

December 15, 2009

GLOBAL

The Mobile Internet Report

Ramping Faster than Desktop Internet, the Mobile Internet Will Be Bigger than Most Think

Material wealth creation / destruction should surpass earlier computing cycles. The mobile Internet cycle, the 5th cycle in 50 years, is just starting. Winners in each cycle often create more market capitalization than in the last. New winners emerge, some incumbents survive – or thrive – while many past winners falter.

The mobile Internet is ramping faster than desktop Internet did, and we believe more users may connect to the Internet via mobile devices than desktop PCs within 5 years.

Five IP-based products / services are growing / converging and providing the underpinnings for dramatic growth in mobile Internet usage – 3G adoption + social networking + video + VoIP + impressive mobile devices.

Apple + Facebook platforms serving to raise the bar for how users connect / communicate – their respective ramps in user and developer engagement may be unprecedented.

Decade-plus Internet usage / monetization ramps for mobile Internet in Japan plus desktop Internet in developed markets provide roadmaps for global ramp and monetization.

Massive mobile data growth is driving transitions for carriers and equipment providers.

Emerging markets have material potential for mobile Internet user growth. Low penetration of fixed-line telephone and already vibrant mobile value-added services mean that for many EM users and SMEs, the Internet will be mobile.

We use a data-rich, theme-based framework for thinking about how the rapidly emerging / changing mobile Internet may evolve. One thing is clear: new computing cycles create / destroy material wealth – and the mobile Internet cycle should be no different. For our compilation of *well positioned / potentially challenged / unclearly positioned companies*, see pages 11-13.

This report is structured as a PowerPoint presentation based on the 8 themes highlighted to the right. Each theme is preceded by an overview that sets the stage for the slides. Additionally, we compiled 'The Mobile Internet Report Setup' presentation (pages 9-59), which highlights the key takeaways of our work. This report is optimally viewed on a screen or as a color print out.

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Key Themes

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To purchase a printed copy of *The Mobile Internet Report*, please go to www.morganstanley.com/mobileinternetbook or contact your Morgan Stanley representative.

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For analyst certification and other important disclosures, refer to the Disclosure Section, located at the end of this report.

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We acknowledge the contributions of Ravi Lath to this report.

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1) Wealth Creation / Destruction Is Material in New Computing Cycles – Now in Early Innings of Mobile Internet Cycle, the Fifth Cycle of Last Half Century

Major changes in technology tend to create powerful new dynamics in many markets. Over the last 50 years, the winners in each computing cycle have created more market capitalization than those in the previous cycle. Some incumbents and some attackers survive – or even thrive – after they “cross the chasm” and succeed in the new environment, while many past winners falter. As Paul Saffo remarked about the Internet in 1995, the short-term impact may be hyped, but the long-term implications will be vastly greater than we can imagine.

The wealth created (and destroyed) by the mobile Internet may surpass each of the prior cycles, supported by an accelerating population of users and devices that’s an order of magnitude above the numbers in the last computing cycle. The pace of adoption is likely to outstrip that of the desktop Internet, leaving the mobile Internet at least twice as big. And the pace of company change is accelerating, as seen in

product and M&A announcements. It’s notable that more users may connect to the Internet via mobile devices than desktop PCs within five years.

We expect tech companies to outstrip telecom and media firms in their wealth creation in this cycle: That was the pattern with the desktop Internet, as well as the lesson from Japan during the last decade, as the balance of power and profitability shifted from carriers and device manufacturers to software and service providers. Users will gain greater control as information is democratized and decentralized, rewarding innovative service providers while marginalizing the slow-moving incumbents.

Note: The following 10 slides from page 62 to 66 provide a roadmap for The Mobile Internet Report Key Themes. Theme 1 slides follow directly afterwards.

The Mobile Internet Report Key Themes*

December 15, 2009

*This presentation excerpts highlights of the key themes from Morgan Stanley's Mobile Internet Report, published 12/15/09 (available at www.ms.com/techresearch).

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What You are Reading – The Mobile Internet Report Key Themes

Morgan Stanley's global technology and telecom analysts set out to do a deep dive into the rapidly emerging and changing mobile Internet market. We wanted to create a data-rich, theme-based framework for thinking about how the market may develop. We intend to expand and edit the framework as the market evolves. A lot has changed since we published 'The Internet Report' in 1995 on the web (www.ms.com/techresearch). We decided to create most of this report as a PowerPoint presentation and publish it on the web, expecting that bits and pieces of it will be cut / pasted / redistributed and debated / dismissed / lauded. Our goal is to get our thoughts / data into the growing conversation about what may be the biggest technology trend ever, one that may help make us all more informed in ways that are unique to the web circa 2009, and beyond.

We present our thoughts in three ways:

- 1) 'The Mobile Internet Report Setup' – a 92-slide presentation which excerpts highlights of the key themes from the report.
- 2) 'The Mobile Internet Report Key Themes' – a 659-slide presentation which drills down on thoughts covered in 'The Mobile Internet Report.'
- 3) 'The Mobile Internet Report' – a 424-page report which explores 8 major themes in depth and includes the two aforementioned slide presentations + related text.

Each piece is available online at www.ms.com/techresearch

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Context

Apple's iPhone / iTouch / iTunes ecosystem may prove to be the fastest-ramping + most disruptive technology product / service launch the world has ever seen.

With Internet + cellular networks at its core, Apple, in effect, has empowered tens of millions (and growing rapidly) consumers with cloud-based devices that allow them to easily do "remote-controlly" type things in real time that have been in the imaginations of science fiction writers for decades.

Consumers love Apple's products and are voting with their time and money.

It's a rare business that doesn't need to take note of what Apple + consumers are doing and determine how to adapt to the mobile Internet over the coming decade.

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Key Mobile Internet Themes

- 1) **Wealth Creation / Destruction is Material in New Computing Cycles – Now in Early Innings of Mobile Internet Cycle, the 5th Cycle of Last Half Century.**
- 2) **Mobile Ramping Faster than Desktop Internet Did and Will Be Bigger Than Most Think – 5 Trends Converging (3G + Social Networking + Video + VoIP + Impressive Mobile Devices).**
- 3) **Apple Leading in Mobile Innovation + Impact, for Now – Depth of App Ecosystems + User Experience + Pricing Will Likely Determine Long-Term Winners.**
- 4) **Game-Changing Communications / Commerce Platforms (Social Networking + Mobile) Emerging Very Rapidly.**
- 5) **Growth / Monetization Roadmaps Provided by Japan Mobile + Desktop Internet.**
- 6) **Massive Data Growth Driving Carrier / Equipment Transitions.**
- 7) **Compelling Opportunities in Emerging Markets.**
- 8) **Regulators Can Help Advance / Slow Mobile Internet Evolution.**

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Key Mobile Internet Themes...

- 1) **Wealth Creation / Destruction Is Material in New Computing Cycles – Now in Early Innings of Mobile Internet Cycle, the 5th Cycle of Last Half Century –** History proves that massive technology changes typically shift dynamics between incumbents / attackers creating winners / losers. A handful of incumbents (like Apple, Google, Amazon.com and Skype) appear especially well positioned for mobile changes.
- 2) **Mobile Ramping Faster than Desktop Internet Did and Will Be Bigger Than Most Think – 5 Trends Converging (3G + Social Networking + Video + VoIP + Impressive Mobile Devices)** – The explosive Apple iPhone / iTouch ramp shows us that usage of mobile devices on IP-based networks should surprise to the upside for years to come. 3G adoption is hitting inflection points across many markets, enabling consumers to engage in a broad range of IP-based usage models (social networking / VoIP / video) via powerful mobile Internet-enabled devices. We predict smartphones will out-ship the global notebook + netbook market in 2010E and out-ship the global PC market (notebook + netbook + desktop) by 2012E.

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...Key Mobile Internet Themes...

- 3) **Apple Leading in Mobile Innovation + Impact, for Now – Depth of App Ecosystems + User Experience + Pricing Will Likely Determine Long-Term Winners** – Near term, Apple is driving the platform change to mobile computing and leading in user experience. Its mobile ecosystem (iPhone + iTouch + iTunes + accessories + services) market share / impact should surprise on the upside for at least the next 1-2 years. Longer term, Google Android's open / free operating system (combined with clever device manufacturers), emerging markets competition, and carrier limitations may pose challenges to Apple's market share upside. RIM may maintain enterprise lead, owing to installed base, but long-term outlook is challenged.

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...Key Mobile Internet Themes...

- 4) **Game-Changing Communications / Commerce Platforms (Social Networking + Mobile) Emerging Very Rapidly** – Improvements in social networking and mobile computing platforms (led by Facebook + Apple ecosystems) are fundamentally changing the ways people communicate with each other and the ways developers / advertisers / vendors can reach consumers. Mobile devices are evolving as remote controls for continually expanding types of real-time, cloud-based services – including emerging location-based services – creating opportunities + dislocations, empowering consumers in unprecedented + transformative ways.
- 5) **Growth / Monetization Roadmaps Provided by Japan Mobile + Desktop Internet** – Mobile Internet development in Japan and desktop Internet business models indicate significant runways for mobile online commerce / paid services / advertising monetization; data access likely will continue to lose relative revenue share in the mobile Internet ecosystem.

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...Key Mobile Internet Themes

- 6) **Massive Data Growth Driving Carrier / Equipment Transitions** – Global mobile IP traffic likely to grow 66x by 2013E (with 130% CAGR), per Cisco. Increasing 3G / smartphone penetration + emerging usage models (such as video / audio streaming) will stress carrier wireless networks. Carriers may be able to address the surge via capacity upgrade + offloading. Ultimately, they need to compete on strength of their macro networks + availability of Wi-Fi. Scale in mobile market share / full network sharing agreements / co-operation with fixed / Wi-Fi providers will be key. Pricing decisions will be driven by competitive pressure and will need to take account of potential for VoIP to erode voice revenue. Tiered data pricing (speed, quantity) will likely be critical to growing revenue long-term.

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...Key Mobile Internet Themes

- 7) **Compelling Opportunities in Emerging Markets** – Emerging markets have enormous potential for mobile Internet user growth owing to low fixed-line telephone / broadband penetration + already vibrant mobile value-added services. But near-term adoption / usage catalysts are missing and 3G inflection points may be 2-3 years away.
- 8) **Regulators Can Help Advance / Slow Mobile Internet Evolution** – Inherent conflicts between wants / needs of consumers vs. incumbent TMT providers rising, creating challenges for regulators.

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Key Theme #1

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Key Theme #1

- 1) **Wealth Creation / Destruction is Material in New Computing Cycles – Now in Early Innings of Mobile Internet Cycle, the 5th Cycle of Last Half Century.**
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Key Theme #1 –

Wealth Creation / Destruction Is Material in New Computing Cycles – Now in Early Innings of Mobile Internet Cycle, the 5th Cycle of Last Half Century

History proves that massive technology changes typically shift dynamics between incumbents / attackers. A handful of incumbents (like Apple, Google, Amazon.com and Skype) appear especially well positioned for mobile changes.

If past is prologue, the impact of the mobile Internet will be bigger than the impact of desktop Internet...and personal computer...and minicomputer...and mainframe...

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**Paul Saffo Opined About the Internet in 1995 -
Here We Are 14 Years Later**

*It's a very consistent pattern in this business that collectively as a society and as individuals we all suffer from what I call macro-myopia. A pattern where our hopes and our expectations or our fears about the threatened impact of some new technology causes us to overestimate its short-term impacts and reality always fails to meet those inflated expectations. And as a result our disappointment then leads us to turn around and underestimate the long-term implications and I can guarantee you this time will be no different. **The short-term impact of this stuff [the Internet] will be less than the hype would suggest but the long-term implications will be vastly larger than we can possibly imagine today.***

- Paul Saffo, 6/12/1995

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Note: Paul Saffo was a director of the Institute for the Future, a consulting group that studies technology and future trends.
Source: Interview with PBS in Palo Alto, CA, 6/12/1995.

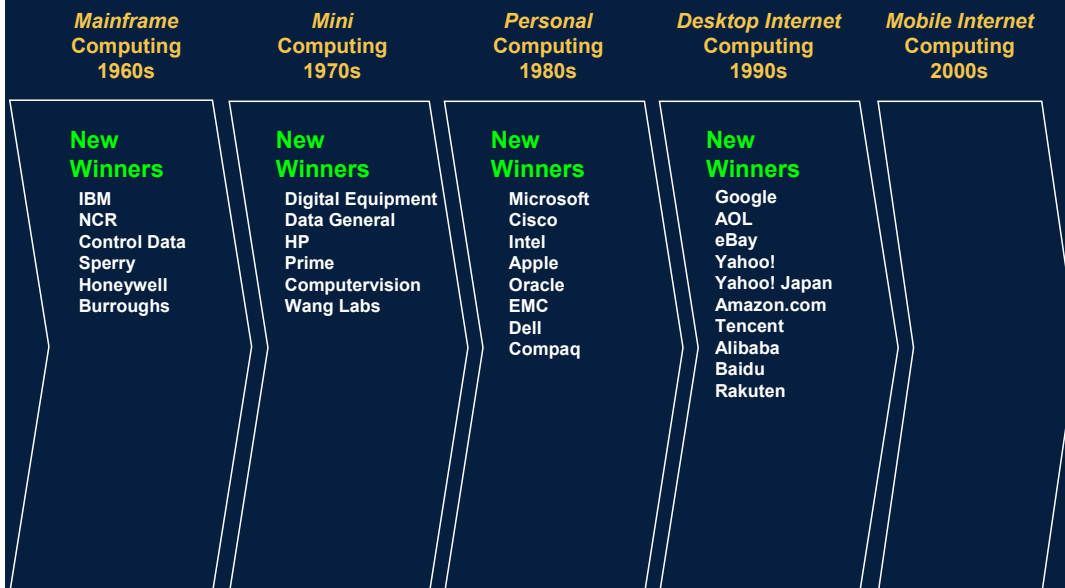
Wealth Creation / Destruction Is Material in New Computing Cycles –

Winners of each new cycle often create more market capitalization than winners of prior cycles... some companies adapt...but most prior winners fail to 'Cross the Chasm' between cycles

Note: 'Crossing the Chasm' refers to a company's ability to transition from early adoption of a technology to the mainstream market (Chasm 1.0) or from a legacy business model to a disruptive business model (Chasm 2.0). In this theme, companies that 'crossed the chasm' were able to bring disruptive technologies to the mass market and adapt to changes in market structure by introducing innovative business models. Source: Geoffrey Moore, "Crossing the Chasm".

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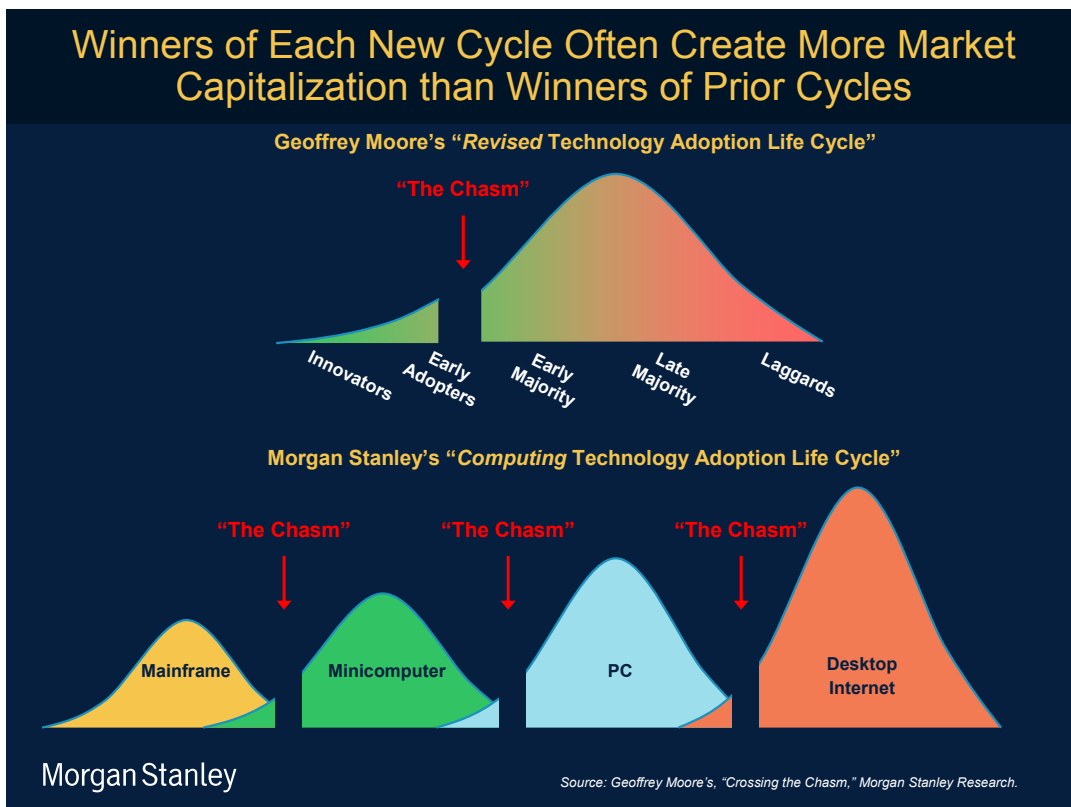
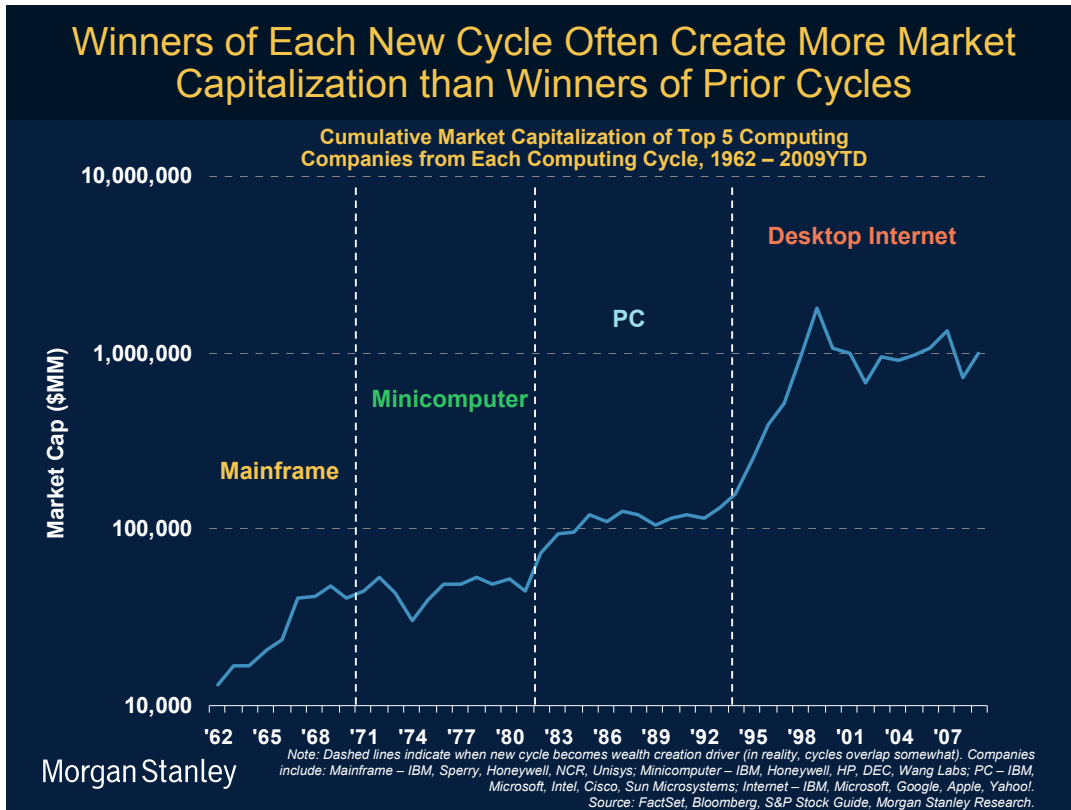
Technology Cycles - Wealth Creation / Destruction
New Companies Often Win Big in New Cycles While Incumbents Often Falter

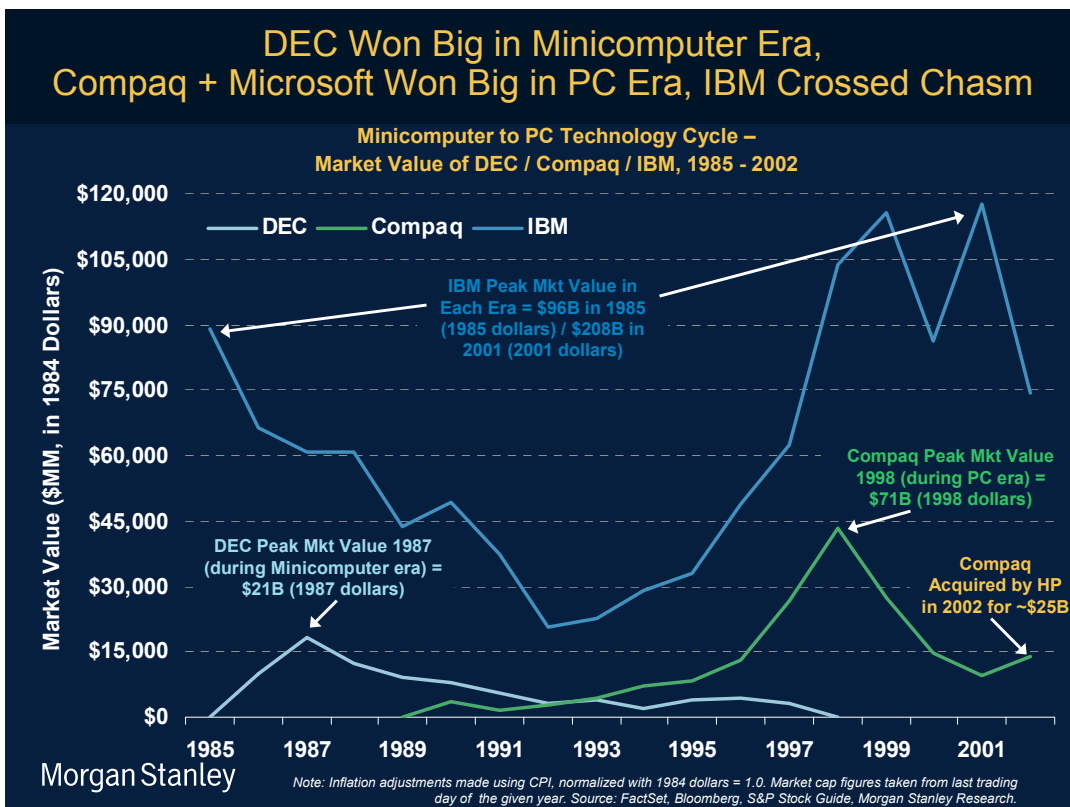
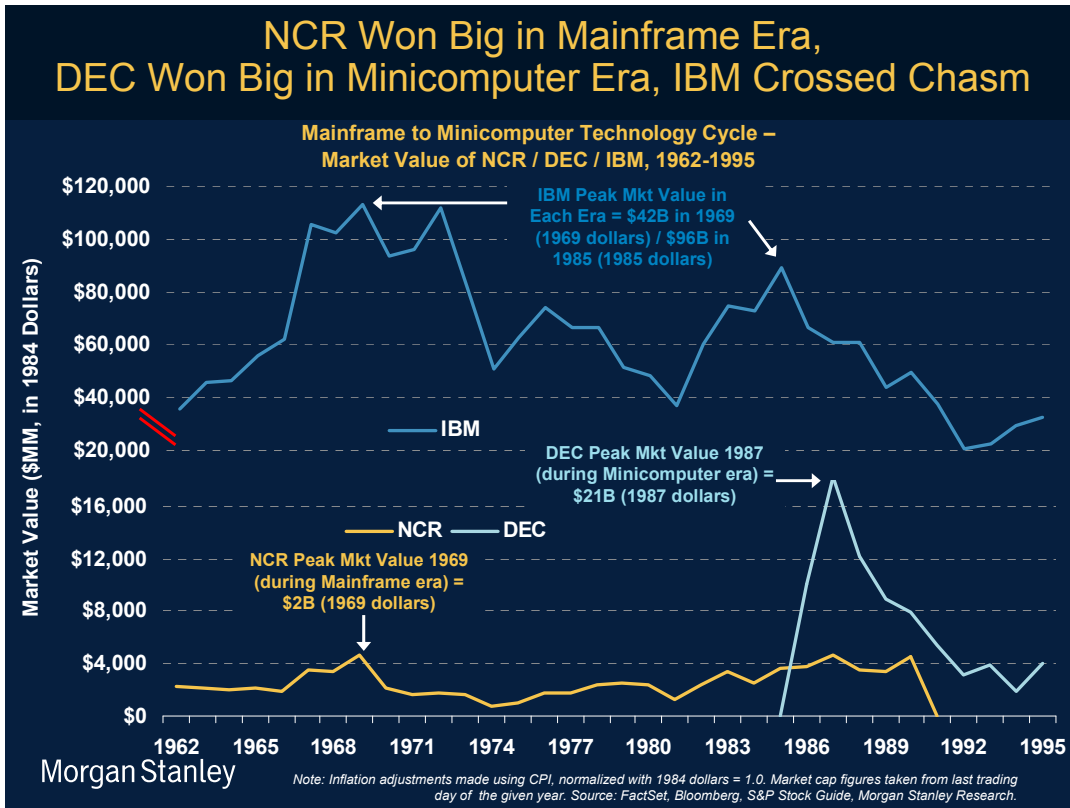


Note: Winners from 1950s to 1980s based on Fortune 500 rankings (revenue-based), desktop Internet winners based on wealth created from 1995 to respective peak market capitalizations. Source: FactSet, Fortune, Morgan Stanley Research.

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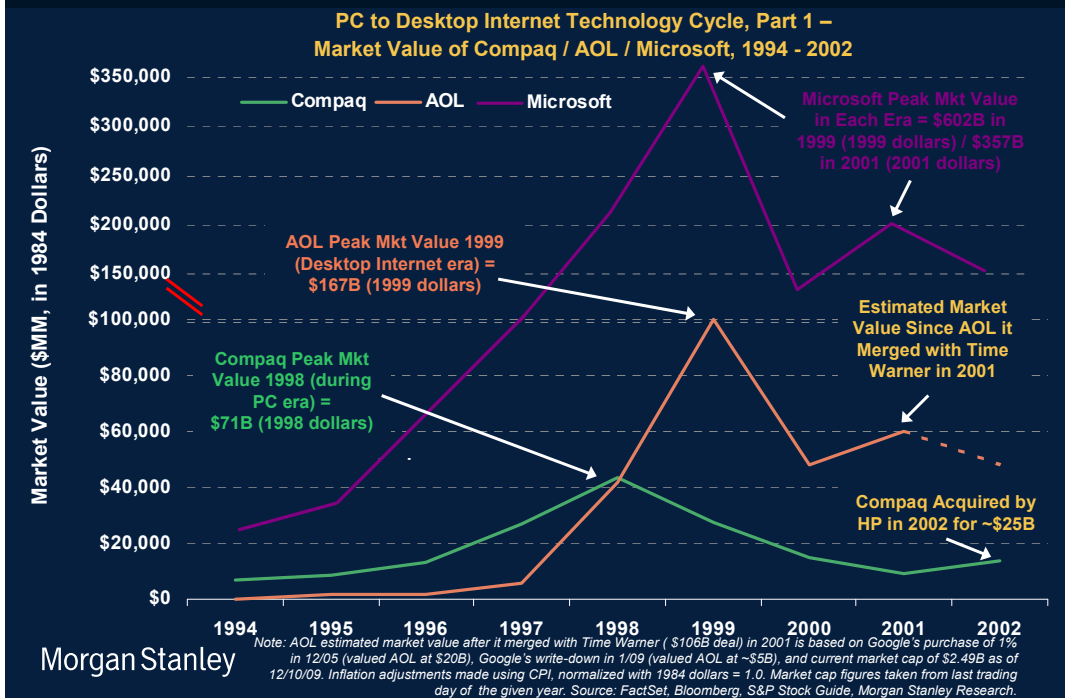
Wealth Creation / Destruction



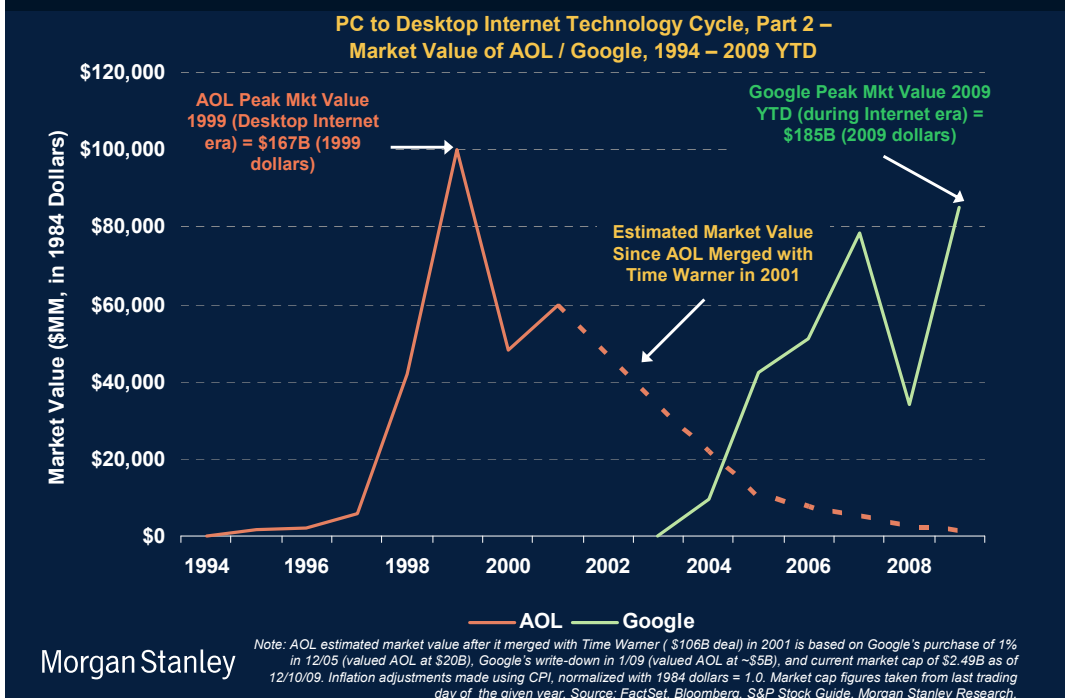


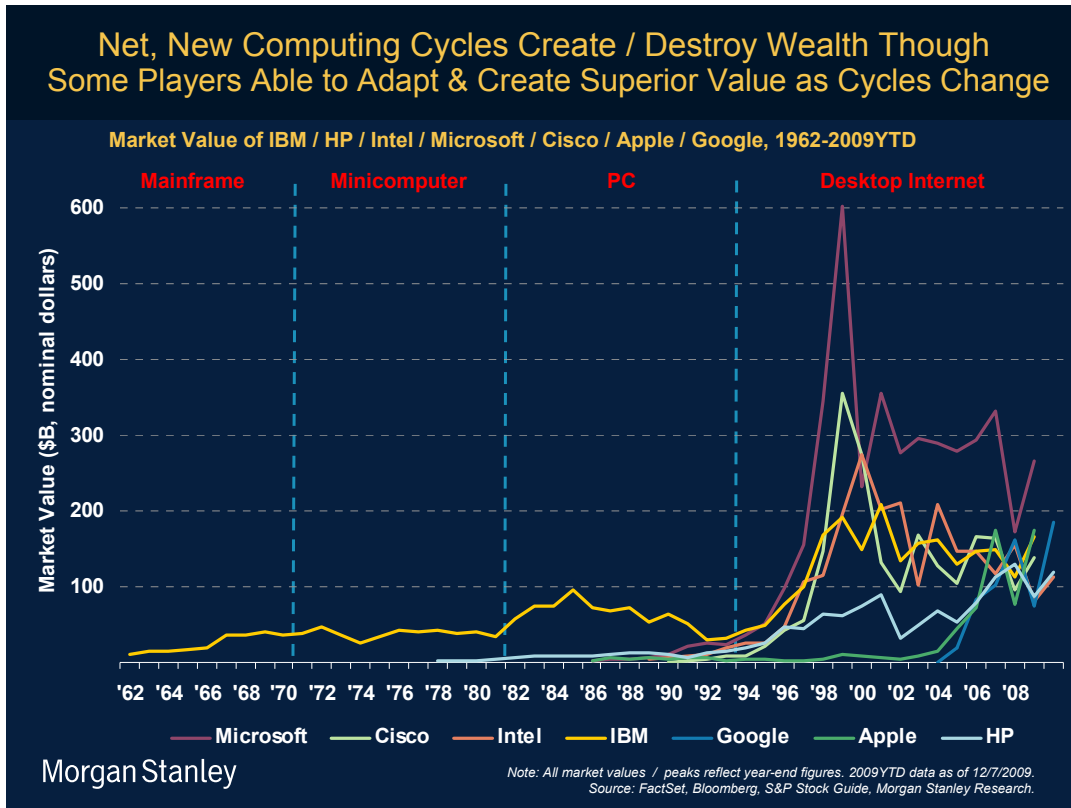
Wealth Creation / Destruction

Compaq + Microsoft Won Big in PC Era, AOL + Microsoft Won Big in Desktop Internet Era (Part 1), Microsoft Crossed Chasm



AOL Won Big in Desktop Internet Era (Part 1), Google Won Big in Desktop Internet Era (Part 2)

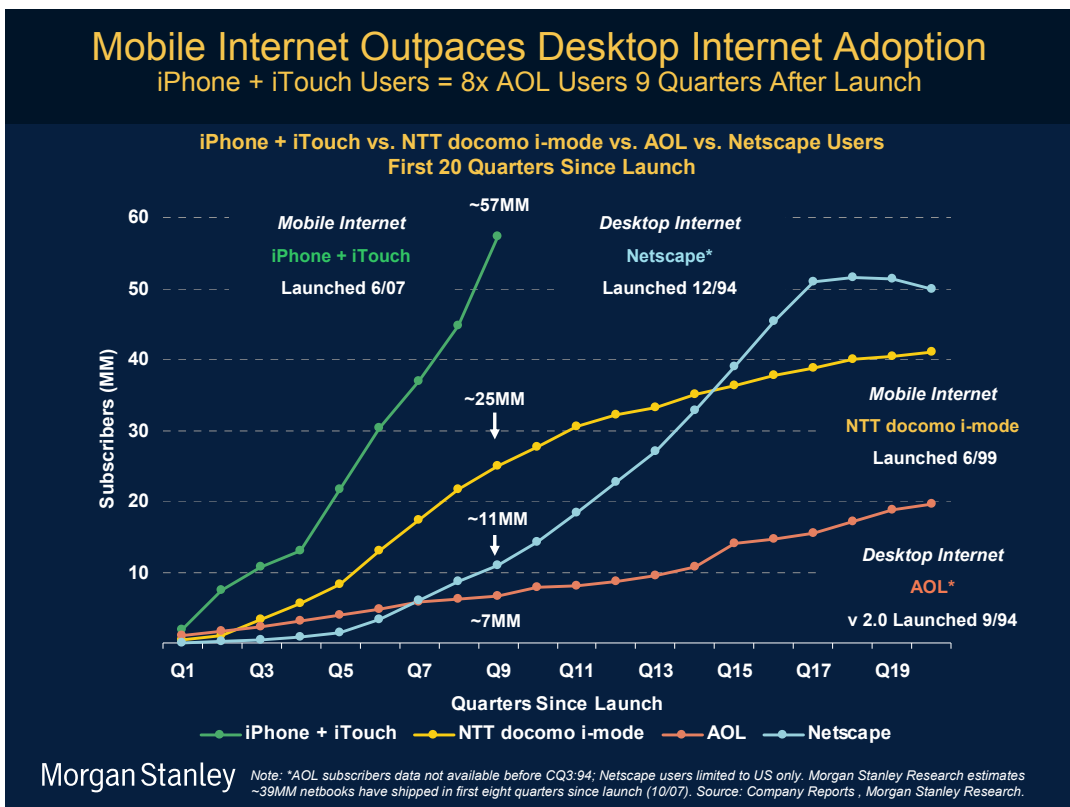
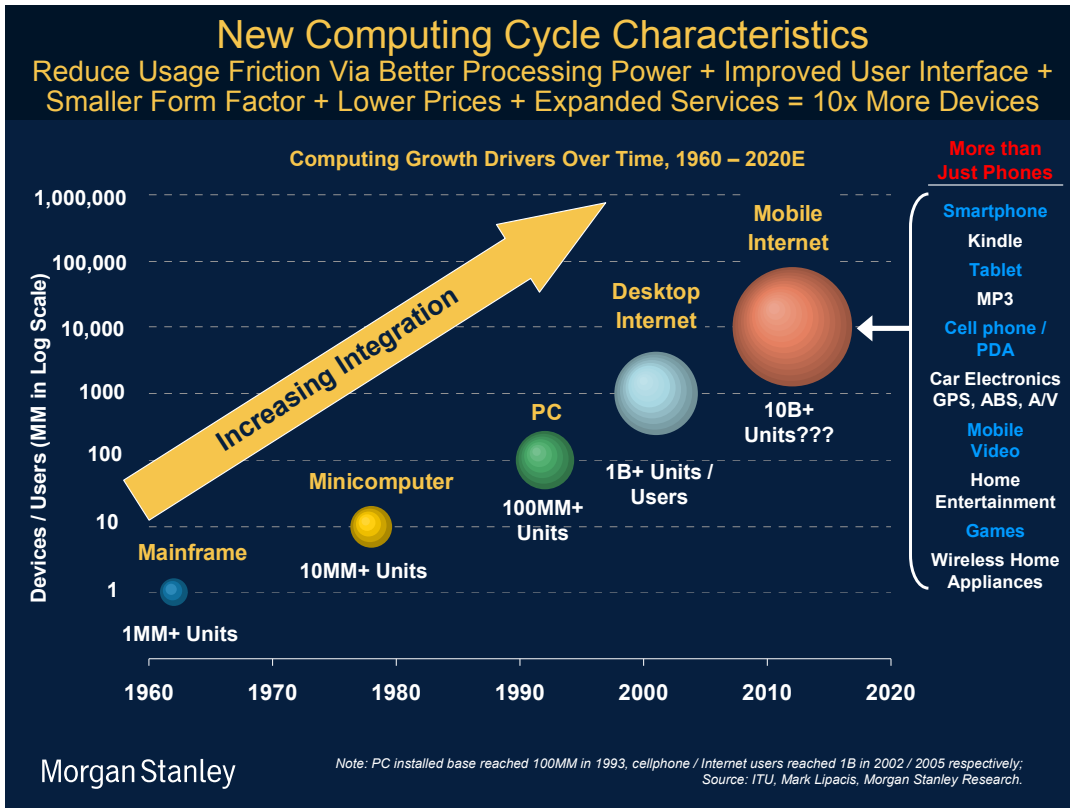




History suggests the mobile Internet has potential to create / destroy more wealth than prior computing cycles based on 10x user multiplier effect (from cycle to cycle, the number of users / units increases tenfold).

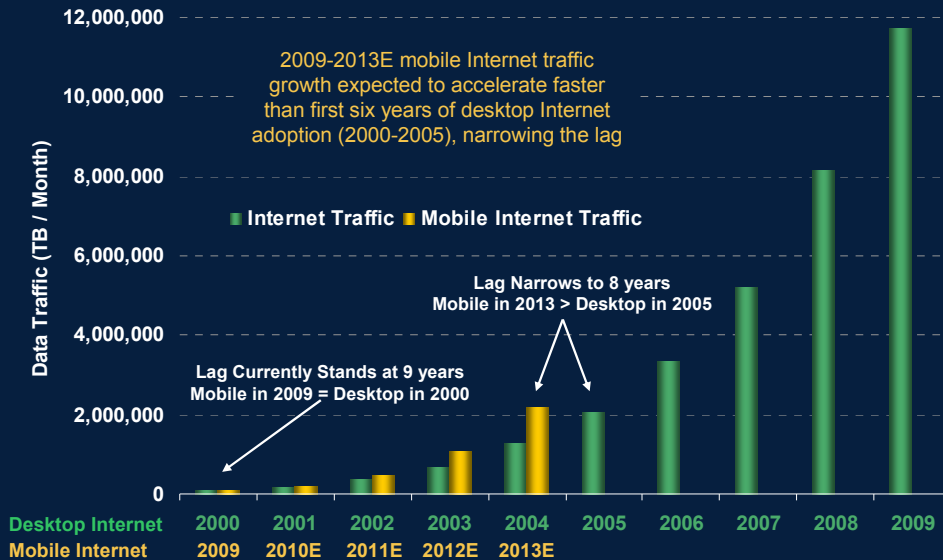
Regarding pace of change, more users will likely connect to the Internet via mobile devices than desktop PCs within 5 years.

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Mobile Internet Traffic Lags Desktop by ~9 Years, Gap Expected to Narrow

Desktop Internet Traffic Growth, 2000 – 2009 vs. Mobile Traffic Growth 2009 – 2013E



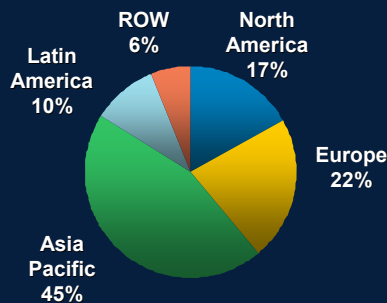
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Source: Cisco, Morgan Stanley Research.

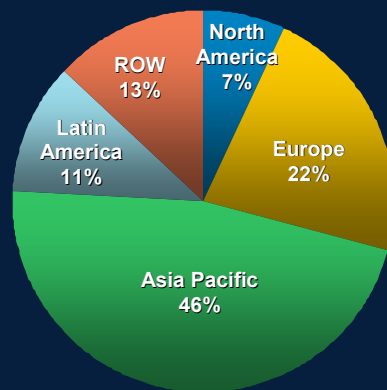
Mobile Internet Market Will Be at Least 2x Size of Desktop Internet, Based on Simple Math Comparing Internet Users with Mobile Subscribers

- Global mobile subscribers exceed Internet users by > 2x
- As mobile Internet usage penetration increases, we expect mobile subscriber and Internet user figures to converge
- Smartphone users may rise 3x over 5 years – to ~1B, up from 288MM in 2008E

Internet Users – 1.6B
2008



Mobile Subscribers – 4.1B
2008



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Note: ROW = Rest of World; Source: ITU, Morgan Stanley Research

Wealth Creation / Destruction

Pace of company change related to mobile Internet is evolving at a very rapid clip

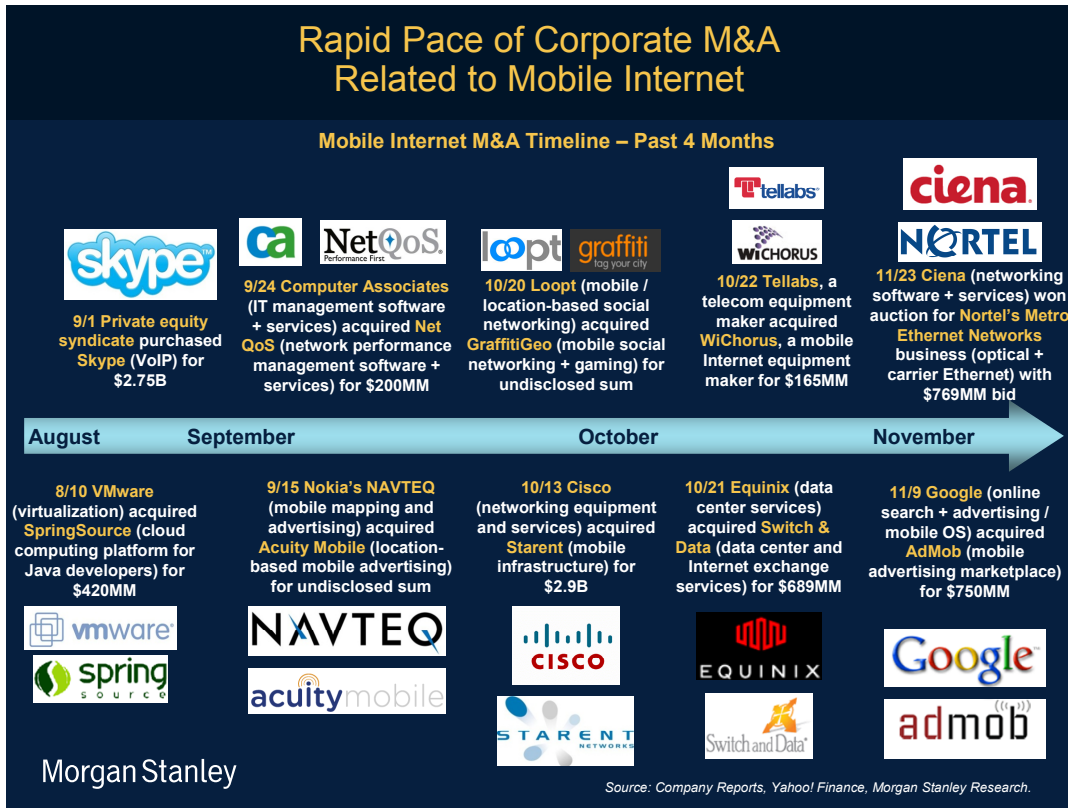
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Rapid Pace of Corporate 'Announcements' Related to Mobile Internet

Date	Important Announcements in the Mobile Industry
12/02/09	Intel releases software developer kit for its netbook app store
11/06/09	Motorola Droid launches on Verizon, running the Android 2.0 OS
10/06/09	AT&T announces that it will allow VoIP apps on the iPhone
10/06/09	Verizon and Google announce strategic partnership to bring Android phones to Verizon network.
9/28/09	Apple's App Store downloads top two billion.
9/21/09	FCC Chairman Julius Genachowski outlines a proposal for Net Neutrality rules.
9/10/09	Motorola announces first Android-powered smartphone with MotoBlur customization.
7/27/09	Google Voice app blocked from the iPhone App Store.
6/22/09	Apple sold over one million iPhone 3GS models within 3 days of global launch.
2/17/09	Nokia to bundle Skype on its high-end N-series smartphones.
2/16/09	Nokia announces Ovi Store for mobile application / content downloads.
1/08/09	Palm announces Palm Pre, based on the brand-new WebOS operating system.
12/05/08	3 UK launches INQ1, the world's first social networking phone, with 50,000 pre-registration
10/01/08	Apple drops the non-disclosure agreement (NDA) for iPhone application developers.
9/30/08	Nokia to acquire leading consumer email and instant messaging provider OZ Communications.
9/24/08	Google, T-Mobile and HTC launch G1, the first phone based on Google's Android open mobile platform.
7/11/08	Apple and AT&T launch iPhone 3G in the U.S.
6/24/08	Nokia acquires Symbian Limited and establishes the Symbian Foundation.
5/12/08	RIM, RBC and Thomson Reuters launches a \$150MM BlackBerry Partner Fund focused on developing mobile applications.
5/08/08	Apple, KPCB launches \$100MM iFund venture capital pool to support iPhone / iPod Touch application development.

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Source: Apple, Google, AT&T, FCC, Verizon, Motorola, Nokia, Hutchison 3, Palm, T-Mobile, HTC, RIM.



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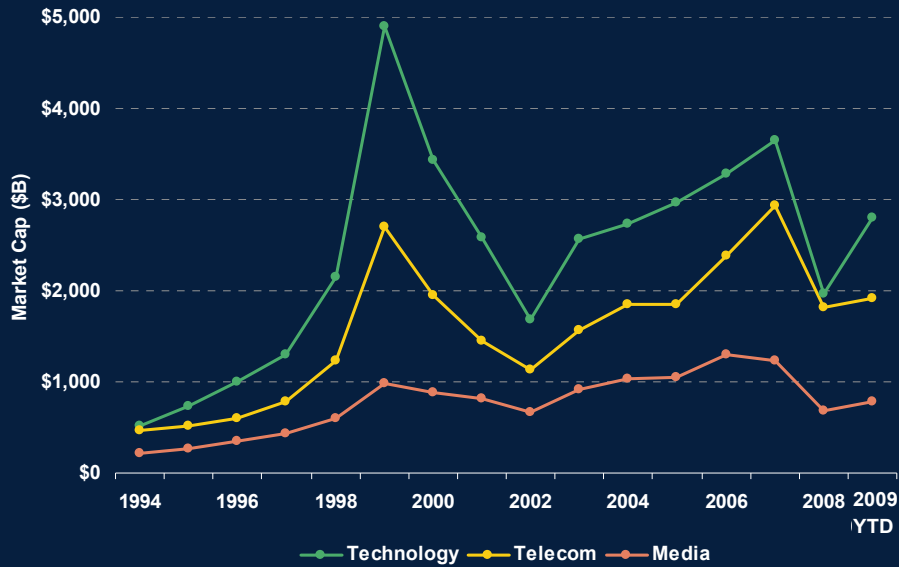
While many telecoms did quite well over past 15 years, technology companies created more wealth than telecom & media companies over past 15 years as global desktop Internet + voice / texting mobile markets developed –

Technology companies may once again garner outsized relative gains as the mobile Internet market develops and a large portion of incremental profits go to the companies that drive innovation and gain scale

Wealth Creation / Destruction

Technology Companies Created > Wealth than Telecom & Media Companies as Global Desktop Internet + Voice / Texting Mobile Markets Developed

Global Technology / Media / Telecom Companies Market Value, 1994 – 2009YTD



Morgan Stanley

Note: Based on 745 most highly capitalized global TMT companies. Source: FactSet, Morgan Stanley Research.

TMT Wealth Creation Over Past 15 Years Driven by Internet (Microsoft + Google + Apple + Cisco...) & Wireless (China Mobile + Telefonica + AT&T + Vodafone...)

Technology				Telecom				Media			
Rank	Company	Market Value Change (\$B) Since 12/30/1994	Current Market Value (\$B)	Company	Market Value Change (\$B) Since 12/30/1994	Current Market Value (\$B)	Company	Market Value Change (\$B) Since 12/30/1994	Current Market Value (\$B)		
1	Microsoft	\$232	\$267	China Mobile	\$189	\$189	Comcast	\$39	\$46		
2	Google	\$185	\$185	AT&T	\$138	\$163	Vivendi	\$37	\$37		
3	Apple	\$169	\$174	Telefonica	\$137	\$137	Time Warner	\$36	\$37		
4	Cisco	\$130	\$139	Vodafone	\$121	\$121	Walt Disney	\$32	\$56		
5	IBM	\$123	\$167	Verizon	\$72	\$93	News Corp	\$22	\$32		
6	Oracle	\$102	\$114	France Telecom	\$70	\$70	DirectTV	\$20	\$31		
7	Samsung	\$98	\$98	Deutsche Telekom	\$68	\$68	Thomson Reuters	\$20	\$27		
8	HP	\$93	\$119	NTT	\$67	\$67	Viacom	\$18	\$18		
9	Intel	\$86	\$113	NTT docomo	\$64	\$64	BSkyB	\$16	\$16		
10	Qualcomm	\$74	\$75	America Movil	\$49	\$49	Time Warner Cable	\$15	\$15		
11	Amazon.com	\$60	\$60	Telstra	\$39	\$39	WPP Group	\$12	\$12		
12	SAP	\$56	\$56	Singtel	\$34	\$34	Pearson	\$11	\$11		
13	Canon	\$56	\$56	TeliaSonera	\$33	\$33	Omnicom	\$10	\$11		
14	TSMC	\$50	\$50	KPN	\$30	\$30	DISH Network	\$9	\$9		
15	Nokia	\$47	\$47	MTN	\$29	\$29	Reed Elsevier	\$9	\$9		
Total		\$1,561	\$1,721		\$1,139	\$1,186		\$307	\$368		

Morgan Stanley

Note: Current market cap as of 12/7/2009. Source: FactSet, Morgan Stanley Research.

Top Internet-Related Tech Wealth Creators Over Past 15 Years Did Quite Well

- **Microsoft** (+\$232B in market cap created) – benefitted from selling PC operating system (Windows) as Internet usage drove growth in PC usage.
- **Google** (+\$185B) – benefitted from providing front-end tool (search engine) to access Internet and selling ads related to searches.
- **Apple** (+\$169B) – benefitted from selling easy-to-use wireless Internet access devices including Macintosh computers + iTouch / iPhone mobile devices + digital products / services (via iTunes store) in addition to iPod entertainment devices.
- **Cisco** (+\$130B) – benefitted from selling connectivity products (switches / routers) and networking services to enterprises and Internet infrastructure providers and from acquisitions of parallel businesses.

Morgan Stanley

Note: Market cap creation reflects change in market value between 12/31/1994 and 2009YTD (data as of 12/7/2009).
Source: FactSet, Bloomberg, S&P Stock Guide, Morgan Stanley Research.

Top Wireless-Related Telecom Wealth Creators Over Past 15 Years Did Quite Well

- **China Mobile** (+\$189B in market cap created) – benefitted from selling handsets / mobile services to China's increasingly affluent citizens.
- **AT&T** (+\$138B) – benefitted from selling handsets / mobile services to an increasingly data-centric USA subscriber basis and iPhone exclusivity.
- **Telefonica** (+\$137B) – benefitted from selling handsets / mobile services to a developed Spanish market and emerging Latin American markets.
- **Vodafone** (+\$121B) – benefitted from selling handsets / mobile services to the world's second largest subscriber base in developed and emerging markets (including India, South Africa, Turkey, and Egypt)

Morgan Stanley

Note: Market cap creation reflects change in market value between 12/31/1994 and 2009YTD (data as of 12/7/2009).
Source: FactSet, Bloomberg, S&P Stock Guide, Morgan Stanley Research.

*We Know What Happened Over Past 15 Years,
Who Wins Big Over Next 5+ Years as Internet Meets
Mobile?*

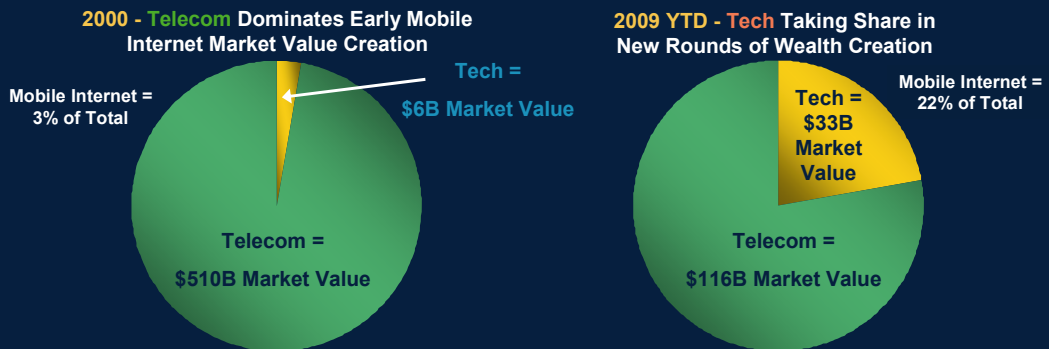
*We know execution is key and it's extremely difficult to
predict human error...*

Morgan Stanley

Japan as Proxy for Technology's Role as Relative Wealth Creator of Mobile Internet Era?

- Telecom lost relative market value to online commerce / paid services / advertising companies as mobile Internet became mainstream
- Japan's mobile Internet companies, including Yahoo! Japan (advertising), Rakuten (online commerce), DeNA / Mixi / Gree (advertising + virtual goods) have grown to \$33B in market value, up from \$6B in 2000 and account for 22% of total market value of the mobile Internet ecosystem.
- Japan's wireless telecom industry (including NTT docomo, KDDI and SoftBank) has experienced a market value decline from \$510B in 2000 (97% of mobile Internet ecosystem) to \$116B in 2009 YTD (78% of mobile Internet ecosystem).

Japan Internet & Wireless Telecom Companies' Market Value Share, 2000 + 2009 YTD

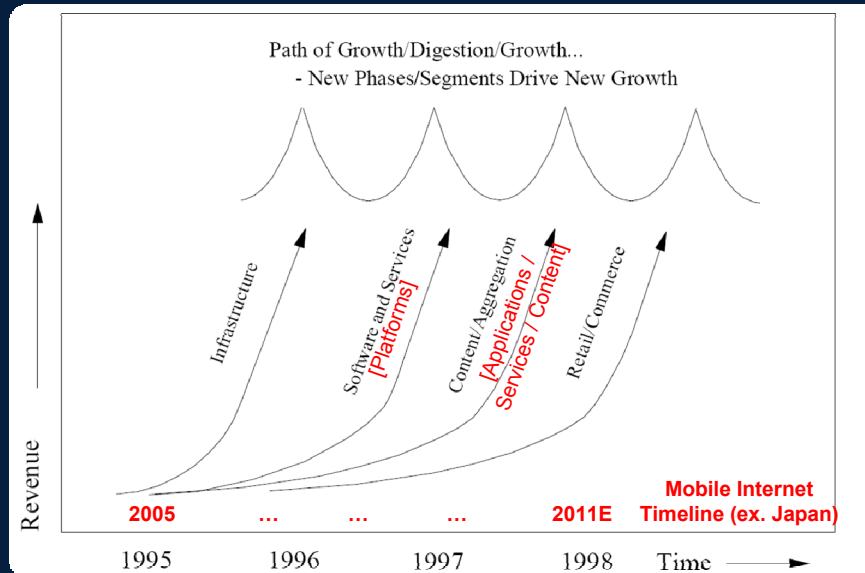


Morgan Stanley

Note: 2009 YTD data as of 12/4/2009. Companies included in graphs: Tech = Yahoo! Japan, Rakuten, DeNA, Mixi, Gree; Telecom = NTT docomo, KDDI, Softbank. Source: FactSet, Morgan Stanley Research.

Mobile Internet Likely to Follow Timing & Development Patterns of Desktop Internet Market

Timing & Development of Internet Market Segment – From Our 1996 Internet Retailing Report



Morgan Stanley Note: Original chart (black text) from Morgan Stanley's Internet Retailing Report, published in 1996. Red text augmented in 11/09. Source: Morgan Stanley Research.

Shareholder Value Creation / Destruction – Pattern Recognition

- Balance of power / profitability likely to shift away from carriers over the short-term and away from infrastructure / device manufacturers over long-term to software / service providers
- As information is democratized / decentralized, users will increasingly be in control – amplifying a trend which has been in place for more than a decade – this should benefit innovative service providers while marginalizing / commoditizing slow-moving incumbents

Morgan Stanley

Source: FactSet, Morgan Stanley Research.

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2009 Global Top 30 TMT Companies by Market Value – USA Technology Companies Led Rankings

Market Value Rank	Company	Type	Region	Country	Mkt Val (\$MM) 11/31/2009	3-Month Average Trade Vol. (\$MM)	12-Month Price Change (%)		Price 11/31/2009	2009 YTD Sales (\$MM)	Y/Y Growth	2009 YTD Operating Margin
1	Microsoft	Tech	N. America	USA	\$260,058	\$1,658	43%	\$29	\$39,667	-13%	35%	
2	China Mobile	Telecom	Asia / Pacific	China	185,690	257	5%	9	31,208	15%	35	
3	Google	Tech	N. America	USA	183,746	1,545	98%	580	16,938	5%	34	
4	Apple	Tech	N. America	USA	180,492	3,548	111%	201	26,370	15%	22	
5	IBM	Tech	N. America	USA	165,120	856	54%	126	68,627	-11%	17	
6	AT&T	Telecom	N. America	USA	159,241	778	-5%	27	92,160	-1%	17	
7	Telefonica	Telecom	Europe	Spain	136,076	1,742	44%	29	58,329	-11%	24	
8	Cisco	Tech	N. America	USA	134,458	1,045	43%	23	25,786	-14%	18	
9	Vodafone	Telecom	Europe	UK	120,033	287	17%	2	34,826	-2%	31	
10	HP	Tech	N. America	USA	116,885	710	39%	49	83,602	-1%	9	
11	Oracle	Tech	N. America	USA	110,715	710	37%	22	17,368	-3%	35	
12	Intel	Tech	N. America	USA	105,487	1,210	37%	19	24,558	-16%	28	
13	Verizon	Telecom	N. America	USA	89,850	590	-3%	32	80,717	11%	18	
14	Samsung	Tech	Asia / Pacific	S. Korea	89,227	268	89%	606	83,560	14%	7	
15	America Movil	Telecom	Latin America	Mexico	77,972	84	57%	2	21,179	-10%	27	
16	Qualcomm	Tech	N. America	USA	75,088	806	34%	45	7,898	-9%	22	
17	France Telecom	Telecom	Europe	France	68,720	232	1%	26	35,709	-14%	20	
18	NTT DoCoMo	Telecom	Asia / Pacific	Japan	65,389	106	-13%	1,488	33,919	2%	22	
19	Deutsche Telekom	Telecom	Europe	Germany	64,314	240	3%	15	67,659	-2%	13	
20	SAP	Tech	Europe	Germany	58,925	239	38%	48	10,463	-15%	25	
21	Amazon.com	Tech	N. America	USA	57,043	1,137	200%	132	14,989	20%	5	
22	NTT	Telecom	Asia / Pacific	Japan	55,859	98	-9%	42	80,963	5%	13	
23	Walt Disney	Media	N. America	USA	55,185	374	35%	30	26,550	-3%	16	
24	Nokia	Tech	Europe	Finland	49,255	284	-7%	13	40,555	-30%	5	
25	Canon	Tech	Asia / Pacific	Japan	49,225	148	24%	37	23,831	-20%	8	
26	TSMC	Tech	Asia / Pacific	Taiwan	47,588	105	59%	2	6,224	-28%	36	
27	Comcast	Media	N. America	USA	42,478	380	-11%	15	26,575	4%	19	
28	Telstra	Telecom	Asia / Pacific	Australia	38,234	204	14%	3	10,236	-13%	28	
29	Time Warner	Media	N. America	USA	36,125	226	19%	31	20,889	-7%	20	
30	Hon Hai Precision	Tech	Asia / Pacific	Taiwan	35,851	124	174%	4	41,122	-8%	4	
Total					\$2,914,331	\$19,991			\$1,152,378	-2%	16	
15	Technology				1,719,164	14,393			531,459	-5%	12	
11	Telecom				1,061,378	4,618			546,805	0%	17	
4	Media				133,788	980			74,014	-2%	13	

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Note: YTD Revenue for China Mobile, Vodafone, France Telecom, and Telstra represents only six months of revenue, as these companies only report semiannually. All data as of 11/31/2009. Source: FactSet, Morgan Stanley Research.

1994 Global Top 30 TMT Companies by Market Value – USA Technology Companies Led Rankings

Market Value Rank	Company	Type	Region	Country	Mkt Val (\$MM) 12/31/1994	3-Month Average Trade Vol. (\$MM)	12-Month Price Change (%)		Price 12/31/1994	1994 Sales (\$MM)	Y/Y Growth	1994 Operating Margin
1	IBM	Tech	N. America	USA	\$43,197	\$7,107	30%	\$18	\$64,052	2%	8%	
2	Microsoft	Tech	N. America	USA	35,514	17,570	52%	4	4,649	24%	37%	
3	Motorola	Tech	N. America	USA	34,104	2,671	26%	17	22,245	31%	12%	
4	Intel	Tech	N. America	USA	26,380	15,766	3%	4	11,521	31%	29%	
5	Hewlett-Packard	Tech	N. America	USA	25,451	3,104	26%	10	24,991	23%	10%	
6	AT&T	Telecom	N. America	USA	24,592	3,479	-3%	20	11,619	9%	24%	
7	Walt Disney	Media	N. America	USA	23,800	2,082	8%	15	10,055	18%	18%	
8	Verizon	Telecom	N. America	USA	21,700	2,687	-16%	24	13,791	6%	20%	
9	HKT	Telecom	Asia / Pacific	Hong Kong	21,330	20	-8%	19	3,140	N/A	36%	
10	NYNEX	Telecom	N. America	USA	15,567	68	-8%	37	13,307	-1%	13%	
11	CBS	Media	N. America	USA	14,617	785	-9%	15	7,363	267%	8%	
12	Oracle	Tech	N. America	USA	12,641	6,263	53%	2	2,001	33%	21%	
13	MCI	Telecom	N. America	USA	12,495	358	-35%	18	13,338	12%	11%	
14	PacTel	Telecom	N. America	USA	12,086	50	-10%	29	9,235	0%	24%	
15	Telecom Italia	Telecom	Europe	Italy	10,671	30	24%	1	17,686	25%	17%	
16	Xerox	Tech	N. America	USA	10,493	884	11%	17	17,837	3%	9%	
17	Vodafone	Telecom	Europe	Germany	9,971	181	12%	27	18,250	9%	-2%	
18	Bell Canada	Telecom	N. America	Canada	9,950	509	-8%	4	15,449	3%	13%	
19	News Corp.	Media	N. America	USA	9,906	609	-21%	7	8,058	-25%	5%	
20	Sprint	Telecom	N. America	USA	9,622	2,011	-21%	9	12,662	11%	14%	
21	Cisco	Tech	N. America	USA	9,176	13,243	9%	2	1,243	92%	39%	
22	Computer Associates	Tech	N. America	USA	7,760	959	21%	14	2,148	17%	29%	
23	Gannett	Media	N. America	USA	7,443	791	-7%	27	3,825	5%	21%	
24	Comcast	Media	N. America	USA	7,350	1,448	-37%	5	1,375	3%	17%	
25	Samsung	Tech	Asia / Pacific	South Korea	7,275	1,605	97%	77	14,918	38%	15%	
26	Thomson	Media	N. America	Canada	7,200	172	0%	12	6,207	9%	11%	
27	Texas Instruments	Tech	N. America	USA	6,940	3,612	18%	5	10,315	21%	12%	
28	Corning Inc.	Tech	N. America	USA	6,817	1,715	7%	8	4,771	19%	14%	
29	KDDI	Telecom	Japan	Japan	6,320	25	0%	98	2,531	16%	8%	
30	Novell	Tech	N. America	USA	6,240	447	-17%	17	1,998	78%	23%	
Total					\$456,607	\$90,251			\$350,579	18%	13%	
13	Technology				231,988	74,945			182,689	17%	13%	
11	Telecom				154,302	9,419			131,007	9%	14%	
6	Media				70,317	5,887			36,883	55%	12%	

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Note: All data as of 12/31/1994. Source: FactSet, Morgan Stanley Research.

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Morgan Stanley is currently acting as exclusive financial advisor to AdMob, Inc ("AdMob") in relation to their acquisition by Google Inc, as announced on November 9, 2009. The proposed transaction is subject to customary closing conditions. AdMob has agreed to pay fees to Morgan Stanley for its services that are subject to the consummation of the proposed transaction. Please refer to the notes at the end of the report.

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Global Stock Ratings Distribution

(as of November 30, 2009)

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Stock Rating Category	Coverage Universe		Investment Banking Clients (IBC)		
	Count	% of Total	Count	% of Total IBC	% of Rating Category
Overweight/Buy	915	38%	284	41%	31%
Equal-weight/Hold	1077	45%	312	45%	29%
Not-Rated/Hold	25	1%	2	0%	8%
Underweight/Sell	384	16%	89	13%	23%
Total	2,401		687		

Data include common stock and ADRs currently assigned ratings. An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations. Investment Banking Clients are companies from whom Morgan Stanley or an affiliate received investment banking compensation in the last 12 months.

Analyst Stock Ratings

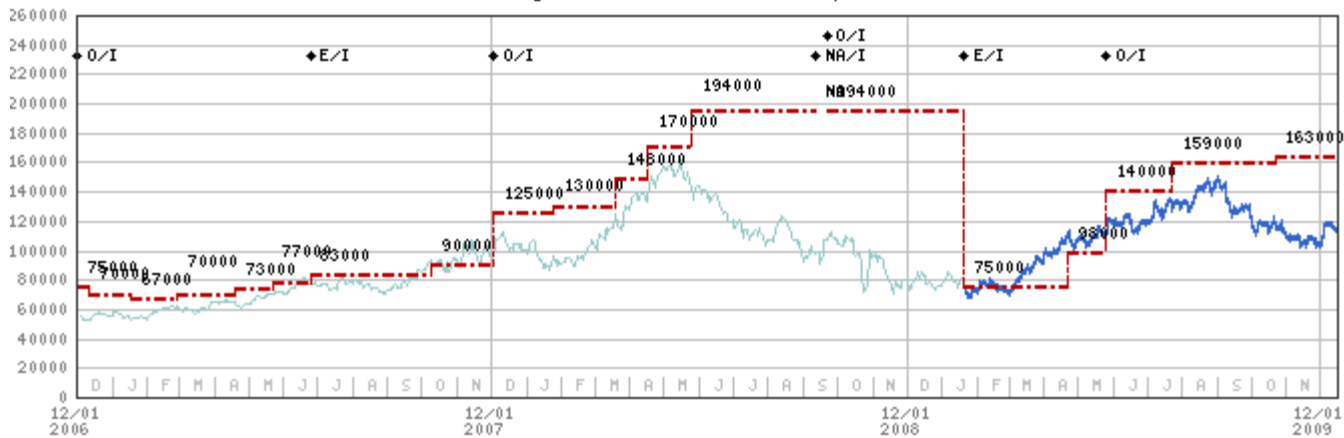
Overweight (O). The stock's total return is expected to exceed the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.
 Equal-weight (E). The stock's total return is expected to be in line with the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.
 Not-Rated (NR). Currently the analyst does not have adequate conviction about the stock's total return relative to the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.
 Underweight (U). The stock's total return is expected to be below the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.
 Unless otherwise specified, the time frame for price targets included in Morgan Stanley Research is 12 to 18 months.

Analyst Industry Views

Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.
 In-Line (I): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant broad market benchmark, as indicated below.
 Cautious (C): The analyst views the performance of his or her industry coverage universe over the next 12-18 months with caution vs. the relevant broad market benchmark, as indicated below.
 Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index.

Stock Price, Price Target and Rating History (See Rating Definitions)

LG Electronics (066570.KS) - As of 12/14/09 in KRW
Industry : S. Korea Hardware Components



Volatility shading indicates "more volatile" (V) flag. As of Nov-14-2008 the V flag has been discontinued.

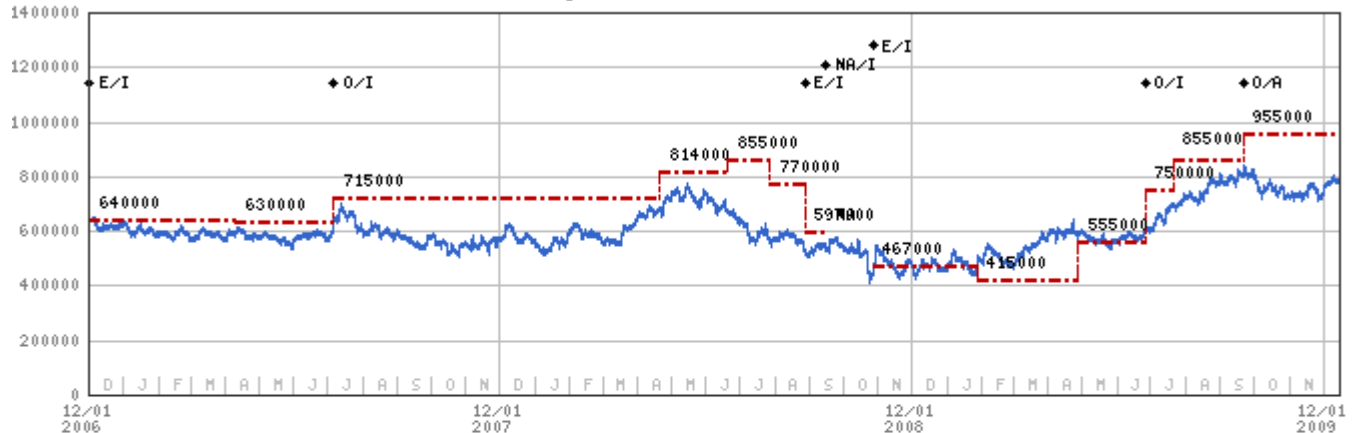
Stock Rating History: 12/1/06 : O/I; 6/25/07 : E/I; 12/3/07 : O/I; 9/12/08 : NA/I; 9/22/08 : O/I; 1/20/09 : E/I; 5/26/09 : O/I

Price Target History: 10/18/06 : 75000; 12/12/06 : 70000; 1/18/07 : 67000; 2/28/07 : 70000; 4/20/07 : 73000; 5/22/07 : 77000; 6/25/07 : 83000; 10/10/07 : 90000; 12/3/07 : 125000; 1/25/08 : 130000; 3/20/08 : 148000; 4/17/08 : 170000; 5/26/08 : 194000; 9/12/08 : NA; 9/22/08 : 194000; 1/20/09 : 75000; 4/22/09 : 98000; 5/26/09 : 140000; 7/23/09 : 159000; 10/22/09 : 163000

Source: Morgan Stanley Research Date Format : MM/DD/YY Price Target --- No Price Target Assigned (NA)
 Stock Price (Not Covered by Current Analyst) --- Stock Price (Covered by Current Analyst) ---
 Stock and Industry Ratings (abbreviations below) appear as ♦ Stock Rating/Industry View
 Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) More Volatile (V) No Rating Available (NA)
 Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)

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Samsung Electronics (005930.KS) - As of 12/14/09 in KRW
Industry : S. Korea Semiconductors

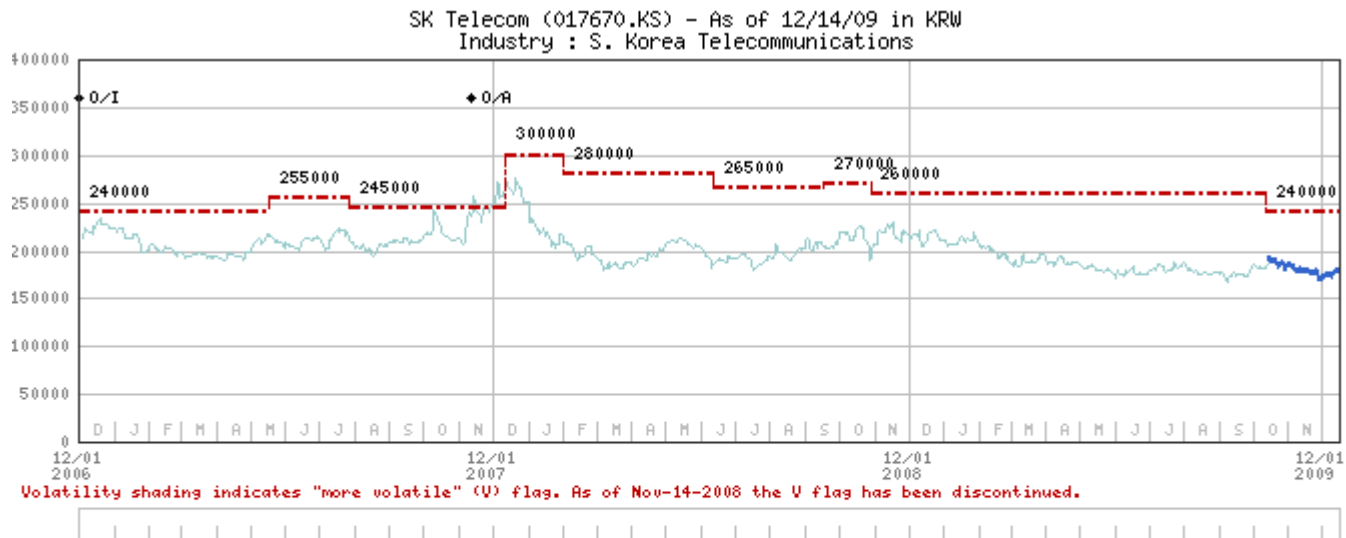


Volatility shading indicates "more volatile" (V) flag. As of Nov-14-2008 the V flag has been discontinued.

Stock Rating History: 12/1/06 : E/I; 7/6/07 : O/I; 8/28/08 : E/I; 9/16/08 : NA/I; 10/27/08 : E/I; 6/26/09 : O/I; 9/21/09 : O/A

Price Target History: 6/23/06 : 640000; 4/10/07 : 630000; 7/6/07 : 715000; 4/21/08 : 814000; 6/20/08 : 855000; 7/28/08 : 770000; 8/28/08 : 597000; 9/16/08 : NA; 10/27/08 : 467000; 1/28/09 : 415000; 4/27/09 : 555000; 6/26/09 : 750000; 7/21/09 : 855000; 9/21/09 : 955000

Source: Morgan Stanley Research Date Format : MM/DD/YY Price Target -- No Price Target Assigned (NA)
 Stock Price (Not Covered by Current Analyst) — Stock Price (Covered by Current Analyst) ■
 Stock and Industry Ratings (abbreviations below) appear as ♦ Stock Rating/Industry View
 Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) More Volatile (V) No Rating Available (NA)
 Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)



Stock Rating History: 12/1/06 : O/I; 11/12/07 : O/A

Price Target History: 10/27/06 : 240000; 5/18/07 : 255000; 7/27/07 : 245000; 12/12/07 : 300000; 2/1/08 : 280000; 6/12/08 : 265000; 9/17/08 : 270000; 10/29/08 : 260000; 10/12/09 : 240000

Source: Morgan Stanley Research Date Format : MM/DD/YY Price Target -- No Price Target Assigned (NA)
 Stock Price (Not Covered by Current Analyst) — Stock Price (Covered by Current Analyst) —
 Stock and Industry Ratings (abbreviations below) appear as ♦ Stock Rating/Industry View
 Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) More Volatile (V) No Rating Available (NA)
 Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)

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