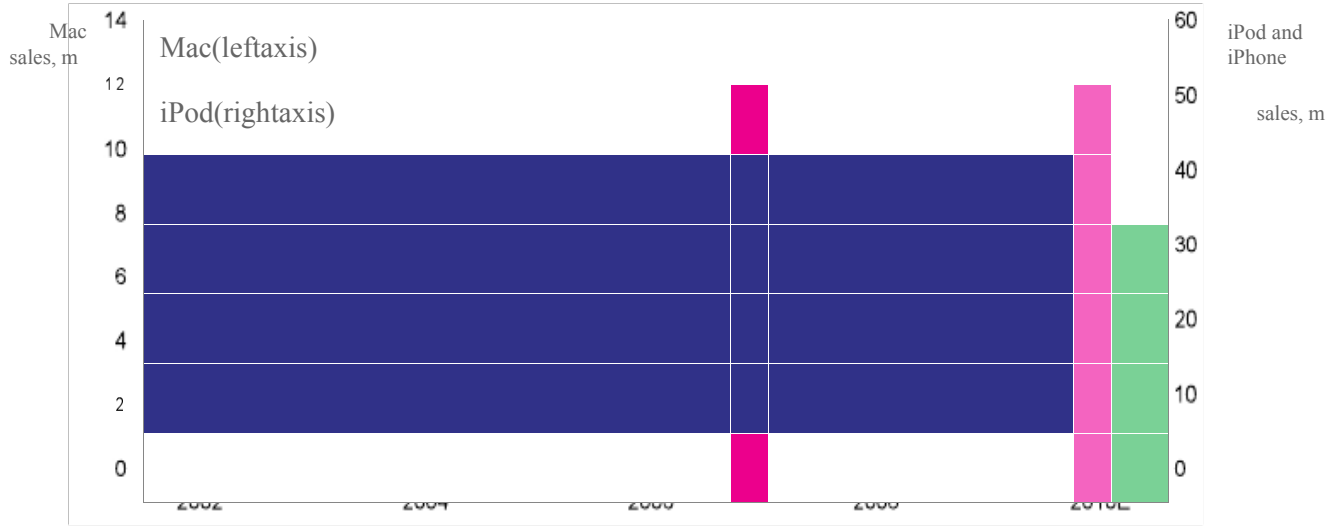
Case study: iPod and iPhone drives Mac sales



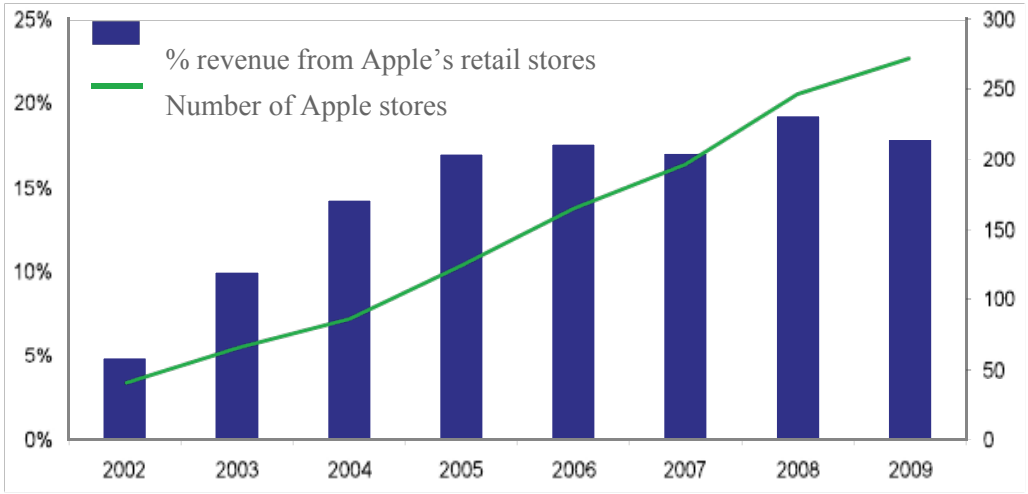
Halo effect[1] + seamless experience with mobile devices requires a Mac

40 % of Apple revenues comes from Mac sales (desktop and laptop).

[1] *Halo effect*: e.g. a product (the iPod) has positive effects on our perception of something else (the Apple brand)
Source: Apple annual reports, Oppenheimer

Integration reinforced by retail strategy

"We want to make the best **buying experience** in the world […]. It's impossible to get **knowledge** at the point of sale. We can't **thrive** in that environment." Steve Jobs, D2



Contribution to revenue starting to plateau (but profitability sacrificed to enhance buying experience) but still **Apple Stores** are a place where the company can:

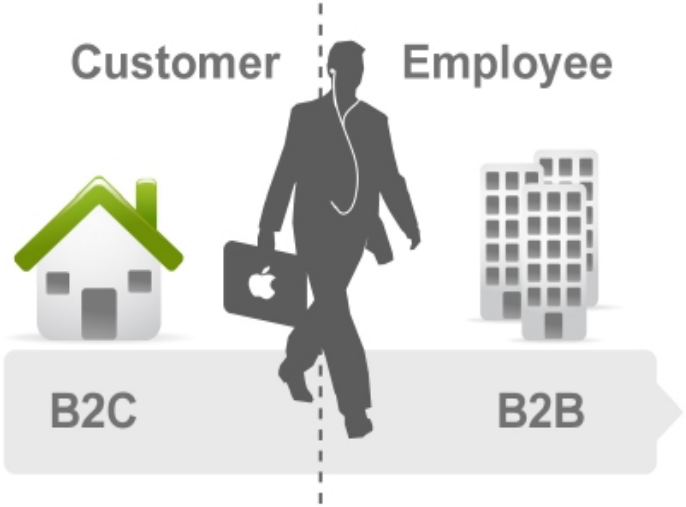
- showcase a 100 % Apple environment (to appeal the *iCustomer*)
- have a **trained sales force** selling its products.

Apple Stores **fosters the brand appeal** and consequently, the *halo effect*.

Source: Apple annual reports

iCustomers will drive Apple's sales

Apple's main focus is the **consumer market** where "every person votes for themselves"
Steve Jobs, D8

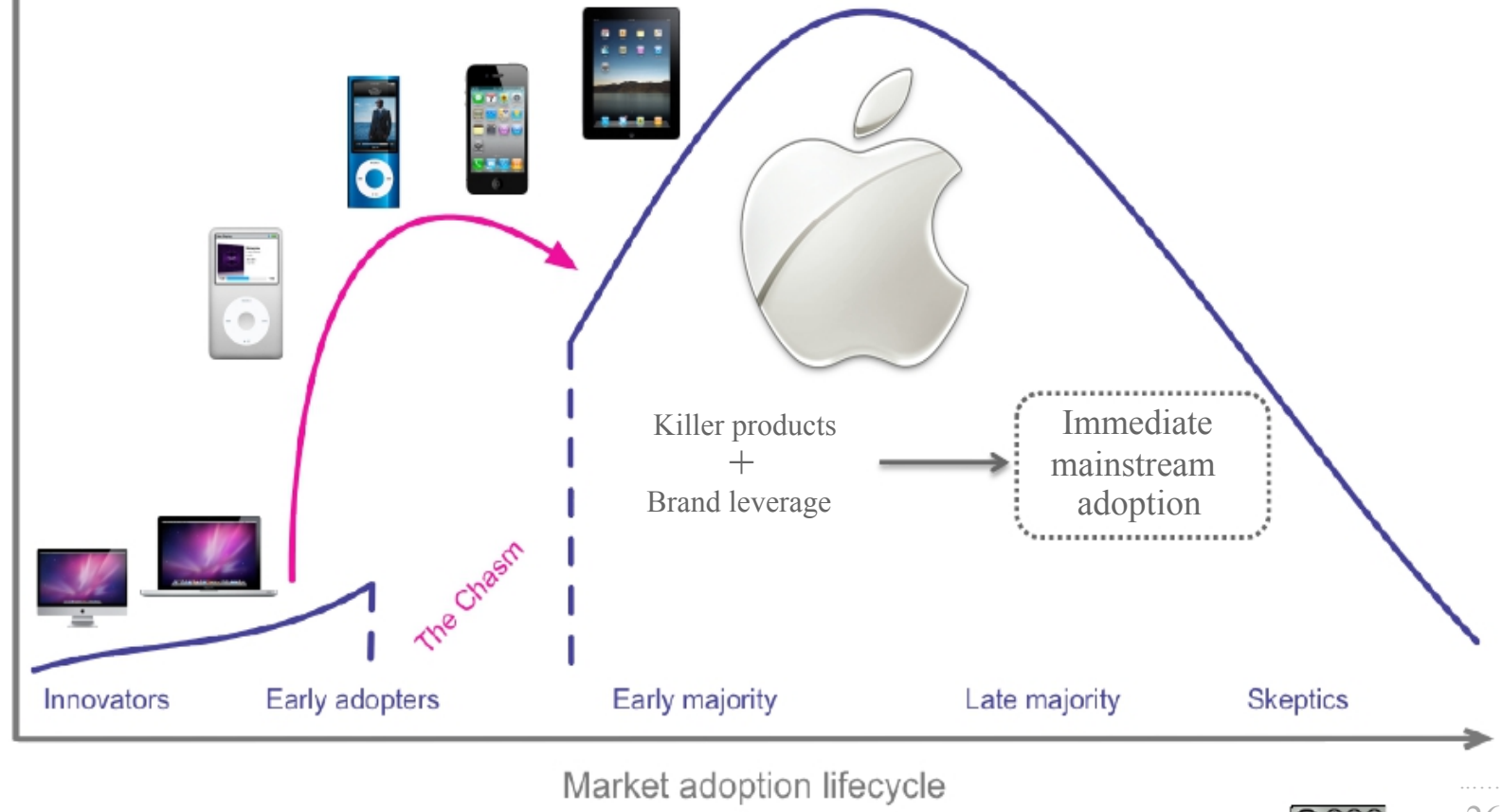


However, thanks to its thriving success in **B2C**, Apple will be able to raise its market share in **B2B**

How did Apple cross the chasm?

iPhone and iPod sales have enabled the Apple brand to cross the chasm.

Example: Amazon Kindle sold 3 m units in its first year. Apple's iPad did the same in 80 days.



Source: Apple, Electronista

Step #6: Balance control vs. freedom

Apple needs an ecosystem

Case study: how Apple failed in the 80's

"We **weren't so good** at partnering with people […]. If Apple could have a little more of that in its DNA, it would have served it extremely well." Steve Jobs, D5, 2007

1982: Steve Jobs forces Bill Gates to develop productivity software only for the Mac

1985: Apple allows Microsoft to use Mac technologies in Windows in exchange of a Word and Excel upgrade for Macintosh

1988-1995: 7-year legal battle lost by Apple

1995: Launch of Windows 95 has definitively dwarfed Apple's share in the PC market

Lessons learned!

Copyright owners

Apple:
• understood their market structure
• gave them what they wanted most (DRM for music, price control for publishers)

Carriers

Crucial to iPhone's success:
• AT&T first allowed Apple, which had no experience in this market, to make the phone they wanted
• Set a standard for others

Developers

Contrary to the Mac, Apple has attracted developers on iOS
• Ground breaking revenue sharing
• 56 % of US mobile dev on iPhone (90 % are single-platform)[1]

Google

Apple's keeps partnering with its #1 competitor because it's the best at certain services (native apps on iOS):
• Search
• Maps
• YouTube

Apple understood it needed to **partner** with other players.

[1]Source: Millenial Media

Mobile application paradigms: Native Apps vs. Web Apps

	Flash Apps	Native Apps	Web Apps
Strengths	Interroperable Offline	Decide optimized Camera, accelerometer, GPS... Mature business model Global UX	Interoperable Light client (browser) Open architecture with hyperlinks
Weakness	Very few support for low-level Needs a proprietary plugin Unoptimized	Low interroperability Device-constraint	Few support for low-level peripheral Few offline capabilities Few relevant IDE Tiresome buying experience
Opportunities	Open sourcing Flash ?	Open source (Android) Quality control (App Store)	Emerging standardization Strong momentum for SaaS
Threats	Controlled by Adobe Proprietary standard	Controlled by one player Proprietary (iPhone)	Dependant on large actors Slow implementation of standards

Apple's model put the emphasis on **native apps** (iPhone SDK), but also promotes **HTML5** (iAd, WebKit). **Flash** represents "the past".

SaaS: Software as a service (see Wikipedia)

Case study: What is Apple's vision about mobile applications?

To Apple HTML5 is a **complement** to the curated App Store model, providing developers with liberty and an open architecture.

Near future

Long-term vision: promoting **open** standards will prevent other players from **excluding** Apple, as Microsoft did with its Office **proprietary** formats.

Step #7: Think different

Apple uses the cloud to foster a new computing paradigm.

From Wikipedia: "*Cloud computing* is Internet-based computing, whereby shared resources, software, and information are provided to computers and other devices on demand, like the electricity grid."

What *was* Apple's vision of computing ?

Personal computer
= ~~only~~ **~~digital hub~~**

Applications and UX
= **~~glue~~**

Devices = media consumption/creation

iPad embodies the transition to post-PC era

"We are **scratching** the surface on the kind of apps we can build for it. […] One can **create** a lot of content on a tablet." Steve Jobs, D8

New input technologies + Progress in UI

People will turn to a more intimate and direct relationship with content

Personal computers are **trucks**: most people do not need such an extensive interface.

Other devices, including tablets, will be mainstream, just as **cars** are great for everyday life.

To make it happen Apple is investing in cloud

Differentiation

Without cloud computing, Apple would **lose ground** before its competitors.

- Mobile resources are **constraints** (end of Moore's law[1], battery life), while cloud computing enables speech recognition, unlimited storage…
- Competitors are already **differentiating**: Google Voice, Microsoft Office Online…

Independence

Without cloud computing, Apple would fail to secure **reliable infrastructure**.

- It would be **dependent** on competitors (notably Google and Amazon)
- **Entry barriers** are increasing (experience maintaining security and scalability)

[1]Moore's Law: see Wikipedia.

Three upcoming features to build an Apple cloud

"We're working on it", Steve Jobs, D8, June 2010

MobileMe

Apple makes MobileMe **free** for all Apple users

Devices will be synced wirelessly

Streaming

Streaming as a new paradigm for **media consumption**

- Streamlined UX: no more downloading/buying
- Media & entertainment as a service
- Monetisation: via Quattro Wireless[1]

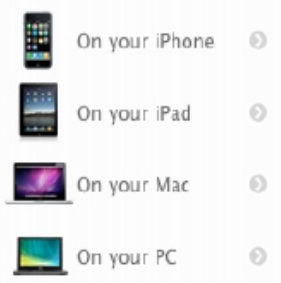
lala

Apple bought Lala (an online music store) in 2009, presumably to build up a cloud-based *iTunes.com*

New glue

The cloud is the new **glue** that links all Apple devices

- Unified storage (iDisk)
- Streaming vs. downloading
- Would greatly improve the iPad



[1] Quattro Wireless is a mobile advertising agency bought by Apple in January 2010.

Fostering a new Apple environment

Decentralisation

Glue = iTunes.com and MobileMe

Variety of devices

Step #8: Assess risks and competition

Apple's notion of control is the company's greatest risk

Overview of Apple, Microsoft and Google

	Apple	Google	Microsoft
Market cap	$230 bn	$140 bn	$210 bn
Revenues	$42.9 bn	$23.7 bn	$58.4 bn
Core business	UX	Advertising	Software
# patents awarded (2009)	300	150	3,000
Hardware			
Software			
Content			

Source: Google Finance, IPO

Will iOS vs Android be the revival of Macintosh vs. Windows?

Apple: control and decide

Tight control on **all** aspects of UX

The firm cannot support all development cost and must focus on a **few** products.

Microsoft Office (at the beginning only available for the Macintosh platform) was instrumental in fostering its sales.

Microsoft & Google: dominate and divide

Focus on **one** strategic layer (Windows, Search)

They **create** competition to let others **innovate** in all remaining layers (hardware, web…)

1985: Bill Gates begs Apple to consider licensing the Macintosh: "Apple must make Macintosh a standard".

1996: "If we had licensed earlier, we would be the Microsoft of today" (Apple executive VP Ian W. Diery)

The same year, Apple reports $740 m loss.

Differences in business models explain why Google and Apple compete

Apple

Car dealer
Apple sells "*great* products".

Differentiation: strives on selecting the best technologies available (Google's when they're the best).

"I've always wanted to own the […] technology in everything I do"
Steve Jobs[1]

Attacks

Google

Road Toll
Monetises web streams via ads.

Volume: an Internet that is more open increases the traffic, which increases Google's revenues.

"[We don't want] a future with one man, one company, one carrier"
Vic Gundotra, Google VP, Engineering[2]

[1]BusinessWeek Online, Oct. 12, 2004
[2]Google I/O 2010

Worst-case scenario: How could Android kill iOS?

Technological value

Android benefits from **open innovation**.

Apple's **walled garden** prevents others from innovating in input method, hardware…

Swype, an alternative input method replacing the Android keyboard

User base

Android supports a **variety** of devices.

Only Apple products can use iOS.

Ford, GM announced a line of "Android cars"

Complementary goods

Android Market fosters developers' **freedom**.

App Store approval process is not **flexible**.

Developers' opinion: Android best in the long term[1]

Apple's vertical integration **prevents** partnerships: why would Apple let others compete with one of its layer?

[1] Appcelerator study

What are Apple's main short-term risks?

Product

Apple's strategy is a **limited** number of high quality products.

If a products had to be **recalled**, it would dramatically impact the brand.

Heating issue in Apple III released in 1980, due to Steve Jobs' insistence that the computer should have no fans.

iPhone 4 antenna controversy

Brand image

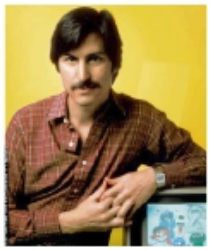
Apple's strategy of strict product control can come across as **evil**.

Developer lock-in: Xcode (only IDE[3]), Objective-C (only language)

"We have created for the first time in all history, a garden of pure ideology, where each worker may bloom secure from the pests of contradictory and confusing truths."

Steve Jobs speaking about the App Store?

No. Dictator representing IBM in Apple's famous "1984" ads. [2]



Steve Jobs

Apple's **nightmare** began with Jobs' departure and ended with his return.

Its capacity to **focus** may be significantly impeded without him

"Apple desperately needs a great day-to-day manager, visionary, leader and politician. The only person who's qualified to run this company was crucified 2,000 years ago."
Michael Murphy, San Francisco Chronicle, September 11, 1997

[1] BusinessWeek
[2] Apple's Mistake by Paul Graham [3] Integrated Development Environment

Conclusion: happily ever after Apple?

Step #9: you can't afford to make the slightest mistake?

BOS of iPod

- http://www.insead.edu/blueoceanstrategyinstitute/home/documents/Disruptive_Product_Innovation_Strategy.pdf

Product and Technology

Product

- http://www.apple.com/ ;
- http://www.samsung.com/us/aboutsamsung/index.html#;

Product Comparison
iPhone 5 vs Galaxy III

Samsung S3

- http://article.wn.com/view/2012/07/13/Samsung_Ship_Over_65_million_Galaxy_S_III_Devices_in_Three_M/

	Apple iPhone 5	Samsung Galaxy S III	Nokia Lumia 920
Operating system	iOS 6	Android 4.0 Ice Cream Sandwich	Windows Phone 8
Size	4.87 inches tall by 2.31 inches wide by 0.31 inch thick, 3.95 ounces	5.37 inches tall by 2.77 inches wide by 0.33 inch thick; 4.69 ounces	5.11 inches tall by 2.76 inches wide by 0.42 inch thick; 6.52 ounces
Display	4-inch, 1,136 by 640 pixel touchscreen; 326 pixels per inch	4.8-inch, 1,280 by 720 pixel touchscreen; 306 pixels per inch	4.5-inch, 1,280 by 768 pixel touchscreen; 332 pixels per inch
Camera	8-megapixel rear camera, LED flash, 1080p HD video recording, 720p front-facing camera, built-in panorama mode	8-megapixel rear camera, LED flash, 1080p HD video recording, 1.9-megapixel front-facing camera, quick-press burst shot mode	8.7-megapixel rear camera, LED flash, 1080p HD video recording, 1.2-megapixel front-facing camera, optical image stabilization
Storage	16GB, 32GB, 64GB	16GB, 32GB, microSD expansion slot	32GB + 7GB SkyDrive cloud storage
Processor	Apple A6 processor	1.5GHz dual-core Qualcomm Snapdragon S4 processor,	1.5GHz dual-core Qualcomm Snapdragon S4 processor
Battery	8 hours talk time on 3G, 8 hours LTE browsing, 10 hours video playback	2100mAh battery, 8 hours talk time on 3G (AT&T)	2000mAh battery, 10 hours talk time on 3G, 67 hours music playback, integrated Qi wireless charging
Sensors	Accelerometer, proximity, digital compass, ambient light, gyroscope	Accelerometer, proximity, digital compass, ambient light, gyroscope, barometer	Accelerometer, proximity, digital compass, ambient light, gyroscope
Port	Lightning 8-pin connector	Micro USB	Micro USB
Notable features	New noise-canceling technology for clearer audio; Siri can now answer questions about sports scores, post Facebook status updates and more	S Voice personal assistant; picture-in-picture features lets you watch video while working in other apps	PureMotion+ HD display registers touches even if you have gloves on or long fingernails; supports Nokia City Lens augmented reality app
Connectivity	GSM, UMTS/HSPA+/DC-HSDPA, CDMA, LTE, Wi-Fi, Bluetooth 4.0, GPS	GSM, UMTS/HSPA+, CDMA, LTE, Wi-Fi, Bluetooth 4.0, GPS, NFC	GSM, UMTS/HSPA+, LTE, Wi-Fi, Bluetooth 3.1, A-GPS, NFC
Availability and carriers	Sept. 21; AT&T, Sprint and Verizon	Available now; AT&T, Sprint, T-Mobile, U.S. Cellular and Verizon	TBA
Pricing	$199 for 16GB, $299 for 32GB, $399 for 64GB	Sprint, Verizon, U.S. Cellular: $199.99 for 16GB, $249.99 for	TBA

	Apple iPhone 5	Samsung Galaxy S III
Price on Contract	$199-399	$99-299
Display	4-Inch Retina display with 1366x640 resolution	4.8-Inch Super AMOLED HD with 1280x720 resolution
Processor	Apple A6	1.4GHz Exynos 4 Quad (quad-core)
LTE	Yes	Yes
Front Camera	1.2-megapixel (HD 720p)	1.9-megapixel (HD 720p)
Rear Camera	8-megapixel autofocus with flash and HDR, native face detection, panorama mode. 40% faster over previous iPhone 4S, better low-light performance, improved noise reduction.	8-megapixel autofocus with flash and HDR, face detection, panorama mode. Zero-shutter lag, noise reduction.
Video Recording	1080p @ 30fps with video stabilization	1080p @ 30fps with video stabilization
Memory	1GB RAM	1GB RAM
NFC	No	Yes
GPS	Yes	Yes
Sensors	Accelerometer, Gyro, Ambient light sensor, proximity sensor	Accelerometer, Gyro, Ambient light sensor, facial recognition, proximity sensor
Storage	16GB/32GB/64GB flash storage, non-expandable	16GB/32GB/64GB flash storage, expandable via microSD
Wi-Fi	802.11a/b/g/n Wi-Fi (802.11n 2.4GHz and 5GHz)	802.11a/b/g/n with Channel Bonding, HT 40
Voice Assistant	Siri	S Voice
Native Ticketing Support	Yes	No
Battery Life	8 hours talk time on LTE, 8 hours talk time on 3G Standby time: 225 hours, Internet usage: 8 hours on 3G, 8 hours on LTE, 10 hours on Wi-Fi	11 hours talk time on 3G, Standby time: 790 hours on 3G
Weight	112g	133g
Dimensions	123.8 x 58.6 x 7.6mm	136.6 x 70.6 x 8.6mm
OS	iOS 6	Android 4.0 ICS with TouchWiz
OTA Updates	Yes	Yes
Apps	Yes, iTunes App Store. 700,000+ apps	Yes, Google Play Store. 600,000+ apps
E-book Reader	Yes, iBooks	Yes, Google Books
Flash Support	No	Yes, for old users | No, for new users
Multitasking	Yes	Yes
Bluetooth 4.0	Yes	Yes

		SAMSUNG I9300 GALAXY S III	APPLE IPHONE 5
			
GENERAL	2G Network	GSM 850 / 900 / 1800 / 1900	GSM 850 / 900 / 1800 / 1900 - GSM A1428 CDMA 800 / 1700 / 1900 / 2100 - CDMA A1429
	3G Network	HSDPA 850 / 900 / 1900 / 2100	HSDPA 850 / 900 / 1900 / 2100 - GSM A1428 CDMA2000 1xEV-DO - CDMA A1429
	4G Network	LTE (regional)	LTE 700 MHz Class 17 / 1700 / 2100 - GSM A1428 or LTE 850 / 1800 / 2100 - GSM A1429 LTE 700 / 850 / 1800 / 1900 / 2100 - CDMA A1429
	Announced	2012, May	2012, September
	Status	Available. Released 2012, May	Available. Released 2012, September
BODY	Dimensions	136.6 x 70.6 x 8.6 mm **BAD**	123.8 x 58.6 x 7.6 mm
	Weight	133 g	112 g **GOOD**
		- Touch-sensitive controls	
DISPLAY	Type	Super AMOLED capacitive touchscreen, 16M colors **GOOD**	LED-backlit IPS TFT, capacitive touchscreen, 16M colors **Built & Provided by SHARP**
	Size	720 x 1280 pixels, 4.8 inches (~306 ppi pixel density)	640 x 1136 pixels, 4.0 inches (~326 ppi pixel density)
	Multitouch	Yes	Yes
	Protection	Corning Gorilla Glass 2 **GOOD**	Corning Gorilla Glass, oleophobic coating
		- TouchWiz UI	
MEMORY	Card slot	microSD, up to 64 GB, buy memory	No **BAD**
	Internal	16/32/64 GB storage, 1 GB RAM	16/32/64 GB storage, 1 GB RAM
DATA	GPRS	Class 12 (4+1/3+2/2+3/1+4 slots), 32 - 48 kbps	Yes
	EDGE	Class 12	Yes
	Speed	HSDPA, 21 Mbps; HSUPA, 5.76 Mbps	DC-HSDPA, 42 Mbps; HSDPA, 21 Mbps; HSUPA, 5.76 Mbps, LTE, 100 Mbps; Rev. A, up to 3.1 Mbps **GOOD**
	WLAN	Wi-Fi 802.11 a/b/g/n, DLNA, Wi-Fi Direct, Wi-Fi hotspot	Wi-Fi 802.11 a/b/g/n, dual-band, Wi-Fi plus cellular
	Bluetooth	Yes, v4.0 with A2DP, EDR	Yes, v4.0 with A2DP
	NFC	Yes	No
	Infrared port	No	No
	USB	Yes, microUSB v2.0 (MHL), USB On-the-go	Yes, v2.0
CAMERA	Primary	8 MP, 3264x2448 pixels, autofocus, LED flash	8 MP, 3264x2448 pixels, autofocus, LED flash
	Features	Simultaneous HD video and image recording, geo-tagging, touch focus, face and smile detection, image stabilization	Simultaneous HD video and image recording, touch focus, geo-tagging, face detection, panorama, HDR
	Video	Yes, 1080p@30fps	Yes, 1080p@30fps, LED video light, video stabilization, geo-tagging
	Secondary	Yes, 1.9 MP, 720p@30fps **GOOD**	Yes, 1.2 MP, 720p@30fps
FEATURES	OS	Android OS, v4.0.4 (Ice Cream Sandwich)	iOS 6
	Chipset	Exynos 4412 Quad **GOOD**	Apple A6 **BAD** **Built & Provided by SAMSUNG ... basically OLD left over Samsung CPU**
	CPU	Quad-core 1.4 GHz Cortex-A9	Dual-core 1.2 GHz
	GPU	Mali-400MP	PowerVR SGX 543MP3
	Sensors	Accelerometer, gyro, proximity, compass, barometer **GOOD**	Accelerometer, gyro, proximity, compass
	Messaging	SMS(threaded view), MMS, Email, Push Mail, IM, RSS	iMessage, SMS (threaded view), MMS, Email, Push Email
	Browser	HTML, Adobe Flash **GOOD**	HTML (Safari)
	Radio	Stereo FM radio with RDS	No **BAD**
	GPS	Yes, with A-GPS support and GLONASS	Yes, with A-GPS support and GLONASS
	Java	Yes, via Java MIDP emulator	No **BAD**
	Colors	Pebble blue, Marble white, Amber brown, Garnet red, Sapphire black, Titanium grey	Black/Slate, White/Silver
BATTERY		Standard battery, Li-Ion 2100 mAh **GOOD**	Standard battery, Li-Po 1440 mAh (5.45 Wh) **BAD**
	Stand-by	Up to 590 h (2G) / Up to 790 h (3G)	Up to 225 h (2G) / Up to 225 h (3G)
	Talk time	Up to 21 h 40 min (2G) / Up to 11 h 40 min (3G) **GOOD**	Up to 8 h (2G) / Up to 8 h (3G) **BAD**
	Music play		Up to 40 h

iPad 3 vs Galaxy Note

Model			
Screen	800 x 1280 pixels, 10.1 inches 149 ppi pixel density	800 x 1280 pixels, 10.1 inches 149 ppi pixel density	2048 x 1536 pixels 264 ppi pixel density
Processor	Quad-core 1.4GHz Exynos 4412	1GHz Dual core Cortex A9	1GHz Dual core Apple A5X
Memory size	16GB/32GB/64GB Internal (expandable up to 64GB)	16/32GB Internal, (expandable up to 32GB)	16/32/64GB Internal (No extend slot)
RAM	2 GB	1GB	1GB
Operating system	Android 4.0.3 Ice Cream Sandwich	Android 4.0.3 Ice Cream Sandwich	iOS 5.1
Camera	5 MP rear camera and 1.9 MP front camera	3.2 MP rear camera and VGA MP front camera	5 MP rear camera and 0.3 VGA MP front camera
Connectivity	3G, 4G LTE (coming soon)	3G, 4G LTE	3G, 4G LTE
Weight	600g	588g	651g
Dimensions	262 x 180 x 8.9 mm	256.6 x 175.3 x 9.7 mm	241.2 x 185.7 x 9.44 mm
Battery	7000mAh	7000mAh	11560 mAh
Price	~USD$499.99	~USD$399.99	~USD$499.99

iPad 3 vs Galaxy Note

SAMSUNG GALAXY NOTE 10.1 vs. THE NEW APPLE IPAD
CONTENT CREATION COMPARISON GRID

TASK	SAMSUNG GALAXY NOTE 10.1	THE NEW APPLE IPAD
View two apps at the same time	**Yes** (1)	**No.**
Work with two apps side by side	**Yes** (1)	**No.**
Optimized for precision writing/drawing	**Yes.**	**No.** *Note: Only with a generic iPad stylus – one of the most popular iPad accessories according to Amazon*[i]
Write as you would with pen/pencil and paper	**Yes.** Screen/S-Pen is 10x more accurate - with 255 levels of pressure sensitivity - than a normal capacitive screens	**No.** The iPad's capacitive screen only recognizes one level of pressure sensitivity.
Precision photo and imaging editing	**Yes.** Pressure sensitivity and precision S-Pen works with optimized editing apps	**No.**
Take notes in one app while viewing content in another app	**Yes.**	**No.** (unless you use actual pen and paper)
Cut and paste content between two apps side by side	**Yes.** (1)	**No.**
Other Features of Galaxy Note 10.1	• Lighter and thinner than the new iPad • Control home theater equipment with integrated IR port • Attach a mouse with a USB 2.0 host • Expand storage on MicroSD up to 32GB	

(1) (apps must be optimized for simultaneous viewing)

Teardown and BOM

- http://www.techrepublic.com/blog/cracking-open/samsung-galaxy-s-iii-teardown-reveals-easy-open-case-difficult-to-fix-display/666
- http://www.teardown.com/AllReports/product.aspx?reportid=2186 (charge US$1250 for teardown report of S3)--- why is that?

S III BOM >US$230 (est.)

AMOLED panel expensive !

Table 1. BOM costs, by flagship model

(USD)	iPhone 4S	Galaxy S2	Lumia 900
Memory	29.30	31.50	27.00
NAND	19.20	20.00	17.00
DRAM	10.10	11.50	10.00
Display	37.00	64.00	58.00
Panel	23.00	50.00	44.00
Touch screen	14.00	14.00	14.00
AP	15.00	22.00	17.00
Camera	17.00	20.00	18.00
Network chips	23.50	30.00	38.00
Sensors/WiFi/GPS	13.50	16.50	14.00
Power management	7.20	11.00	9.00
Battery	5.90	5.00	4.50
Electro-mechanical	33.00	22.00	18.00
Total cost	181.40	222.00	203.50

Source: IHS iSuppli, Samsung Securities

Table 8: 3G smartphone vs. LTE smartphone (BOM table analysis)

Unit in US$

Category	*SEC Galaxy S2 (16GB)*	*SEC Galaxy S2 LTE (16GB)*
BOM + Manufacturing	**223.3**	**252.6**
Manufacturing Cost	16.0	16.0
BOM Cost	**207.3**	**236.6**
Memory	28.3	28.3
NAND Flash	19.2	19.2
DRAM	9.1	9.1
Display & Touch Screen	44.0	49.0
Display	**30.0**	**35.0**
Touch Screen	14.0	14.0
Processor	25.0	25.0
Camera(s)	20.0	20.0
Wireless section - BB/RF/PA	***23.5***	***39.5***
User Interface & Sensors	6.9	6.9
WLAN/BT/FM/GPS	6.5	6.5
Power Management	***7.2***	***10.0***
Battery	***5.9***	***6.5***
Mechanical / Electro-mechanical	***33.0***	***38.0***
Box Contents	7.0	7.0
Smartphone ASP (US$)	**450**	**550**
Total Bill of materials	**223**	**253**
Gross Margins	***50%***	***54%***

Source: AT&T website, Company data, J.P. Morgan estimates

Gross margins of S3 might be similar to S2

Preliminary Bill-of-Materials Summary for Samsung Galaxy Tab GT-P1000

Function	Manufacturer	Part Number	Description	Cost
Display & Touch Screen				$57.00
Includes	Samsung Mobile Display	LMS700JF03	Display Module - 7" Diagonal, LED Backlit TFT, 1024 x 600 Pixels, 169ppi, 24 White LEDs Backlight	
			Touch Screen - 7" Diagonal Capacitive	
Memory				$51.00
Includes	SanDisk	SDIN4C2-16G	Flash - eMMC NAND, 16GB, MLC	
	Samsung Semiconductor	KB100D00YM-A453	MCP - 8Gb MLC Flex-OneNAND + 4Gb Mobile DDR + 1Gb OneDRAM, PoP (Estimated)	
Mechanical / Electro-Mechanical				$15.22
Includes			PCBs, Metals, Plastics, Connectors, Etc.	
User Interface				$13.87
Includes	ST Microelectronics	L3G4200D	Gyroscope - 3-Axis, Digital	
	Atmel	MXT224	Touch Screen Controller - Capacitive, 12-bit, 224-Channel Configuration, 400KHz, w/ I2C Interface	
	Texas Instruments	SN75LVDS83BZQLR	LVDS Transmitter	
Battery				$10.60
Includes	Samsung SDI	SP4960C3A	Battery - Li-Ion, 3.7V, 4000mAh, 14.8Wh	
Baseband				$10.07
Includes	Infineon	PMB9801	Baseband - HSUPA/HSDPA/WCDMA/EDGE, ARM1176 Core	
RF / PA				$9.09
Includes	Infineon	PMB5703	RF Transceiver - Quad-Band GSM/EDGE, Quad-Band WCDMA/HSDPA/HSUPA, 130nm RF CMOS	
	TriQuint Semiconductor	TQMxxxx	Transmit Modules (4 in all)	
Apps Processing				$8.84
Includes	Samsung Semiconductor	S5PC110A01	Multimedia Application Processor - 1GHz, ARM Cortex A8 Core, PoP	
BT / FM / GPS / WLAN				$8.96
Includes	Broadcom	BCM4329HKUBG	Bluetooth/FM/WLAN - Single Chip, WLAN IEEE802.11a/b/g/n, Bluetooth V2.1+EDR, w/ FM Radio Receiver & Transmitter	
	Broadcom	BCM4751IUB2G	GPS Receiver - Single Chip	
Camera				$7.95
Includes			3MP and 1MP Camera Modules	
Accessories, Literature & Packaging				$7.11
Includes			Headset, USB Charger and Adapter, Cord, Box, Etc.	
Power Management				$5.51
Includes	Maxim	MAX8998	Power Management IC	
			Total BOM (Materials Only)	**$205.22**
			Estimated Manufacturing Costs	**$9.35**
			Total BOM (Materials and Manufacturing Costs)	**$214.57**

AMOLED for S III

**This cost assessment is preliminary in nature, and accounts only for hardware and manufacturing costs and does not take into consideration other expenses such as software, licensing, and royalties or other 'soft' costs.*

Component Sourcing and Manufacturing Cost: Apple vs Samsung

- Apple advantage both in price and performance spec.
- Apple has much lower manufacturing cost

Shrinkage Comparison

Comparative Smartphone Device and Display Thickness (in Millimeters (MM))

	Apple iPhone 4S	Apple iPhone 5	Samsung Galaxy S III
Display Module Thickness with Touch Layer	2.1mm	1.5mm	1.1mm
Cover Glass Thickness	1.0mm	0.9mm	0.7mm
Total Display Thickness	3.1mm	2.4mm	1.8mm
Total Device Thickness	9.3mm	7.6mm	8.6mm

Source: IHS iSuppli Research, October

Comparative Smartphone Display Size and Color Gamut

	Apple iPhone 4S	Apple iPhone 5	Samsung Galaxy S III
Display Size	3.5-inch	4-inch	4.8-inch
Color Gamut	50% NTSC	72% NTSC	100%NTSC
Aspect Ratio	3:02	16:09	16:09

Source: IHS iSuppli Research, October

In-cell Slimming

In-cell technology eliminates the standalone touch panel layers used in most smartphones and instead integrates the touch sensors into the liquid crystal of the liquid crystal display (LCD) stack, sharing common electrodes and transistors. The technology can reduce display module thickness by about 0.5 millimeters on average, reducing total smartphone thickness.

The iPhone 5 is 18 percent thinner than the 4S, at a total of 7.6 millimeters. While the display is thicker than for the Samsung Galaxy III, the iPhone 5 as a whole is 1 millimeter thinner than the Galaxy S III, which measures 8.6 millimeters in total. The Galaxy S III's greater girth is due to other factors separate from the display, most likely the thickness of the battery.

Lighten Up

Beyond thinning the display, in-cell's elimination of the separate touch overlay layer allows more light to emit from the display without the intrusion of added refraction and glare of the additional touch layers. This helps the new display to enjoy a more vibrant and crisper image with improved color saturation than iPhone 4S.

The iPhone 5's display still falls short of the NTSC color gamut mark achieved by the Galaxy III. However, from a user's perspective, the lower color gamut measurement may not necessarily make the iPhone 5 display look worse than the Galaxy III. More accurate and realistic representation of image color and contrasts may be a result of better calibration, higher brightness and superior power efficiency of the display.

"Some user reviews indicate that colors presented on the Galaxy S III actually can look oversaturated and unrealistic," Jakhanwal said. "While it may be interesting to compare the display specifications for the two phones, the actual front-of-screen viewing experience could diverge for different users."

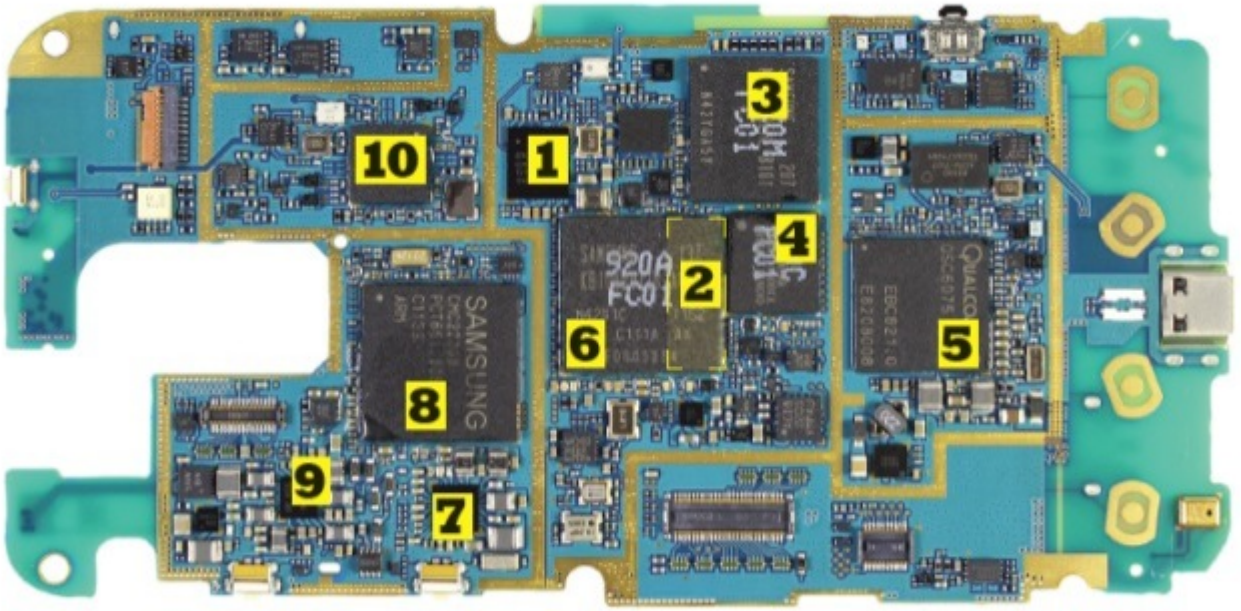
Display Power Issues

The Galaxy III employs an active-matrix organic light emitting diode (AMOLED) display, in contrast to the low temperature polysilicon (LTPS) LCD) employed in the iPhone 5.

As AMOLEDs don't use a backlight unit, they potentially have better power efficiency than LCDs. However, there are concerns about differential aging of organic materials, which affects OLED lifetime and power efficiency. And although display power consumption is important, overall battery life of the device will still be dependent on many other factors.

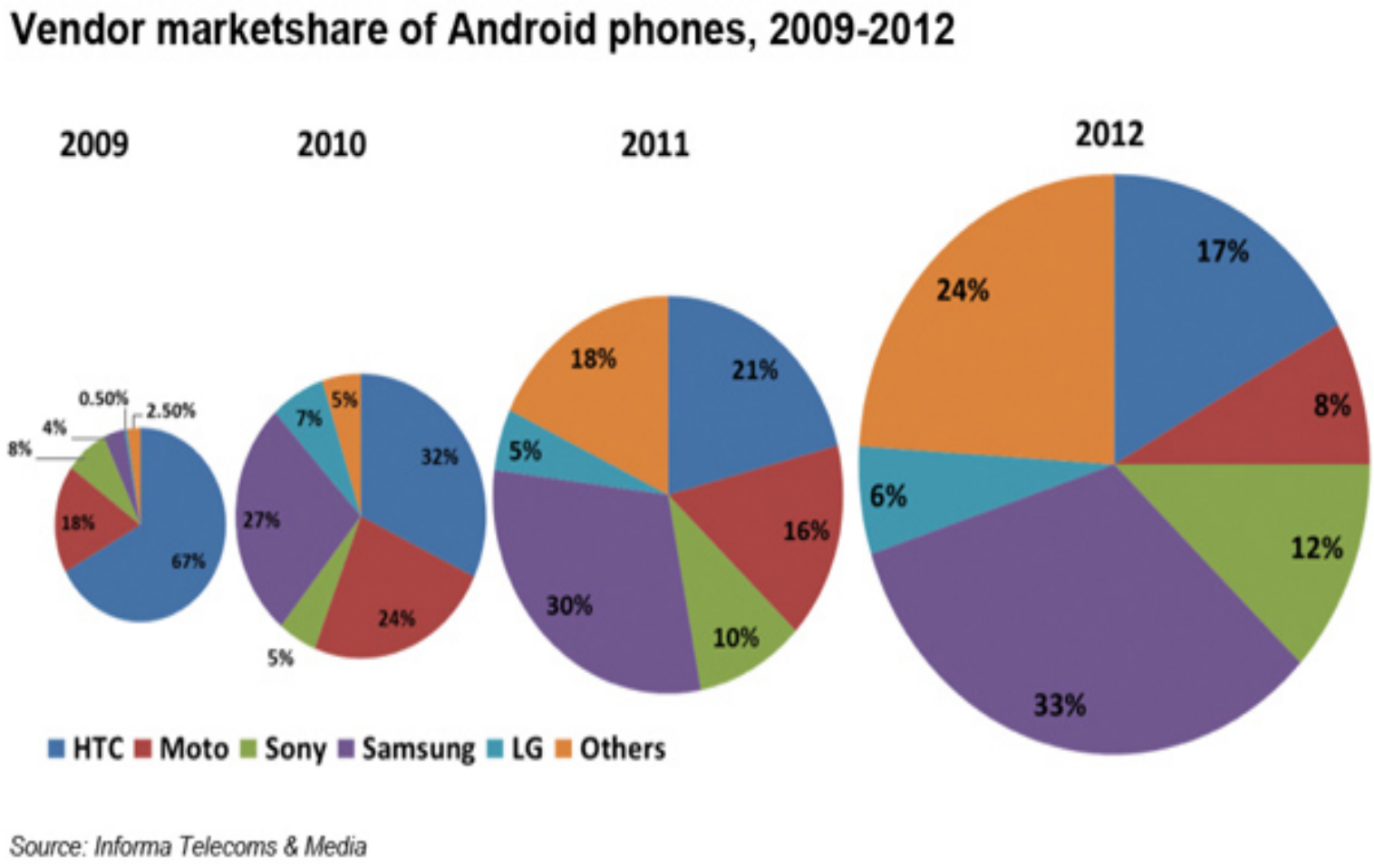
Samsung S III Teardown

- Seem like only processor + DRAM + Flash from Samsung itself



http://www.ifixit.com/Teardown/Samsung+Galaxy+S+III+Teardown/9391/1

Android Phones Market



Source: Informa Telecoms & Media

Technology

- Samsung Leadership
  - Semiconductor Process Technology and Manufacturing Technology
  - Component VLSI Design (both memory and processor devices)
  - Display Technology (TFT-LCD and AM-OLED)
  - Utility Patent
- Apple Leadership
  - UI(user-interface) Design and Industrial Design
  - OS and Application SW
  - Design Patent