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Internet (Citi)
North America | United States

U.S. Internet Stocks Playbook for 2013

■ Industry Overview

2013 Outlook & Key Themes for the U.S. Internet & Retail Stocks

- **Mid- to High-Teens Growth Outlook for Online Advertising & eCommerce**— Based on strong 2011 trends and the increasingly material impact of Mobile, Local & Video platforms, we now forecast 2012 U.S. 'Net Advertising Revenue of $42B (up 14% Y/Y). And we have modestly tweaked our 2013 U.S. 'Net Retail forecast down to $254B (up 15% Y/Y) vs. $256B previously due to a modestly softer Q4:12 holiday season, and continued concerns around Macro issues as we enter 2013.
- **Doshi's Scorecard Says!** — Top 3 Internet Large Caps: **1. GOOG** — Scored the highest as it dominates in a number of categories like Mobile, Video, and Data; **2. AMZN** — Strong with Mobile Commerce, Digital Goods, HaaS, and Cloud; and **3. FB** — Dominant in Mobile Audience, Social and Digital Goods. Top 2 SMID Caps: **1. Z** (Mobile, SaaS, Data); **2. GRPN** (Mobile Commerce, Local, Social).
- **Going Into 2013, Our Internet Top Picks: Large Cap —** GOOG, AMZN and FB. **SMID Cap** — Z. Mobile had the largest weighting in our 9 Key Drivers, and as Mobile becomes a tailwind in '13, we think GOOG should be the biggest beneficiary. AMZN scored well on mCommerce, Cloud and Data, and FB scored well on mAds, mAudiences, and Digital Goods. Z ranked on Mobile, Data and SaaS.
- **Retailers Increase Digital Focus** — With the consumer continuing to migrate to mobile, spending has shifted at an accelerated pace away from physical stores both in the consumer's and retailer's wallet. Traffic into retail stores in 2012 was some of the weakest that we have seen in history. We believe that companies with strong brands and innovative marketing continue to gain mindshare and market share. During Holiday 2012, we believe omnichannel retailers experienced eCommerce sales increases exceeding 30%. With online penetration at less than 10% for most retailers, double-digit growth opportunities abound.
- **Weinswig's Scorecard Says!** — Top Retailers: **1. M** — Scored the highest as they are getting aggressive with RFID and trying to figure out how to get social with the customer; **2. WMT** — The company has gone after top talent in silicon valley in order to drive same day delivery and utilize Big Data to get a bigger share of their customer's wallet; **3. JWN** —The first truly omnichannel retailer and the one to coin the phrase, "outsized growth commensurate with outsized investment."
- **Going Into 2013, Our Retail Top Picks** — WMT, FDO, and CVS are all on Citi's Top Picks Live! List. We prefer those companies that have invested and continue to prioritize investing in technology. WMT is #2 on our scorecard and CVS is #5, while FDO has room for improvement at #13. Retail IT Capex will increase 1.4%, versus overall Retail Capex which we project will decline (-0.7)% overall. The retailers have woken up and realized that the time is now to improve their systems. Our companies are hiring data scientists, establishing offices in the Valley, and stepping outside of their comfort zones in order to defend their turf and establish defendable business models for the long term in a dynamic retail environment.

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Contents

Portfolio Manager's Summary

Below is our summary representation of the 9 Internet Growth Drivers and their impact on the Large Caps & SMID Caps. For example, while we view every company as a beneficiary of the Mobile Internet Driver, we believe that GOOG and FB are the biggest beneficiaries, given their dominant position as platforms and apps. Likewise, eBay, benefits from incremental Mobile usage of both its Marketplace and Payments segments. Pandora benefits from Mobile as a material portion of their listenership is now coming through Mobile usage.

Figure 1. Key Internet Themes for 2013

Theme	Description	Key Winners	Least Beneficiary
1. Mobile			
Advertising	Providing mobile platforms for marketing solutions to advertisers	GOOG, FB, P, YELP, Z	EBAY, NFLX, RATE
Payments	Providing mobile payment solutions for consumers / companies to utilize	EBAY, GOOG, GRPN	All others
Commerce	Selling goods and services through mobile devices	AMZN, EBAY, GRPN	IACI, LNKD, RATE, RLOC
Audience	Driving a large and/or material portion of users through mobile devices	GOOG, FB, NFLX, P, YELP, Z	ACTV, RATE, RLOC
2. Social	Platform that allows users to connect, interact, and network with others	FB, LNKD, ZNGA	IACI, YHOO, RATE
3. Local	Generating online revenue from local businesses	GOOG, GRPN, RLOC, YELP	AKAM, NFLX, ZNGA
4. Online Video	Platform for online videos and online video advertising	GOOG, NFLX	EBAY, P, ZNGA
5. Digital Goods	Selling virtual goods and/or digital goods via micro transactions	EBAY, FB, ZNGA	IACI, LNKD, YHOO
6. Cloud	Utilizing the cloud to provide consumers and businesses with software offerings	AMZN, GOOG	YHOO, AOL
7. Hardware as a Service	Developing hardware to promote online services and goods	AMZN, GOOG	All others
8. SaaS Model	Cloud-based subscription business model	LNKD, NFLX, Z	FB, ZNGA
9. Big Data Management	Ability to collect, analyze and deploy data as a competitive advantage	AMZN, GOOG, FB, LNKD, Z	YHOO, ZNGA

Source: Citi Research

Across all the drivers, we believe the three biggest standouts among Large Cap Internet are GOOG, AMZN and FB. GOOG scores well against 5 of the 9 key growth drivers, including Mobile, TV/Video Advertising, Local, and Big Data Drivers. And AMZN scores well against 5 of the 7 key growth drivers, with the exception of Social and TV/Video Advertising. And against the Cloud Driver, AMZN is a major beneficiary.

Figure 2. Key Winners: Large Cap

Company	Score	Rationale
Google	36	Highest combined score in Mobile, and is a dominant player in Video, Local, and Hardware
Amazon	32	Scored high in Mobile, and is a leading player in Cloud, Hardware, Data, and Video
Facebook	27	Tied with AMZN on Mobile, and is a leading player in Social and Digital Goods

Source: Citi Research

Among Small Cap Internet, we believe the biggest winners are: Z, GRPN, and ZNGA. Zillow has one of the strongest mobile offerings; the company has invested in acquiring a number of CRM tools for brokers, and is well positioned for continued growth. Given operational issues and management issues at both GRPN and ZNGA, we do not expect to get more constructive on those stocks until they can start to execute.

Figure 3. Key Winners: Small Cap

Company	Score	Rationale
Zillow	23	Strong Mobile usage and growth, and creating CRM solutions for brokers
Groupon	21	Investing heavily in payments, strong mobile offering, and dominant position in Local
Zynga	19	Leader in social gaming and digital goods. Strong cloud offering and platform for developers

Source: Citi Research

Top 10 Retail Technology Themes for 2013

We see ten key technology themes that will lead retailers forward in 2013, which we describe in the figure below. The top ranking Broadlines and Food & Drug retailers in our scorecard were Macy's, Walmart, and Nordstrom. These retailers are leading the charge with innovation and are investing aggressively in technology to stay ahead of their brick-and-mortar and online competitors.

Figure 4. Key Retail Technology Themes for 2013

Theme	Description	Key Winners	Least Beneficiary
1. Mobile Commerce	Shopping experience from a mobile device, either through the mobile site or app	JWN, SKS	BIG, FDO, KR, SVU
2. Omnichannel	Integration of stores and online for inventory management and demand fulfillment	JWN, M	BIG, FDO, KR, SVU, SWY
3. Big Data and Predictive Analytics	Ability to leverage customer data to drive sales and improve service	KR, M, TGT	BIG, COST, SVU
4. Same-Day Delivery	Same-day fulfillment of online orders using store-level inventory	JWN, WMT	Most Others
5. RFID	Item-level RFID tagging to increase on-shelf availability and drive sales	JCP, M, WMT	Most Others
6. Breaking Silos	Convergence of the Chief Marketing Officer and Chief Information Officer roles	M, JWN, SKS, WAG	BIG, SVU
7. Social	Optimize social media efforts for marketing, promotions, and customer service	M, JWN, WMT	BIG, SVU
8. Infrastructure-as-a-Service (IaaS)	Leveraging the mass computing power of the cloud for Big Data and SaaS	KR, M, SWY	BIG, JWN, TGT
9. Software-as-a-Service (SaaS)	Renting third-party software hosted in the cloud (vs. owning the software in-house)	KR, SWY	Most Others
10. Online Retailers Go Physical	Threat from online retailers expanding their physical store presence	CVS, WAG	TGT, WMT

Source: Citi Research

2013 Internet Themes Scorecard

Below, we highlight our detailed scorecard for large-cap and small-cap Internet. We rank each company on a scale from 0 to 4 (4 = dominant position to take advantage of that driver, 0 = no material offering), and we weight Mobile as the biggest single driver. Unlike the past, we now break Mobile into 4 distinct parts: Advertising, Payments, Commerce and Audience. We've added two other drivers for this year: SaaS business models (as more 'Net companies are moving towards subscription-based business models) and Big Data Management (companies that are successfully mining their data and creating more personalized/targeted experiences).

Large-Cap Scorecard

As we noted above, the 3 top Large-Cap winners include GOOG, AMZN and FB. GOOG (36) – Google scored the highest, with 36 out of 44 total possible points, with dominant position in Mobile Advertising (Mobile Search + AdMob) and Mobile Audiences (Android mobile OS), Local (with Google Maps, Google Places), Hardware (Motorola, Nexus Tablets), and Big Data Management. **AMZN (32)** – Amazon came in second at 32 points with dominant positions in Mobile Commerce, Cloud (AWS, S3), and Hardware (Kindle ecosystem). **FB (27)** – Facebook had dominant positions in Mobile Advertising (FB gets better pricing on Mobile Ads vs. Desktop) and Mobile Audience (FB is the #1 App across all Smartphones in the U.S.), has the deepest moats around Social, and is a beneficiary of Digital Goods by charging 30% take rate on games and services through the FB platform.

Figure 5. 2013 Internet Themes Scorecard: Large-Cap Internet

Large Cap	AKAM	AMZN	EBAY	GOOG	FB	IACI	LNKD	NFLX	YHOO
Mobile (16)									
Advertising	2	2	0	4	4	2	2	0	2
Payments	0	1	4	2	1	0	0	0	0
Commerce	2	4	4	2	2	0	0	0	1
Audience	1	3	3	4	4	2	3	4	2
Social (4)	2	2	2	2	4	1	4	2	1
Local (4)	0	2	1	4	3	3	0	0	2
Online Video (4)	3	3	0	4	2	1	0	4	2
Digital Goods (4)	1	2	3	1	4	0	0	0	0
Cloud (4)	3	4	1	3	1	1	2	2	1
Hardware as a Service (4)	0	4	0	4	0	0	0	0	0
SaaS Model (4)	2	2	1	2	0	2	4	3	2
Big Data Management (4)	1	3	2	4	2	1	3	1	1
Total (44)	17	**32**	21	**36**	**27**	**13**	18	16	**14**

Source: Citi Research

The companies that we think will benefit least from these trends are YHOO and IACI. YHOO is undergoing a major transformation, and we think Marissa Mayer is positioning the company in the right areas, such as Mobile, Video, and Big Data. However, we think that YHOO won't benefit from these trends immediately, and that the company will most likely be in investment mode for a good part of 2013. IACI was at the bottom of our list, with 13 points. The company has limited exposure to Mobile and Social. The company is highly focused on consumers and has limited Cloud, Data and SaaS exposure. It does have Match which is a subscription based business, and does have strong Local assets, including CitiGrid and Service Magic, but overall, we think IACI is in the weakest position to take advantage of these trends.

Small/Mid-Cap Score Card

As we noted above, the 3 top SMID Cap winners include Z, GRPN and ZNGA. Z (23) – Zillow scored the highest, with 23 out of 44 total possible points, with dominant position in Mobile Audience, Local, and Big Data Management (home database and Zestimate calculator). **GRPN (21)** – Groupon came in second at 21 points with a dominant position in Local, and strong positions in Mobile Commerce and Mobile Audiences and Social. However, we'd note that the company has had operational issues which keep us on the sidelines. **Z (19)** – Zynga is well positioned for Social (leader in social games), and Digital Goods (leader in monetizing games through the sale of virtual goods), and has strong positions in the Cloud and Big Data.

Figure 6. SMID-Cap Score Card

SMID Cap	ACTV	AOL	RATE	GRPN	P	RLOC	YELP	Z	ZNGA
Mobile (16)									
Advertising	1	2	1	2	4	2	2	3	2
Payments	0	0	0	2	0	0	0	0	0
Commerce	1	1	0	3	2	0	1	1	1
Audience	1	2	1	3	4	1	3	4	2
Social (4)	2	2	0	3	1	2	3	1	4
Local (4)	3	3	1	4	1	4	4	4	0
Online Video (4)	0	3	1	0	0	0	0	1	0
Digital Goods (4)	0	2	0	1	0	0	1	1	4
Cloud (4)	1	1	1	1	2	1	1	1	3
Hardware as a Service (4)	0	0	0	0	0	0	0	0	0
SaaS Model (4)	3	0	0	0	1	3	2	3	0
Big Data Management (4)	1	2	1	2	3	1	1	4	3
Total (44)	13	18	6	21	18	14	18	23	19

Source: Citi Research

The companies that we think are least likely to benefit from these key themes are ACTV and RATE. ACTV – Active Networks does get traffic from Mobile, but consumers don't always associate Active with Mobile. It is a solid play on Local and SaaS, but that's about it. RATE – Bankrate scored the lowest from all the 'Net companies. RATE has very limited mobile offering, the company's site has not been revamped in years, and it doesn't really participate in some of the key drivers like Video, Social, or SaaS.

Company Scorecard for Our Top Retail Technology Themes

We rank each of our retailers on our top retail technology themes based on their current capabilities and go-forward initiatives (with 5 being the highest ranking and 1 being the lowest). The top ranking retailers in our scorecard were Macy's, Walmart, and Nordstrom. We believe that these retailers are moving the fastest with technology and are building competitive advantages to compete against pure-play online retailers, as well as brick-and-mortar retailers.

Figure 7. Broadlines and Food & Drug Retail Technology Scorecard: Who Is Leading the Push into the Future of Retail Technology?

Broadlines and Food & Drug Retailers	BIG	CVS	COST	DG	FDO	JCP	KSS	KR	M	JWN	SVU	SWY	SKS	TGT	WMT	WAG
1. Mobile Commerce	1.0	4.0	4.0	3.0	1.0	2.5	4.0	1.0	4.0	5.0	1.0	3.0	5.0	2.5	4.0	4.0
2. Omnichannel	1.0	4.5	4.0	3.0	1.0	3.5	3.0	1.0	5.0	5.0	1.0	1.0	4.0	3.0	4.0	4.5
3. Big Data and Predicitve Analytics	2.0	3.5	2.0	3.0	4.0	4.0	4.0	5.0	4.5	4.0	1.0	4.0	3.0	4.5	4.0	3.0
4. Same-Day Delivery	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	3.0	5.0	1.0	1.0	1.0	3.0	5.0	3.0
5. RFID	1.0	1.0	1.0	1.0	3.0	5.0	3.0	1.0	4.5	1.0	1.0	1.0	2.0	2.0	3.5	1.0
6. Breaking Silos (Convergence of Marketing and IT)	1.0	4.0	3.0	3.0	4.0	3.0	3.0	3.0	4.5	4.5	2.0	4.0	4.5	4.0	4.0	4.5
7. Social	2.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	5.0	2.0	4.0	4.0	4.0	5.0	4.0
8. Infrastructure-as-a-Service (IaaS)	1.0	4.0	3.0	3.0	3.0	3.0	4.0	5.0	4.5	2.0	2.0	4.5	3.0	2.0	4.0	4.0
9. Software-as-a-Service (SaaS)	1.0	4.0	3.0	3.0	3.0	3.0	4.0	5.0	4.0	2.0	2.0	4.5	4.0	2.0	4.0	4.0
10. Threat If Online Retailers Go Physical	4.0	5.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	2.0	2.0	5.0
Total Score	**15.0**	**35.0**	**28.0**	**27.0**	**27.0**	**32.0**	**33.0**	**29.0**	**41.5**	**37.5**	**16.0**	**31.0**	**33.5**	**29.0**	**39.5**	**37.0**
Ranking	**16**	**5**	**12**	**13**	**13**	**8**	**7**	**10**	**1**	**3**	**15**	**9**	**6**	**10**	**2**	**4**

*Scale: 5 = best-positioned; 1 = worst-positioned
Source: Citi Research

2013 U.S. Internet Sector Outlook

Below we provide our fundamental trends outlook for the U.S. Internet Sector for 2013, detailing our specific forecasts for the U.S. Internet Advertising, and Online Retail segments.

As a brief overview, based on partly decelerating 2012 trends and the increasingly material (and to some degree disruptive) impact of Mobile, Social & Video platforms, we are forecasting U.S. Internet Advertising to reach $42B in 2013, up ~14% Y/Y, which is a deceleration from 2012's ~17% expected growth level. Also, we are forecasting U.S. Online Retail to reach $254B in 2013, up 15% Y/Y, which implies a slight deceleration from 2012's 16% growth level.

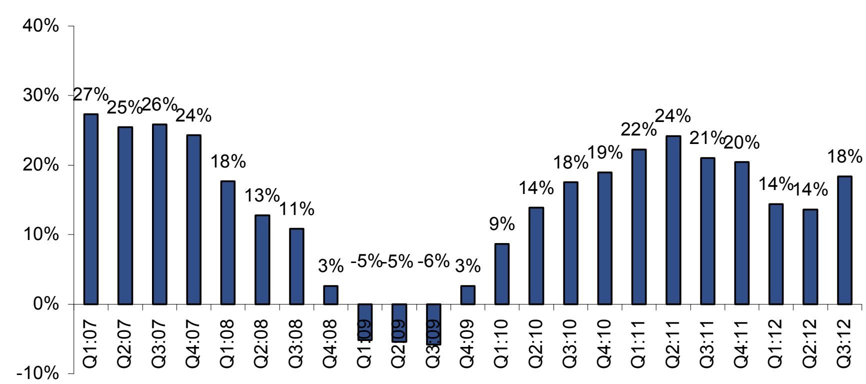
Each of these segments is largely or fully exposed to two overriding trends: consumer discretionary spend trends and secular penetration trends. After several quarters of general fundamental trend improvements, our assumption is that these trends will continue in 2013. We expect consumer discretionary spend trends to remain healthy in 2012. And given what are still relatively low penetration rates (only approximately 10% of addressable retail sales are currently online) and the impact of new Internet "form factors" — e.g. Mobile, Video, Local — we believe that secular penetration trends will continue to drive industry fundamentals.

With that as backdrop, here are our segment forecasts...

1) U.S. Online Advertising: Mid-Teens Growth In 2013

Online advertising growth accelerated in Q3, growing 18% Y/Y, which is the highest growth we've seen this year. Q1 and Q2 grew at 14% Y/Y coming off a strong 21% growth in Online Advertising in 2011. As we move into Q4, we think Online Ad budgets will be mixed. Some companies such as Acquity and Pandora guided down on lack of visibility from advertisers and agencies on concerns of a continued challenging Macro, EU weakness, and Fiscal Cliff issues.

Figure 8. US Online Advertising Y/Y Change



Source: Citi Research; IAB, PWC

Post the recession, we started to see the ad market recover, with Online Advertising and Local Cable Advertising leading the way. The secular penetration element of Online Advertising has dramatically improved, however — in 2009, approximately 180 bps, or 2%, of Total Advertising migrated online, and in 2010, another 160 bps of migration went Online. In 2011, ~285 bps, or 3%, of Total Advertising migrated online, and in 2012, we expect about ~280 bps moving to online, which should result in 21% of Total U.S. Advertising coming from Online channels in 2012.

Our 2013 forecast is driven by both top-down and bottoms-up assumptions. Top-down, we are assuming approximately 4% Y/Y increase in Total U.S. Advertising and approximately 213 bps of secular penetration increase, as Online Video and Mobile advertising continue to ramp.

We expect total U.S. online advertising to grow 14% in 2013 to $42B and to grow 11% in 2014 to $47B.

Figure 9. Citi U.S. Online Advertising Forecast (Top Down)

($ in MMs)	2007	2008	2009	2010	2011	2012E	2013E
Total U.S. Advertising	**$203,391**	**$189,898**	**$160,433**	**$165,516**	**$170,657**	**$173,620**	**$180,604**
Y/Y Change	1%	-7%	-16%	3%	3%	2%	4%
Tot U.S. Online Advertising	**$21,206**	**$23,448**	**$22,661**	**$26,041**	**$31,704**	**$37,086**	**$42,430**
Y/Y Change	26%	11%	-3%	15%	22%	17%	14%
Internet as % of Total	**10%**	**12%**	**14%**	**16%**	**19%**	**21%**	**23%**
Y/Y inc. in penetration (bps)	202	192	178	161	284	278	213

Source: Citi Research

Bottom-up, we are assuming approximately 15% Y/Y growth in Search Advertising (47% of total Internet Advertising), 55% Y/Y growth in Mobile Advertising (11% of total), and 10% Y/Y growth in Display Advertising (32% of total), with Banner Ads up 10% Y/Y and Online Video ads up 25% Y/Y.

Figure 10. Citi U.S. Online Advertising Forecast (Bottom Up)

Ad Revenue ($MM)	2007A	2008A	2009A	2010A	2011A	2012E	2013E	2014E
Total	**$21,206**	**$23,448**	**$22,661**	**$26,041**	**$31,704**	**$37,086**	**$42,430**	**$47,162**
Search	$8,694	$10,369	$10,698	$11,718	$14,757	$17,414	$20,026	$22,228
Classifieds	$3,393	$3,283	$2,254	$2,604	$2,571	$2,391	$2,152	$1,893
Lead Generation	$1,484	$1,641	$1,451	$1,302	$1,523	$1,676	$1,793	$1,883
Mobile		--	--	$641	$1,587	$3,015	$4,673	$6,309
Email	$424	$469	$292	$141	$222	$244	$264	$277
Display Related Ads	$7,210	$7,686	$7,966	$9,635	$11,044	$12,347	$13,522	$14,571
Banner Ads	$4,453	$4,924	$5,061	$5,989	$6,823	$7,642	$8,406	$9,079
Rich Media	$1,696	$1,641	$1,505	$1,562	$1,301	$1,041	$781	$546
Sponsorships	$636	$387	$383	$781	$1,111	$1,222	$1,283	$1,283
Digital Video	$424	$734	$1,017	$1,302	$1,809	$2,442	$3,053	$3,663

Ad Revenue (Y/Y Change)	2007A	2008A	2009A	2010E	2011E	2012E	2013E	2014E
Total	**26%**	**11%**	**-3%**	**15%**	**22%**	**17%**	**14%**	**11%**
Search	29%	19%	3%	10%	26%	18%	15%	11%
Classifieds	12%	-3%	-31%	16%	-1%	-7%	-10%	-12%
Lead Generation	10%	11%	-12%	-10%	17%	10%	7%	5%
Mobile	--	--	--	--	148%	90%	55%	35%
Email	26%	11%	-38%	-52%	58%	10%	8%	5%
Display Related Ads	33%	7%	4%	21%	15%	12%	10%	8%
Banner Ads	20%	11%	3%	18%	14%	12%	10%	8%
Rich Media	44%	-3%	-8%	4%	-17%	-20%	-25%	-30%
Sponsorships	26%	-39%	-1%	104%	42%	10%	5%	0%
Digital Video	--	73%	39%	28%	39%	35%	25%	20%

Source: Citi Research

Four key factors continue to give us confidence in the secular penetration potential of Internet advertising: 1) The increasingly material impact of the Mobile Channel (Smartphones and Tablets), which should account for about 12%-14% of Google's 2013 Ad revenue and is growing approximately 90% Y/Y, and FB announcing that Mobile now accounts for 14% of its total ad revenue; 2) The migration of TV ad budgets (always the largest Offline Ad segment) to the Internet, with

Google/YouTube and to some degree, Facebook as likely significant beneficiaries; 3) There still remains a wide gap between the percent of ad spending by media type vs. the percent of total media time households spend with each media type – i.e. while the Internet accounts for as much as 20% of all ad spend now, we believe it accounts for a much higher % of media time spend (30%+); and 4) We believe that Internet advertising still faces a very large Source of Funds in Direct Marketing, Newspaper & Magazine advertising, Billboards and Yellow Pages advertising, whose combined $63B in current spend is 1.7X that of current Internet ad spend.

2) U.S. Online Retail: Mid-Teens Growth in 2013 & 2014

Our 2013 U.S. Online Retail forecast is largely unchanged as we continue to expect consistently robust growth rates as we have seen over the past four quarters, solid Holiday spend data points, and the positive incremental impact of Mobile Internet adoption. We tweaked down our 2013 estimates from $256B to $254B/15% growth due to a deceleration in Q4:12 eCommerce data points, and some continued concerns from Offline and Online retailers about Macro issues.

Holiday 2012 Wrap-up – Santa brought the sales, but not the profits. December SSS were above our forecast, with COST, KSS, M, and JWN exceeding our forecasts and TGT coming in line. However, sales were not strong enough to make up for a soft November. Sales also did not come until late in the month, after retailers had run incremental promotions and taken significant markdowns to clear product, resulting in gross margin pressure. KSS, M, and TGT lowered EPS guidance for the quarter. MasterCard's SpendingPulse unit estimates retail sales grew only +0.7% in Holiday 2012, vs. +2.0% last year. December mall traffic, according to ShopperTrak, declined (-3.8)% YOY, vs. +1.3% in December LY. While comScore estimates online spending up +16%, this falls slightly below our estimate of at least +20% growth in digital sales in Holiday 2012.

In 2009, the Recession clearly demonstrated the discretionary nature of Online Retail, underperforming Total U.S. Retail (ex-autos and food services) in both Q4:08 and Q1:09. Our view is that Online Retail underperformance was driven in part by the material decline in personal wealth (Stock Market, 401K, and housing price declines), and as the financial markets stabilized and recovered in 2H09, the secular penetration element of Online Retail returned and may even be accelerating.

In 2010, the slow economic recovery demonstrated the price sensitive nature of Online Retail. We believe that Online Retail trends are mirroring the Offline world, although growing at a more accelerated rate. Our thesis is that a Recession-induced greater focus on comparison/price shopping, a reduction in physical retail options over the past year, more concerted efforts by Offline retailers to sell Online, and overall better execution by Online retailers have all contributed to the accelerated Online share shift.

In 2011, we estimate that the secular shift from offline retail to online retail sales accelerated due to continued improvements by both pure-play and offline retailers in the overall online sales user experience and convenience. In addition, retailers' experiments in mobile and social started to pay off in the second half of 2011. We estimate approximately 110 bps of Total Addressable Retail migrated online, well above the estimated market share shifts in 2009 and 2010 (40 bps to 80 bps), but in-line with the estimated market share shifts in 2006 and 2007 (100 bps to 130 bps).

We are modeling for $254B in 2013 U.S. Online Retail sales, up 15%, and $292B in 2014, also up 15% as the macro economy continues to improve on Online takes greater share from Offline.

For 2012, we are estimating about 100bps to migrate Online, assuming a ~5% increase in Total U.S. Retail sales.

Figure 11. Citi Online Retail Sales Forecast ($B)

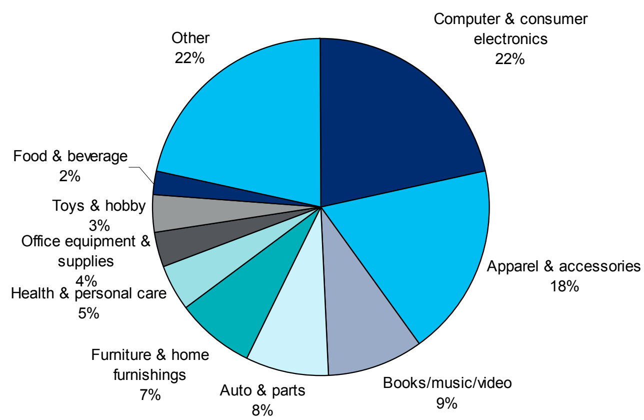
Sales in $B	2009	2010	2011	2012E	2013E	2014E
U.S. Retail	**$3,672**	**$3,926**	**$4,157**	**$4,364**	**$4,560**	**$4,743**
Y/Y Change	-7%	7%	6%	5%	5%	4%
U.S. Retail (Adj)	**$1,777**	**$1,877**	**$1,915**	**$2,014**	**$2,105**	**$2,189**
Y/Y Change	-4%	6%	2%	5%	5%	4%
U.S. Online Retail Sales	**$143**	**$165**	**$190**	**$221**	**$254**	**$292**
Y/Y Change	1%	15%	16%	16%	15%	15%
Online As % of Retail	**3.9%**	**4.2%**	**4.6%**	**5.1%**	**5.6%**	**6.2%**
Y/Y Increase in Penetration	0.3%	0.3%	0.4%	0.5%	0.5%	0.6%
Online As % of Retail (Adj)	**8.1%**	**8.8%**	**9.9%**	**11.0%**	**12.1%**	**13.3%**
Y/Y Increase in Penetration	0.4%	0.7%	1.2%	1.0%	1.1%	1.2%

Source: Citi Research; Department Of Commerce

Adjusted = Excl. Motor Vehicles & Parts, Gas Stations, Food & Bev Stores, Health & Personal Care Stores, Food Services & Drink Places

Computer and consumer electronics is the most shopped product category online (22% of online retail sales), closely followed by apparel and accessories (18%). Beyond those two categories, however, the space becomes quite fragmented, as shown below:

Figure 12. U.S. Online Retail Sales by Product Category (2012E)



Source: Citi Research, eMarketer

Figure 13. U.S. Retail Ecommerce Sales, by Product Category: 2010-2016 (billions)

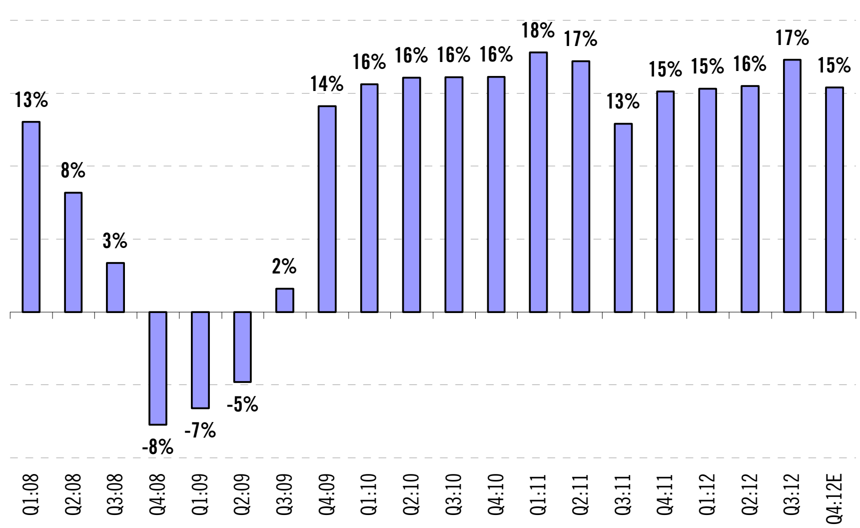
	2010	2011	2012	2013	2014	2015	2016
Computer & consumer electronics	$35.7	$41.9	$48.6	$55.9	$63.8	$71.9	$80.2
Apparel & accessories	$28.0	$34.2	$41.0	$48.6	$56.6	$64.8	$73.0
Books/music/video	$14.4	$17.2	$20.4	$23.8	$27.3	$30.9	$34.7
Auto & parts	$16.2	$17.0	$18.3	$19.7	$21.1	$22.5	$24.0
Furniture & home furnishings	$11.9	$14.2	$16.5	$18.8	$21.3	$23.9	$26.6
Health & personal care	$7.5	$8.7	$10.1	$11.5	$13.0	$14.5	$16.0
Office equipment & supplies	$6.3	$7.1	$7.9	$8.6	$9.3	$9.9	$10.5
Toys & hobby	$5.7	$6.7	$7.8	$9.1	$10.4	$11.8	$13.3
Food & beverage	$3.8	$4.4	$5.1	$5.9	$6.8	$7.7	$8.8
Other	$37.9	$42.9	$48.5	$54.2	$60.4	$67.1	$74.7
Total	$167.3	$194.3	$224.2	$256.0	$289.8	$325.2	$361.9

Source: eMarketer, March 2012

Note: eMarketer benchmarks its retail ecommerce sales figures against US Department of Commerce data, for which the last full year measured was 2011; excluded travel and event tickets

Again we highlight the three factors that give us the most confidence in the secular penetration potential of Online Retail: 1) current overall low penetration rates (about 11%); 2) the ongoing innovation efforts of leading Online Retailers (increased personalization, greater integration of Social Media tools in the Online Shopping experience, improved back-end logistics, and emerging Mobile commerce and Social commerce channels); and 3) the increasingly active steps that Offline Retailers are taking to grow their Online channels.

Figure 14. Recent U.S. Online Retail Growth Trends (Y/Y Growth In Online Retail Sales)

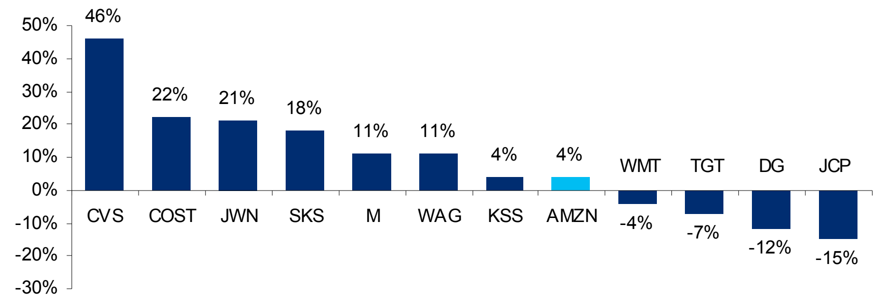


Source: Citi Research; Department of Commerce

Broadlines and Food & Drug Retailers Online Penetration – In November 2012, we observed generally strong YOY web traffic growth among the Broadlines, Discounters, and Drugstores. Six out of 11 of our retailers posted double-digit growth ahead of AMZN, vs. only four showing negative trends. TGT and JCP are now in their fifth and sixth month (respectively) of YOY decreases. CVS continues

to enjoy strong YOY growth leading the group, while WAG's growth remains positive but significantly slower. We will continue to watch Web traffic data as a potential indicator of script recapture for WAG, and retention for CVS.

Figure 15. November 2012 YOY Percent Change in Web Traffic – Broadlines, Discounters, and Drugstores

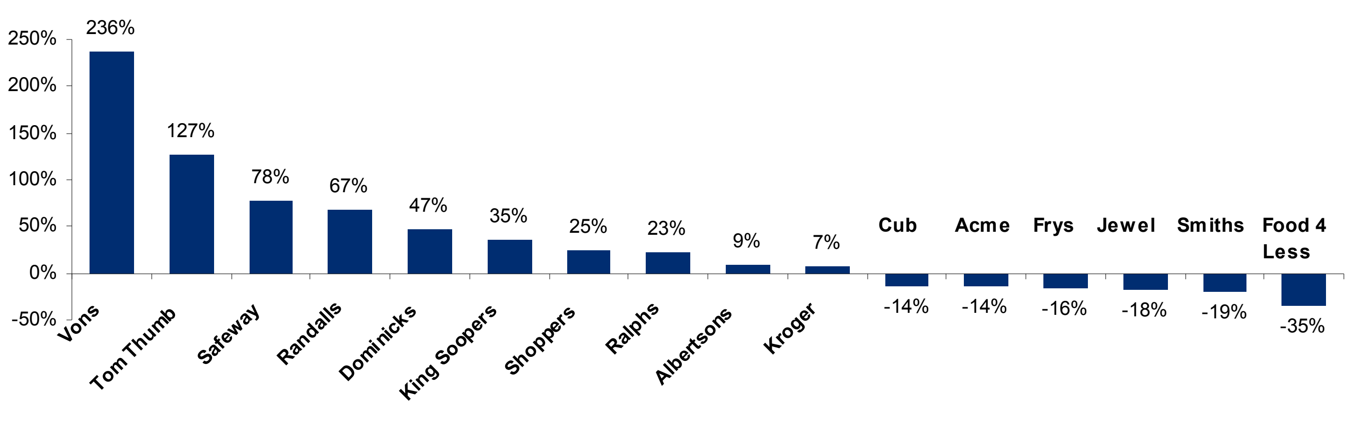


Source: comScore Media Matrix, Citi Research

Grocers – comScore data indicates that SWY's Just For U (J4U) digital loyalty program maintained strong momentum in November, with the five SWY banners in our analysis posting robust double-digit growth to lead the grocer group. The national rollout of the J4U program was completed in July, and penetration continues to grow. SWY expects households participating in the program to represent approx. 45% of total customer households (5M households) by the end of the year, growing to approx. +65-70% over the next two to three years. Currently, there are 4.5M registrants (40% of households). Encouraging, we also observed a sequential increase in the absolute number of unique visitors to all five SWY banners in November. We will continue to monitor the data closely for YOY and sequential progress.

We note that the Grocers have far fewer online visitors as e-commerce has yet to play a significant role in food retail.

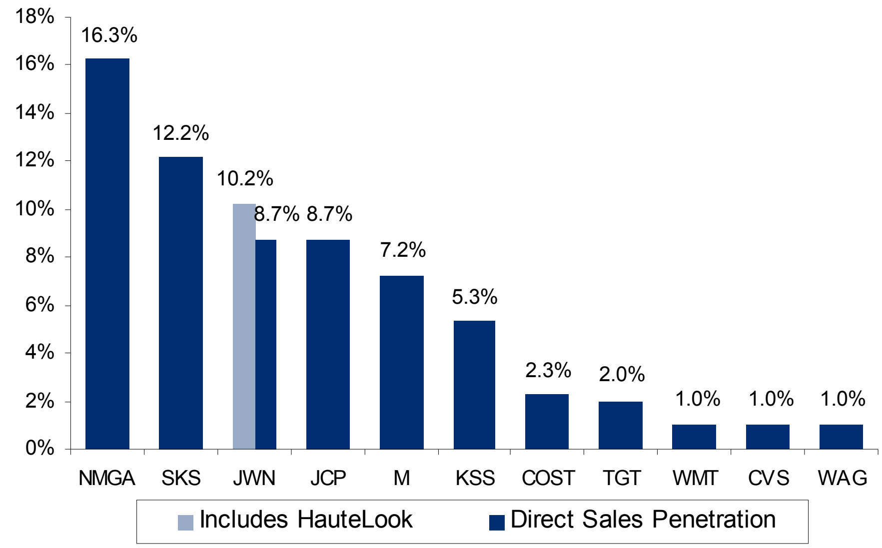
Figure 16. November 2012 YOY Percent Change in Web Traffic: Grocers' Key Banners



Source: comScore Media Matrix, Citi Research

Retailers Web Traffic and Sales – In 2012 to date, web traffic is posting positive comps at the retailers in our study (except JCP and TGT, and more recently, WMT and DG), which we believe is benefiting topline sales as e-commerce becomes a meaningful percentage of total sales (see figure below).

Figure 17. 2011 E-Commerce as a Percentage of Total Sales



Source: Company Reports, Citi Research

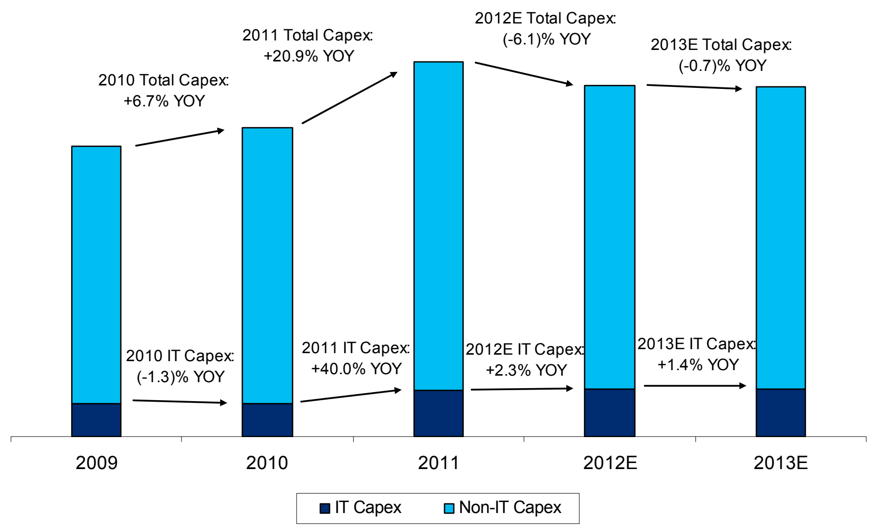
Note: CVS, SKS, TGT, WAG, and WMT online sales penetration is estimated. Grocers and DG excluded due to low penetration.

3) Technology Capex Spending for the Retailers

In 2013E, we expect capex spent on technology to increase +1.4%, vs. +2.3% in 2012E and +40.0% in 2011.

In 2013, we estimate that IT capex will increase +1.4%, compared to a (-0.7)% decrease in total capex. In 2013, technology capex should represent approx. 13.7% of total capex, on average, vs. 13.5% in 2012 and 12.4% in 2011. By comparison, we estimate that IT capex grew +2.3% in 2012 (vs. (-6.1)% total capex decline) and increased +40.0% YOY in 2011 (vs. +20.9% for total capex). We believe that most retailers have done much of the heavy lifting with respect to building a foundation for technology, such as implementing ERP systems and updating sales, finance, and merchandising tools. As such, we believe that in 2013 they can now focus on more advanced technologies and capabilities.

Figure 18. Technology Capex vs. Total Capex for Retailers with Disclosure (2009-2013E)

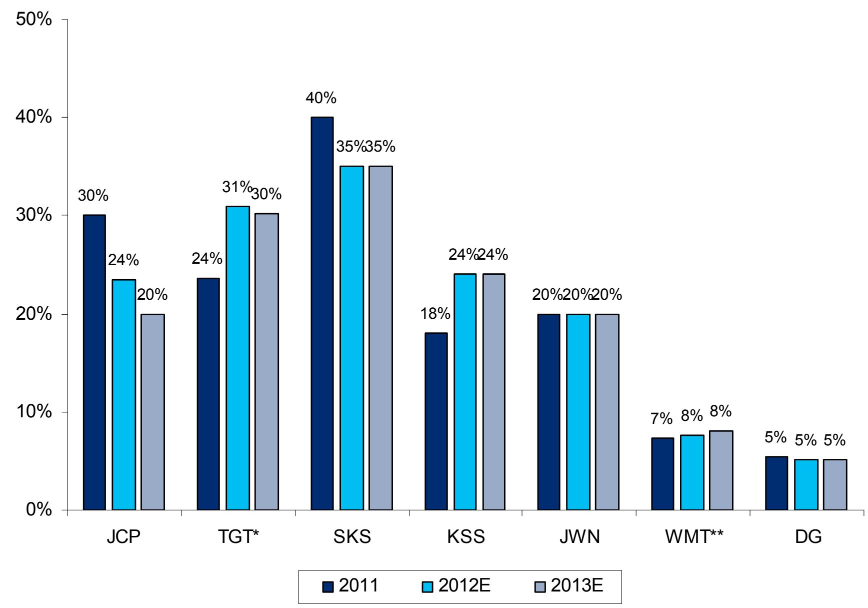


Data for this chart includes DG, JCP, JWN, KSS, SKS, TGT, and WMT.
Source: Citi Research, Company Reports

Technology Capex as a Percentage of Total by Retailer – The percentage of capex driven by technology varies widely for our coverage universe and can be influenced by numerous factors. New store growth, remodel programs, merchandising resets, supply chain investments, and technology rollouts can all impact this ratio for a retailer. We also note that many retailers have invested in new distribution centers to support their growing online businesses.

In our coverage universe, JCP had the highest IT capex as a percentage of total capex in 2011 (aside from SKS), and we expect IT capex for JCP to equal ~20% of total capex in 2013. TGT is expected to spend over 30% of its total capex budget on technology in 2012 and 2013. By contrast, WMT and DG are expected to spend less than 10% of total capex on technology in 2012 and 2013. We summarize technology investment as a percentage of total capex by retailer below for those retailers that disclose their level of technology investment:

Figure 19. Technology Capex as a Percentage of Total Capex (2011-2013E)



*TGT classifies IT capex under Information Technology, Distribution, and Other.
**For WMT, we assume IT capex is equal to corporate capex, as the majority of corporate capex is invested in technology to support WMT's three operating segments.
Source: Company Reports, Citi Research

2013 Internet Sector Themes

Peering into 2013, we see 9 Internet Themes, 7 of which are largely unchanged from our 2012 playbook: 1) Mobile Internet; 2) The Social Web; 3) The Migration Of TV/Video Advertising Online; 4) Cloud Computing; 5) Digital Goods / Micro Transactions; 6) Local Internet Advertising; and & 7) Hardware as a Service of Internet companies. The new 2013 growth drivers are “SaaS”-ifying of Internet business models, and Big Data. While the first 7 drivers remain in place from last year, there is no question that they have become more material – e.g. Mobile is now a $8B channel for Google, Facebook likely generated close to $5B in revenue in 2012, and Amazon Web Services is likely on track to deliver well over $2B in revenue in 2013. Our thought is that several of these growth drivers are likely to be in place for several years, waxing and waning in impact.

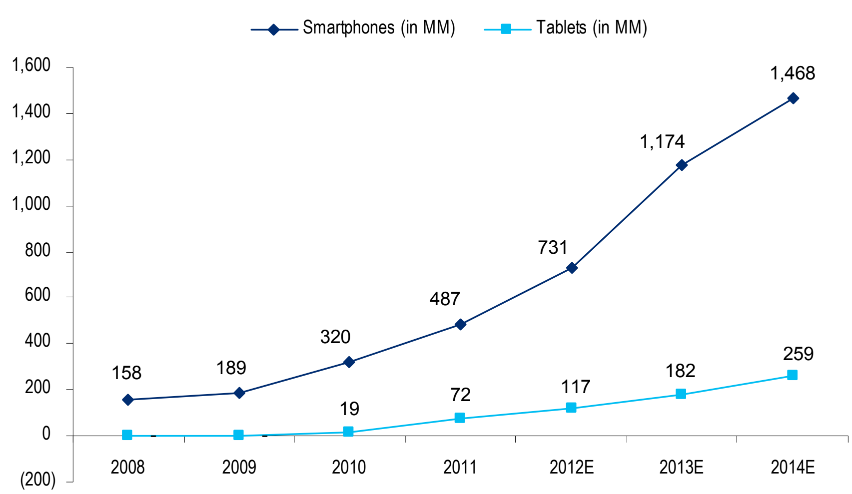
What follows is a brief overview of the 9 Internet Growth drivers:

1) Mobile Monetization

Growth of Mobile — Per Citi’s U.S. Hardware team, led by Jim Suva, Global Smartphone unit sales grew approximately 52% Y/Y in 2011, and should grow another 50% Y/Y in 2012. Further, our Mobile Handset Team expects Global Smartphone shipments to grow 61% in 2013, and to continue to grow in the mid-20% range through 2014. Also, we expect Smartphones to account for more than 50% of total handsets shipped globally by 2013, effectively doubling the penetration of Smartphones from 2011 levels.

Our Hardware also team forecasts global Tablet sales to increase over 60% Y/Y in 2012 and sustain high growth levels (40%+) through 2014. Below we provide an overview of both these trends. All in, we believe many of the leading Internet companies present direct derivative plays off the growth in Internet-connected Mobile devices.

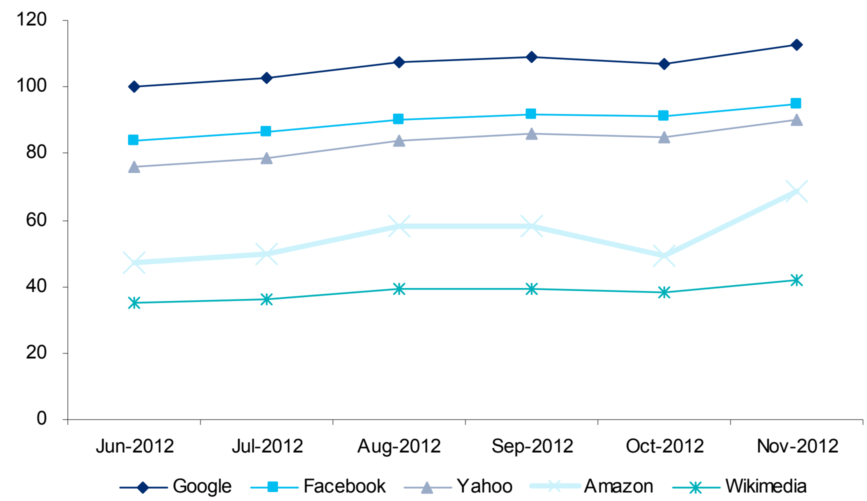
Figure 20. Citi Research Global Smartphone & Tablet Forecast



Source: Citi Research - based on Citi’s Global Handset & Tablet / PC Forecast

Based on traffic trends reported by comScore, the total number of U.S. unique visitors visiting Mobile Websites via Smartphones increased 22% from Mar 2012 to Nov 2012. The chart below compares the number of unique monthly visits that each of the Top 5 Apps received in the U.S. Key is that the overall trend for these Apps continues to move incrementally upwards with no individual App making a significant jump in visitorship over the others.

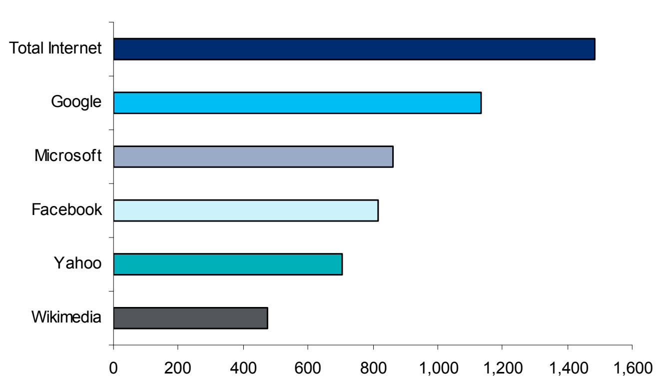
Figure 21. Mobile Traffic Trends: Top 5 Apps for U.S. Mobile Unique Visitors (in MM)



Source: Citi Research; comScore Mobile Metrix

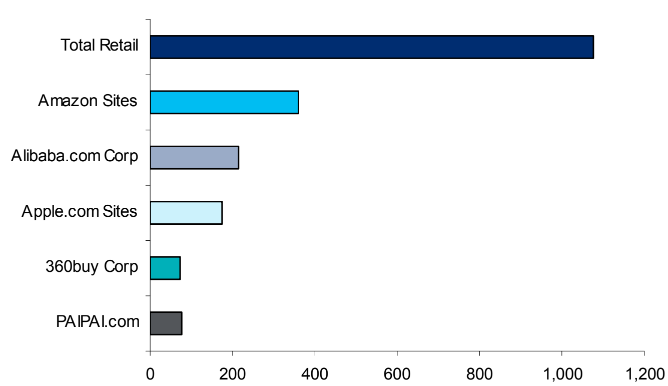
The chart below compares the number of unique monthly visits (trailing twelve month average as of Nov 2012) that each of the Top 5 Mobile Websites and Retail Mobile Websites received globally. Key is that for the mobile traffic trends reported by comScore on a global basis, the total number of global unique visitors to Mobile Websites via Smartphones increased 6% from Nov 2011 to Nov 2012, while the total number of global unique visitors to Retail Mobile Websites via Smartphones increased 10% from Nov 2011 to Nov 2012. This reinforces the growing trend that retail is playing in the ever-expanding Mobile market.

Figure 22. Mobile Trends: Top 5 Trafficked Sites (ttm, in MM)



Source: Citi Research; comScore Mobile Metrix

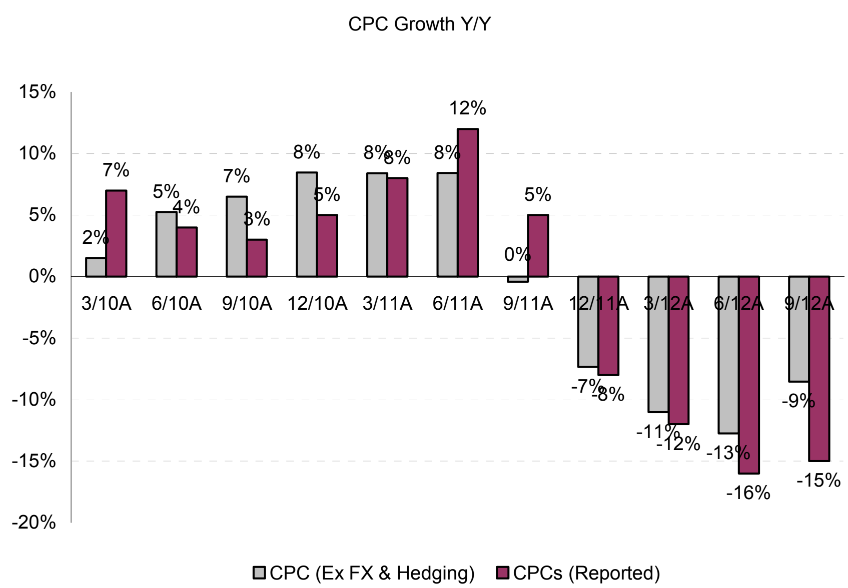
Figure 23. Mobile Trends: Top 5 Trafficked Retail Sites (ttm, in MM)



Source: Citi Research; comScore Mobile Metrix

Mobile Advertising and Audiences – **We are modeling for** Mobile advertising to grow from $1.6B in 2011 to $3.0B in 2012, up nearly 90%, as more people use their Tablets and Smartphones for online browsing, research, commerce and content consumption. While the overall trend is positive, there's been a near-term negative impact on advertising pricing which has put pressure on the search market; this is most evidenced at Google, where Y/Y change in CPCs have declined for 4 quarters in a row. However, other companies, like FB, are seeing higher monetization on Mobile due to better CTRs and ability for higher pricing. And when mobile ads are localized and driving intent, we think the ability to price higher could help drive overall rates up.

Figure 24. Google CPC Y/Y Growth



Source: Citi Research

Mobile is Advancing Shopper Research — 76% of Smartphone owners use their mobile devices shopping according to a recent survey from Perception Research Services International. The study has also indicated the growing acceptance of mobile commerce technology, with 44% of Smartphone owners having used a QR code.

The implication for retailers is that they will need to find a way to compete while the volume and speed of information is growing in shoppers' favor. While it appears to be inevitable that traditional retailers will lose a certain amount of market share to online retail, the true winners will find ways to capitalize on the shoppers performing in store research.

Retailers will need to find a way to compel shoppers to make these purchases immediately, rather than doing so elsewhere or online.

Growing Comfort with Mobile Commerce — 80% of Smartphone owners desire to access product information more conveniently through the mobile devices while in stores, per a recent study conducted by ad agency Moosylvania. Mobile shoppers are placing speed of information at the top of their wish-list, to facilitate research, obtain reviews, and compare prices.

However a more educated consumer is not necessarily an advantage for traditional retailers. The survey indicates that for shoppers who research products in store, 73.9% also compare prices among retailers. Adding to the potential trouble for traditional retailers is the growing comfort of Smartphone owners to with making large purchases on their devices.

Mobile Payments — Per Gartner, Mobile Payments transaction value will grow 61% in 2012 to approximately $172B, vs. $105B in 2011. Furthermore, the number of mobile payment users will grow to more than 210MM people vs. approximately 160MM people in 2011. Gartner also estimates that mobile payment transaction value and volume will grow to $617B in 2016, representing a 42% CAGR from 2011-2016.

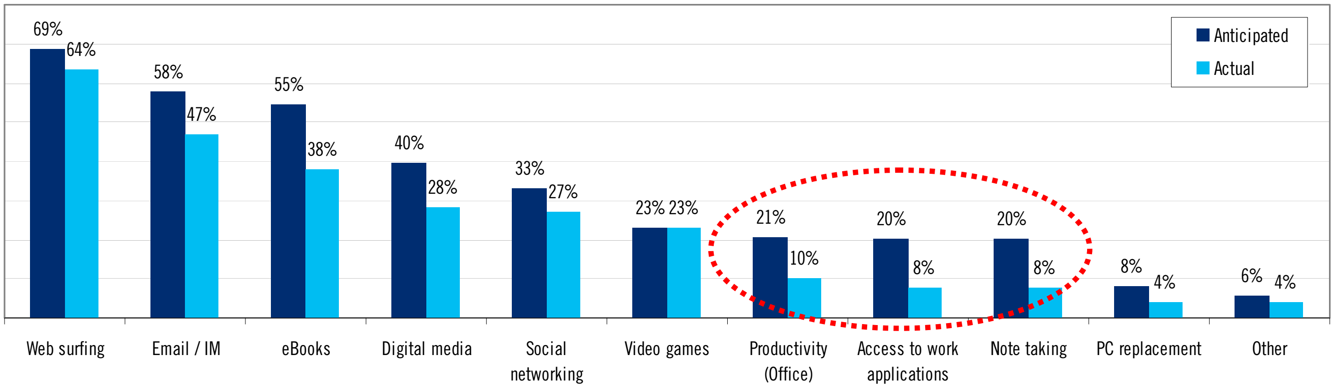
In a recent survey of 200 mobile executives conducted by Chetan Sharma Consulting, the respondents believe that Mobile Payments will continue to grow at a significant pace and that mCommerce could exceed eCommerce in 2016 in the U.S., with Europe to follow shortly behind. The respondents also indicated that traditional payment companies like Visa, Mastercard, Paypal (EBAY), and carriers could be the biggest beneficiaries.

Per an article published by storefrontbacktalk.com, alternative (i.e. mobile) forms of payment are gaining significant traction with consumers and are causing a growing disruption in the payment industry. With the growing adoption of mobile payments, we anticipate a significant impact to the current payment cost-structures and monopolies. Assimilating the long-standing credit card brands to the newspaper industry several years ago, the article insinuates that mobile payment structures could cause the death of traditional interchange.

Tablets + Smartphones Are Driving Content Consumption — As per Citi's collaborative piece, "Device Explosion Survey" from December 16, 2012, we found that content consumption remains the primary use case with tablet owners highlighting web surfing, email & messaging and eReading as the top three functions being performed. Content creation remains limited, with users clearly surprised by the lack of productivity work that can be accomplished on the form factor. The drop-off from anticipated usage to actual usage across work-related tasks was the most meaningful of all the activities. We would note that tablets appear to be meeting expectations when it comes to gaming, showing the potential to be the next gaming platform.

Overall, compared to past surveys consumers appear more educated on what they could and should use a tablet for with our survey showing less of a gap between what they expected to use it for and what they actually use it for. We view this positively for tablet adoption since consumer demand remains strong even though the potential use cases are more limited than many initially thought.

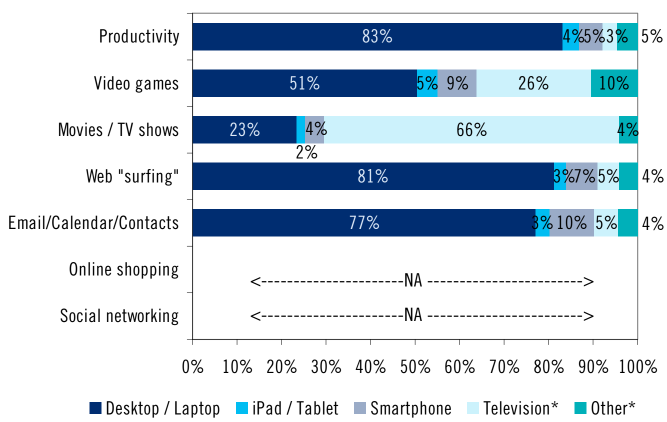
Figure 25. What Activities Did You (Expect To / Actually Are) Doing on Your Tablet? – Content Consumption Still Primary Use Case for Tablets



Source: Citi Research

Three years of survey results have yet to show concrete evidence that mobile devices such as smartphones and tablets have materially stunted the growth rate of other consumer devices such as PCs, game consoles and televisions. Purchase intentions outside of mobile devices have held fairly constant. However, when asked how consumers are allocating their time by activity across various electronic / computing devices there is a clear trend towards mobile form factors. We determined that gaming, web surfing and email/calendar have seen the greatest traction across mobile devices. While productivity and content viewing (movies/TV shows) has seen some shift, consumers have been slow to transition these activities to the small screen. Below, we further examine the shifting device dynamics across the most common consumer activities two years after we first broached the subject on our Nov 2010 survey.

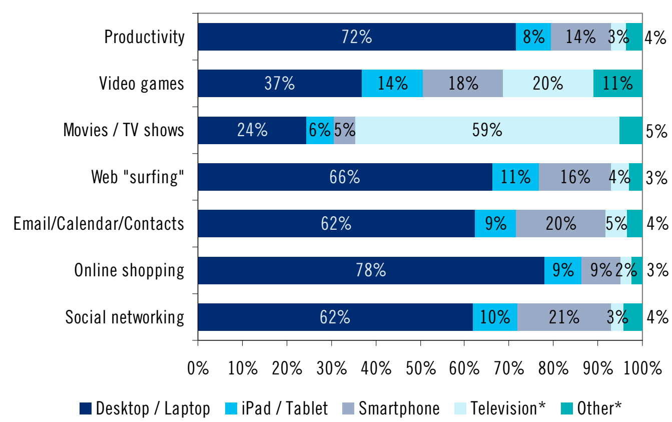
Figure 26. Time Spent by Activity Across Electronic Devices (Nov '10)



* TV through cable, set-top box or game console / * Other via iPod, PMP, Portable gaming device

Source: Citi Research

Figure 25. Time Spent by Activity Across Electronic Devices (Dec '12)



* TV through cable, set-top box or game console / * Other via iPod, PMP, Portable gaming device

Source: Citi Research

Tablets + Smartphones' increased overall usage is continuing to have a material impact on Internet company fundamentals. And such overall increase in traffic via Smartphones and Tablets has led to a direct increase in monetization opportunities for Internet companies. Below we provide a brief summary highlighting recent disclosures from Internet and Retail companies related to Mobile applications, consumer usage, and monetization opportunities:

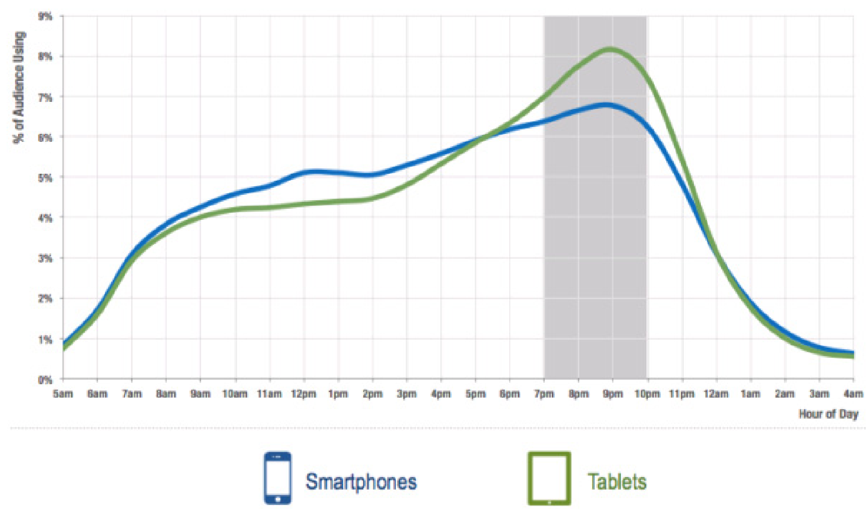
Figure 28. Key Mobile Data Points from Internet and Retail Companies

Company	Key Mobile Data points
Active Network	About 22% of Active's traffic is now coming via Mobile devices
Amazon	AMZN is currently generating $3B to $5B in sales via Mobile devices
eBay	Guided to $10B in Mobile GMV & $10B in Mobile TPV in 2012
Google	About 15% to 25% of all Search queries now come from Mobile devices
LinkedIn	About 15% to 20% of its unique visitors and page views come via Mobile devices
Pandora	Mobile devices now account for more than 70% of its Listener Hours
Walgreens	40% of WAG's online Rx refills now come via Mobile
Walmart	Launched Scan & Go service in November 2012

Source: Citi Research

We continue to believe that the analogy we published a year ago still holds. We hearken back to 7-9 years ago, when we tracked the impact of Broadband adoption on Internet Advertising & Online Retail Growth rates. Post the 2001 recession, U.S. Household Broadband penetration surpassed 20% in 2004 and directly and indirectly led to 3+ years of robust 20%+ growth for the Internet Advertising and eCommerce sectors. At some level, part of the recent reacceleration we have seen in top-line growth rates at companies such as Amazon and Google has been due to Mobile Internet-driven incremental usage. We'd note, however, that there has been a relatively healthy debate around the extent of Mobile Internet usage that's really incremental, and accordingly the extent of monetization opportunities that are completely incremental (and do not cannibalize traditional desktop / PC Internet usage). As evidence to incrementality around Mobile Internet usage, we highlight below a recent report published by Flury. Mobile usage tends to be higher during the day, as people are out and about, but Tablet usage tends to spike fro 7-10 PM while people are at home.

Figure 29. Device Usage Daypart Study (Smartphone vs. Tablet)

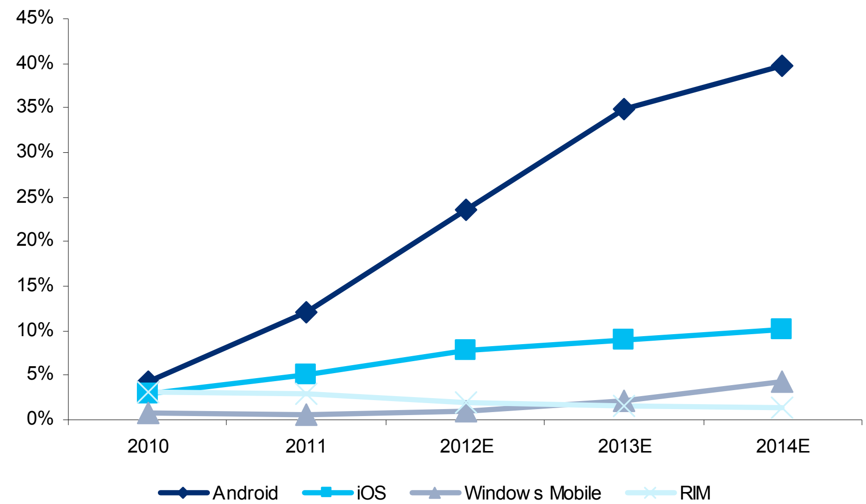


Source: Flury, September 2012

All in, we believe that all of the Internet Large Caps will benefit in 2012 from the Mobile Internet Growth Driver. Streaming via tablets and Smartphones should continue to benefit NFLX, AMZN and GOOG. And AMZN and EBAY are likely to benefit from increased sales activity via Mobile devices — they are likely among the leading cCommerce ("Couch" Commerce) destinations. And eBay's PayPal unit should clearly be a beneficiary of increased Mobile Payments.

But we would probably single out Google as the biggest beneficiary of this driver, given the strength of its Mobile platform — Android. The most interesting recent data point on Android may be below. In terms of Global Smartphone market share, Android has increased its overall market share leadership position as the #1 Mobile OS provider. Google's Android monetization strategy remains indirect, but that indirect route has achieved a revenue run rate of $8B, of which the vast majority is from advertising.

Figure 30. Global Smartphone Shipments



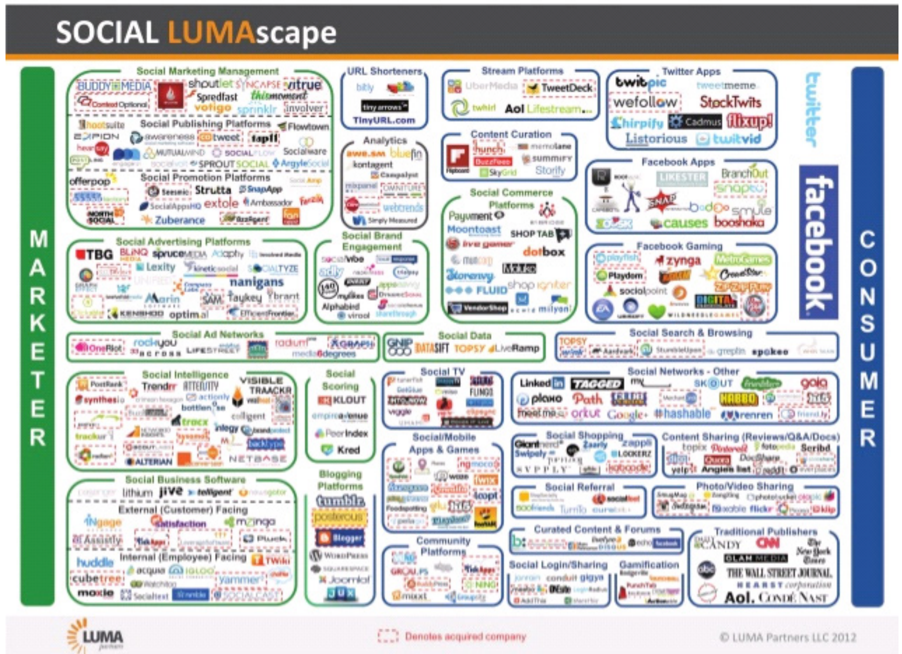
Source: Citi Research; Gartner

Google continues to see strong growth in Android phone activations. In Nov 2011, the company noted that there were 550K daily Android activations, and over 200MM Android devices activated worldwide. After the hyped release of Apple's iPhone 5, Google updated sales run-rates in Sept 2012 to 1.3MM Android devices activated each day and over 500MM Android devices activated worldwide.

2) Growth and Monetization of the Social Web

The Social Media landscape remains large with many players. Notable large platforms like Facebook, Twitter, LinkedIn, and Google+ are fighting to maintain share against the rapid growth potential of App Developers, Commerce Platforms, Content Curation sites, etc. The following exhibit provides a snapshot of the current complexity of the Social Media landscape.

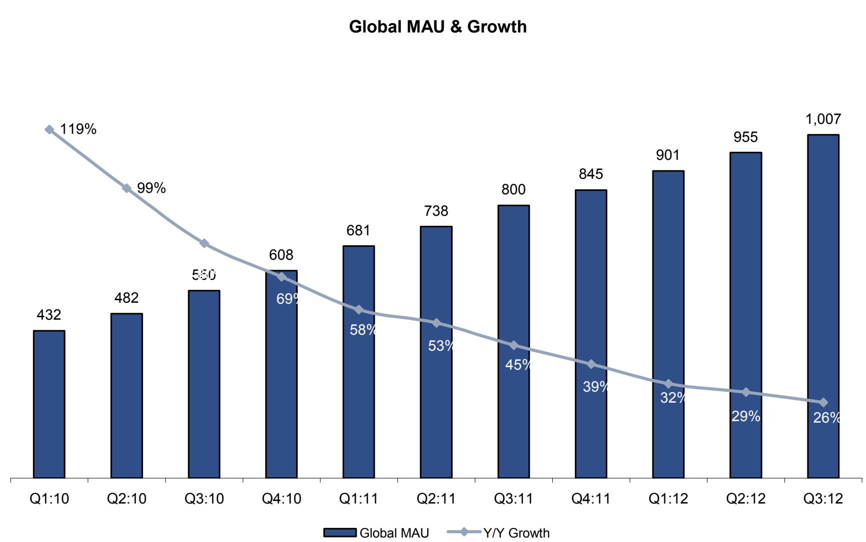
Figure 31. Overview of the Social Media Ecosystem



Source: LUMA Partners

Facebook is The Dominant social network, with over 1B Monthly Active Users as of Q3:12, up 26% Y/Y vs. up 29% Y/Y in Q2. What is most interesting is that the Daily Active Users are around 58% as of Q3. Each day, 585MM people access their FB account.

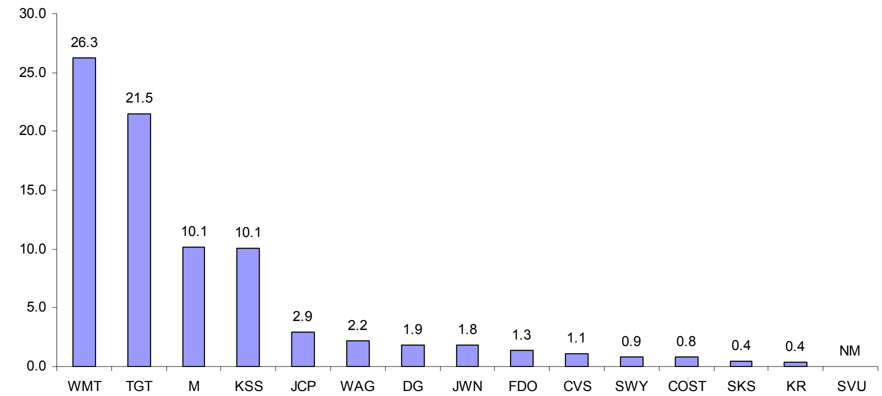
Figure 32. FB Global Monthly Active Users



Source: Citi Research

Retailers are increasingly using Facebook as a way to engage with and better understand their customers.

Figure 33. Facebook "Likes" per Retailer (millions)

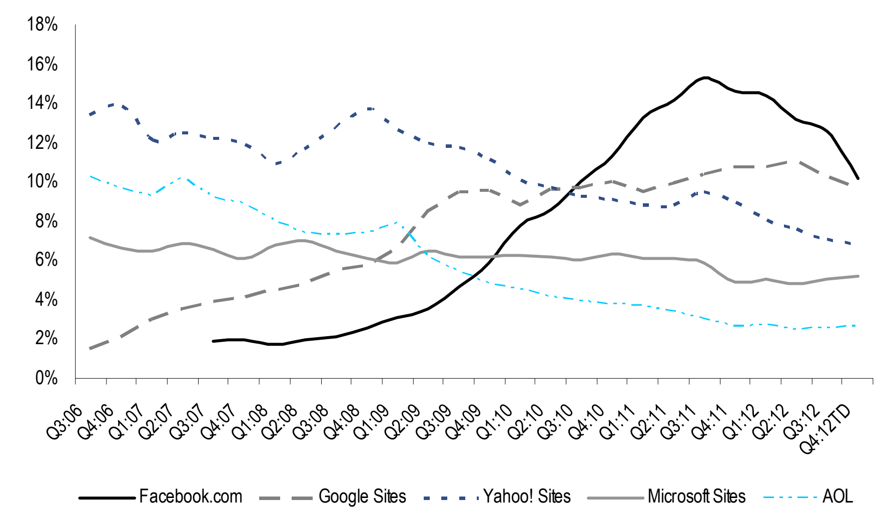


Source: Citi Research, Facebook

But, Mobile is taking its toll on the Facebook desktop site. According to comScore, while Facebook has been able to maintain its leading position as the U.S. Website with the most share of time spent, at 10.2% in 4Q12 (quarter-to-date through Nov 2012), it is down notably from its high of 15.3% in 3Q11 and has regressed back to the pack over the past year: Google is around 10%, and Yahoo! is at 7%.

Two key observations from the exhibit below: 1) The continued decline in Facebook's U.S. usage share could be attributable to Mobile, as Mobile Active users are over 600MM. 2) We find interesting that Google's usage share has continued to rise, even if modestly, over almost the entire period of Facebook's cycle. We attribute this growth in part to greater services offered by Google and the continued strength of YouTube.

Figure 34. U.S. Share of Time Spent Online



Source: Citi Research

Advertisers still seem to be mixed about marketing on Facebook, but FB is working to make marketing easier on its platform, providing more tools to agencies, and offering better reporting. In addition, we believe Sponsored Stories have been viewed as generally positive as the ads are social in nature and drive high CTRs relative to right rail ads on FB.

Social media continues to rise in relevance as retailers look at formulating marketing strategies and we expect this trend to persist, driven by the millennial customer. The evolution of the consumer is forcing retailers to reevaluate their digital strategies and further evolve their omnichannel platform. We believe that there is a first mover advantage when it comes to retailers that are able to adapt on this fast growing platform, connect their brands with consumers on a more personal level, and formulate Social Media to drive sales in a manner that doesn't merely replicate their e-commerce websites.

Brick-and-mortar retailers are making strides but they are in the early innings of providing a fully integrated shopping experience.

According to Michelle Crames, Founder and CEO of SkuLoop, social media driven models are trending towards a more visual, less word-driven format. Notable is Pinterest, the fastest standalone site yet to cross the 10 million unique visitor mark, which generates more referral traffic than YouTube, Google+, and LinkedIn combined. That total same-store referral traffic from Pinterest to five surveyed specialty apparel retailers rose 389% in the second half of 2011. Of the traditional retailers, JWN is a trendsetter, having established its own Pinterest page in March 2011, and reaching over 12,500 followers through over 30 bulletin boards.

Behind the scenes of Social Media lie Social Advertising firms, broader marketing management firms, data analytic companies, and software developers. The major social analytics providers continue to be SAS, Adobe, and IBM. SAS SMA (social media analytics) uses the data it collects from all of the social channels to predict what will happen in the future and provides a dashboard of alerts so retailers can jump on specific threads of conversation in the social media space and quickly catch trends. Some of the more successful business intelligence and analytics companies for retail are Quantisense, Teradata, Microstrategy, and Raymark, all of which are also developing tools for analyzing social and mobile data. We believe these technologies can help retailers find new opportunities to drive customers to the store and more effectively engage them through various channels.

Mobile and social analytics data can be aggregated into one comprehensive view of the customer.

Todd Michaud, Founder and CEO of Power Thinking Media, has conveyed strong opinions about how the convergence of social media, big data processing, cloud-computing, and mobile are coming together to empower the next generation of customer loyalty programs. While no one appears to have emerged as true thought leader, we continue to emphasize the value of moving in this direction.

Personalization is Key to Social Growth — A powerful antidote to retailers' showrooming is creating a personalized experience for the consumer by 'connecting passions with purchases'. Insider events through targeted promotions can steer sales while growing the Social Media fan base. For example, ShoeDazzle offers an online service of monthly selections based on the consumer's "style quiz". The effect is a virtual shoe-of-the-month club, encouraging repeat traffic and sales. However, the quickness of social media is a double-edged sword: Ms. Crames warns faster successes can be offset by faster failures, and retailers should be aware that the employee voice in social media can have far reaching implications.

Customer Satisfaction Matters — We believe the retailers with the best online shopper satisfaction scores will better retain high value customers. As per ForeSee, a leading online customer satisfaction and research and measurement firm, a highly satisfied customer to an e-retail site is: (i) 72% more likely to purchase online; (ii)

67% more likely to purchase next time (loyalty); and (iii) 58% more likely to return to the Website. In ForeSee's 2012 survey, we observed the following:

- *Key Takeaways for the Online Retailers* – AMZN retained top ranking while NFLX's satisfaction score slipped 4 pts. Companies from our coverage universe included (Format used is Rank, Score, Y/Y Chg): (i) Amazon (Rank #1, 89 / 100, +3-pts YoY); (ii) Vistaprint (Rank #12, 82 / 100, +1-pt Y/Y); (iii) Netflix (Rank #17, 81 / 100; -4-pts Y/Y); (iv) BlueNile (Rank #81, 75 / 100, Unch'ed Y/Y); and (v) Ancestry.com (Rank #99, 69 / 100; -7pts Y/Y).

- *Key Takeaways for the Broadlines Retailers* — Walmart.com was the highest-rated retailer in our coverage universe for online shopper satisfaction, with a rating of 82 (up +3 pts YOY). Kohls.com, walgreens.com, jcp.com, and nordstrom.com round out the top five in our coverage. Interestingly, shopper satisfaction for target.com increased 1 pt YOY in 2012 to 79, vs. 78 in 2011, despite several missteps since transitioning its online platform away from AMZN in August 2011.

- In ForeSee's 2012 Holiday survey, AMZN came out on top, well ahead of the Broadlines retailers. We list the top ranked websites below:

Figure 35. Shopper Satisfaction with Top 100 Online Retailers in the U.S., Holiday 2012

Website	Holiday 2011	Holiday 2012	YOY Point Change
Amazon.com	88	88	0
LLBean.com	81	85	4
QVC.com	83	84	1
Vitacost.com	NM	84	NA
Esteelauder.com	NM	83	NA
Vistaprint.com	83	83	0
1800Contacts.com	83	82	-1
Keurig.com	NM	82	NA
Scholastic.com	NM	82	NA
Avon.com	83	81	-2
Cabelas.com	79	81	2
HSN.com	76	81	5
Newegg.com	82	81	-1

Source: Citi Research, ForeSee

Figure 36. NRF Foundation / American Express – 2012 Customer Service Survey for U.S. Retailers

Top 10 Retailers
1.) Amazon.com
2.) L.L. Bean
3.) Zappos.com
4.) Overstock.com
5.) QVC
6.) Kohl's
7.) Lands' End
8.) JCPenney
9.) Newegg
10.) Nordstrom

Source: eMarketer, March 2012

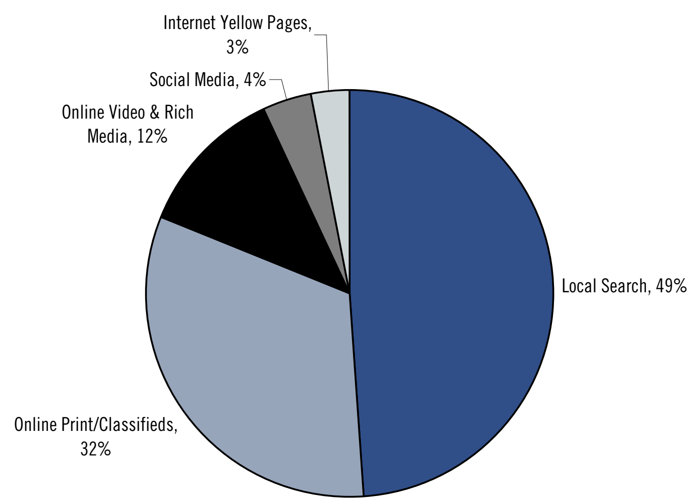
- In the NRF Foundation and American Express' joint 2012 customer service survey for U.S. AMZN came out on top, up from their second place finish last year. Barring a few who switched spots, the top 10 retailers remain the same as last year. We list the top 10 retailers in the figure to the side:

In terms of how the Large Cap Internet stocks are impacted by the rise of Social Media, we believe there are several negative implications. Specifically, we believe that Facebook could pose the biggest near-term threat to large portals like Yahoo! and AOL, given that Facebook generates material ad impressions at lower CPMs than the portals. Arguably, the relatively weak Display Ad Revenue results at Yahoo!, AOL, and other firms in 2011 and part of 2012 were in part caused by pricing pressure from Facebook. To the extent that Internet users increasingly rely on Facebook as a channel for communication, entertainment, and information, then Google would appear to also be negatively impacted by the rise of Facebook. The incremental risk for EBAY is the potential that Facebook Credits — not in 2012, but long-term — could become a credible alternative to PayPal.

3) Local: Driver of Usage But Where's the Money?

Per BIA/Kelsey (2010), the U.S. Local Online Ad market in 2010 was approximately $20B, and offline advertising spend was approx $114B. Per Veronis Suhler Stevenson, Local Search and Classifieds & Display account for the bulk of the Online spend. Below, we show a breakout of this spend by local ad formats.

Figure 37. 2010 U.S. Local Online Ad Market, by Ad Format

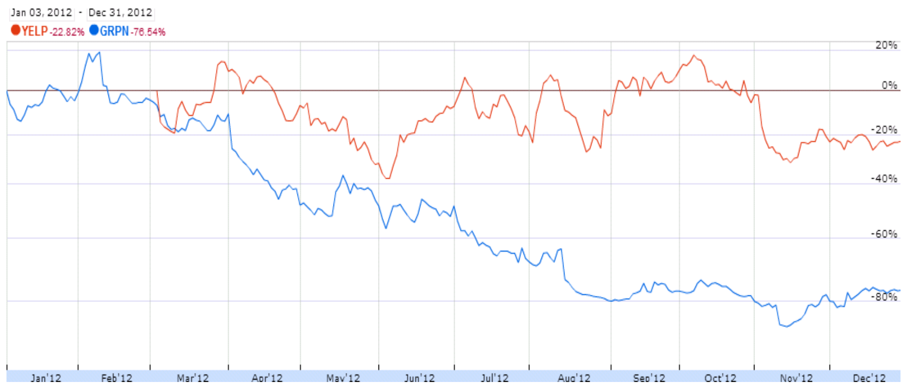


Source: Veronis Suhler Steveson; Citi Research

In 2010, Reach Local was among the 1st public Internet Companies with a direct play catering toward Local advertising. And, in 2011, Groupon and Angies List were among the notable IPOs that were a direct play in the similar local commerce market. In 2012, Yelp went public, which is arguably the strongest Local Web brand. We believe large cap players such as Amazon, Google, and Facebook continue to be more aggressive given their recent offerings and products such AmazonLocal, Google Offers, Google Places (with Zagat, Frommers), Facebook Check-Ins, etc. About 20% of GOOG's queries are local in nature, and now GOOG has a very simple, $25/month offering for local businesses that helps highlight their stores and coupons when people do search queries. Meanwhile, AMZN's third-party fulfillment program allows businesses to host their online stores and/or inventory with Amazon to sell goods online. Other key data points that this market is taking off include eBay's acquisition of a local shopping startup Milo in a strategic move to drive local commerce thru its Marketplace offerings as Milo provides a platform for driving online shoppers to offline stores. Facebook's acquisition of Gowalla, a location-based social network, similar to Foursquare, is another sign of the industry's increased focus on Local Ad/Commerce markets. Finally, we'd note that Amazon owns about ~30% of Living Social, a daily deal service provider.

But…while we expected Local to be driver for 'Net companies in 2012, it has been a challenging environment for many pure-play public Internet companies. In 2012, Groupon's stock is off 76%, and since Yelp's IPO in March, its stock is off 23%.

Figure 38. GRPN vs. YELP: 2012 Stock Price Performance



Source: Citi Research

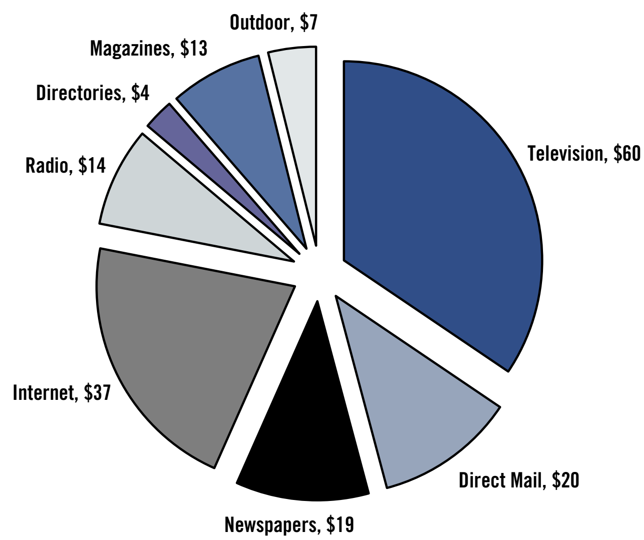
We think 2013 will continue to be a challenging year for Local until biz models can get more defensible. Groupon will have to address a commodity-type product with increasingly negative consumer and vendor feedback. Yelp will have to address how it can create a variable pricing model based on location and platform, as well as encourage businesses (despite their star rating) to market on the local review site.

One company that seems to have solid moats around its business is ReachLocal. With the stock up 105% in 2012, we think the company should see more margin leverage as it starts monetizing many of the international offices it opened in 2012. And with a large feet-on-the-street sales force that is re-selling search advertising, we think RLOC can make the case for a solid value proposition for local merchants.

4) The Migration of TV/Video Advertising Online

One trend that we've started to see become material is the migration of TV/Video Advertising Online. For key context, TV has consistently been one of the largest advertising spend categories. In 2012, we estimate that TV Advertising (including National and Local Cable and Network and Local Broadcast) reached $60B, about 1.5X bigger than the #2 category, Internet. Further, because of its scale and format (which lends itself quite well to brand advertising), TV Advertising appears to have been relatively unscathed by the rise of Internet Advertising, although there may be early signs that this is changing.

Figure 39. 2012E U.S. Ad Spend, by Medium ($B)



Source: Citi Research. PWC, IAB; TV includes distribution, cable, & broadcast.

Per Citi's Media Analyst, Jason Bazinet, across all day parts, Cable Network audiences fell 4% in November, making it the 15th consecutive month of decline. Prime time was down 4% as well, with the big 4 down 7% Y/Y. Fox was down 23%, CBS was down 12%, ABC down 11% and NBC was the outlier, up 21%. Possible explanation for these declines include DVR usage, as well as more content viewed online and through IPTVs or connected boxes (AppleTV, Roku, etc.).

Figure 40. Live + Same Day – Prime Time Y/Y Viewership Growth (Y/Y)

	3Q11	4Q11	1Q12	2Q12	3Q12	Oct-12	Nov-12
CBS (CBS)	0%	0%	1%	-5%	-16%	-11%	-12%
+ NBC (NBC)	-1%	-8%	1%	-8%	81%	17%	21%
+ FOX (FOX)	-9%	27%	-28%	-13%	-5%	-26%	-23%
+ ABC (ABC)	1%	-4%	-2%	-8%	-20%	-9%	-11%
+ Univision (UNI)	-3%	-8%	-2%	-4%	-3%	2%	2%
+ PBS (PBS)	0%	8%	6%	6%	-6%	-21%	1%
+ ION (ION)	-5%	-14%	-13%	-2%	-5%	11%	10%
+ Telemundo (TEL)	9%	32%	6%	-13%	18%	0%	4%
+ CW (CW)	-27%	-23%	-13%	-24%	-28%	-9%	3%
+ Telefutura (TF)	-32%	-39%	-25%	9%	20%	54%	55%
+ Azteca (AZA)	-1%	-8%	-32%	-45%	-43%	-41%	-21%
+ Entravision (ETV)	3%	-5%	-4%	0%	-5%	4%	-6%
= Total broadcast growth	**-3%**	**-1%**	**-7%**	**-8%**	**8%**	**-8%**	**-4%**

Source: Nielsen; Citi Research

As for the actual amount of Internet Video Advertising, the numbers so far are small. In 2010, Internet Video Advertising was approximately $1.3B, a little more than 2% of the ad dollars spent on TV Advertising during the same period. In 2011, Internet Video Advertising grew to $1.8B, and for 2012, we expect online video advertising to be $2.4B, or 4% of the total TV advertising market. We expect this market to grow to over $3B in 2013 and approach nearly 5% of total TV advertising.

Figure 41. U.S. Online Video Advertising Market

($ in MMs)	2007	2008	2009	2010	2011	2012E	2013E
Total U.S. TV Advertising	**$57,018**	**$55,042**	**$50,921**	**$55,091**	**$58,156**	**$59,761**	**$62,893**
Y/Y Change	--	-3%	-7%	8%	6%	3%	5%
U.S. Online Video Advts'g	**$424**	**$734**	**$1,017**	**$1,302**	**$1,809**	**$2,442**	**$3,053**
Y/Y Change	--	73%	39%	28%	39%	35%	25%
% of Total TV Advertising	**0.74%**	**1.33%**	**2.00%**	**2.36%**	**3.11%**	**4.09%**	**4.85%**
Y/Y inc. in penetration (bps)	74	59	66	37	75	98	77

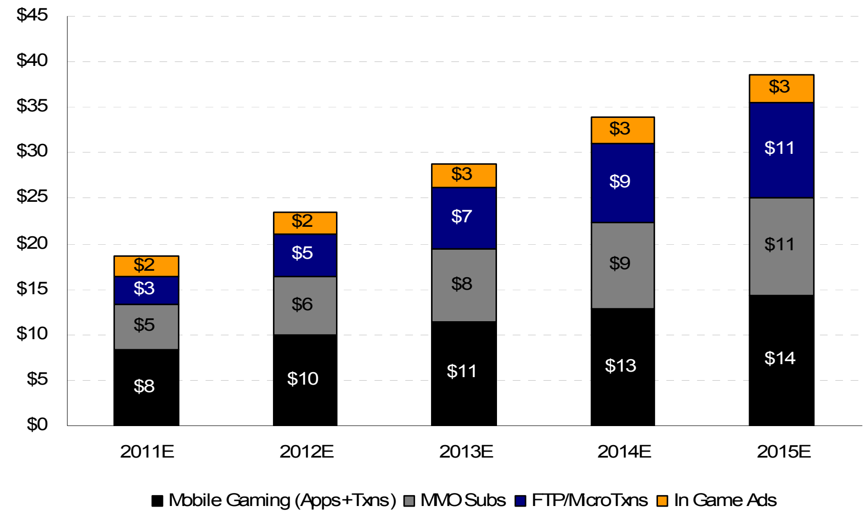
Source: Citi Research

Best large-cap Internet derivative plays on this driver? We believe GOOG would likely be the biggest beneficiary, given its Display Ad Network and given its dominant Online Video asset, YouTube. In terms of the numbers, we believe that YouTube is already at a $2B+ gross revenue run rate. Given this size and momentum, it's hard not to see GOOG as the biggest beneficiary of the Online Video Advertising driver. Finally, this trend raises for us the intriguing questions of when Facebook plans to launch Video advertising on its sit, and how users would take to video ads in their newsfeeds.

5) Micro-Transactions & Digital Goods

The Video Game sector should be the biggest beneficiary of this. We expect the Free To Play/Microtransactions market to grow from $3B in 2011 to $10B in 2015, with a CAGR of 37%. These games are generally free to play. However, if users want to advance, they have to pay a small fee to play additional levels (FTP) or pay for certain virtual goods (swords, tractors, etc.) in order to give them an advantage during game play. These games can either be played against the computer or, in many cases, can be played simultaneously with friends. The games are generally casual games and don't require an upfront purchase. Mobile has become the dominant platform for FTP games, and interestingly, companies like Zynga, ATVI, and EA are well behind the curve when it comes to monetizing users on Mobile. Indeed, smaller start-ups (Kabam, Kixeye, etc.) have become some of the higher monetizing games on iOS and FB.

Figure 42. Global Online Gaming Market ($ Billions)



Source: 1) PwC Global Media and Entertainment Outlook: 2010-2015; 2) Citi Research

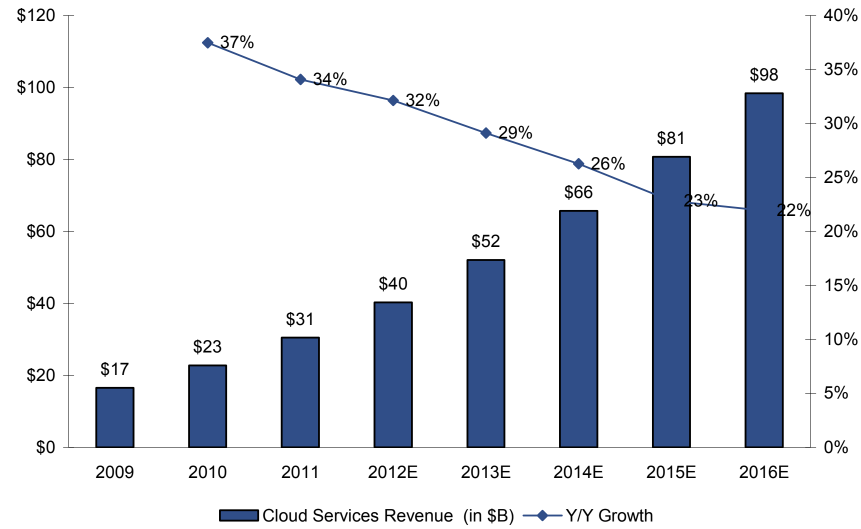
So which large-cap Nets are beneficiaries of this Driver? At the end of the day, we think gaming companies will be best able to monetize this trend, especially ZNGA. And FB, which takes a cut of gaming (30%), should also be a beneficiary. However, as games move to mobile, FB won't be able to charge 30% platform fee on iOS, so this could put some pressure on FB's Payment Revenue.

6) The Critical Cloud

According to the August 2012 report published by IDC, public IT cloud services are estimated to grow at over 5x the rate of the traditional IT industry overall. We believe Cloud Computing could continue to reshape the IT landscape as spending on public IT cloud services expands more rapidly over the next 5 years. Per IDC forecasts, total spend related to Public cloud / IT services will grow at a 5-year CAGR of 26%, from $22B in 2010 to $98B in 2016.

But IDC indicates that the impact of cloud services will extend beyond IT spending as Cloud Services become a critical component in a much larger transformation. We are currently in the midst of a new platform shift that includes, Mobile, large data ,and apps/devices that fall under these. Per IDC, cloud and new platform services and technologies account for about 20% of total IT spend, and by the end of this decade, they could account for 75%–80% of all IT spend. Below we provide a quick trendline with IDC's public cloud services forecast from 2009 to 2016.

Figure 43. Global Cloud Services Revenue Forecasts: 2009A to 2016E ($B)



Source: Citi Research; IDC; * Public IT Cloud Services Revenue includes Apps, Apps Deployment, System Software, Servers, and Storage.

The megatrends in IT point to adoption of cloud computing continuing until what was exceptional only a year or two ago becomes the norm. Consumers are accustomed to cloud-delivered services such as email or online shopping without giving a moment's thought to the way they are delivered. Users of Amazon's Kindle already have a rich, multi-device experience that are now seeking to emulate with their own platforms so they can not only support a mobile, multi-device community but also the even more flexible (and security-challenged) concept of Bring Your Own Device. Further dramatic increases in processing power, storage and bandwidth at falling unit costs tilt industry economics further in favor of cloud computing architectures. The opportunities in IT Services, software, data centers, and telecommunications are significant, but incumbent vendors in some segments could come under pressure.

Movement of applications into a shared public cloud environment has extensive implications across our coverage. In the corporate world, the pace may be slow due to the need to get comfortable with security (the most important issue for 43% of CIOs in Europe). Cloud offerings need to overcome reluctance to change what's working in companies' legacy systems and deliver reliability and predictability of costs. Telcos that move quickly should see benefits. While initial revenues may somewhat cannibalize existing business, the prospect of much more extensive outsourcing of infrastructure by companies as network and IT continue to become more mutually dependent suggests real growth to come. Key highlights from our recent Cloud Computing report (published Sep 2012) were: (i) **Cloud computing is a large and growing market** — According to Informa Telecoms and Media, the total cloud market was $20bn in 2011 and is expected to reach $26.4bn in 2012, equating to 32% growth yoy; (ii) **Scale economies and technological developments are drivers —** Cloud is a transformational technology because it represents a new model for IT consumption, namely "utility computing," where resources are employed flexibly, are delivered on demand, and can support multiple devices. Estimates on savings due to Cloud vary considerably: Microsoft states cloud computing could decrease IT spending by 80% while an EEOC case study suggests 40% is a reality. Our industry interviews suggest that by adopting shared

cloud architectures corporates might be able to save around 50% vs. in-house options and 25% vs. outsourced dedicated systems; (iii) **Security and legacy inertia remain barriers to adoption —** In Europe, a 43% plurality of respondents to Citi's 1Q12 CIO survey cited security concerns as the most significant barrier to moving to a cloud computing model. Lack of compatibility with legacy applications (18%) and reliability concerns (11%) also were displayed. In addition, telecom operators regularly cited sunk costs in legacy infrastructure as a barrier; (iv) **Variety of business models —** The provision of software (SaaS), an application platform (PaaS) or storage and compute infrastructure (IaaS) are the core business applications of the cloud. Opportunities also exist for cloud consultants, integrators, and aggregators who allow enterprises to move progressively into the cloud and manage a range of cloud services.

Overall, we view the movement toward Cloud Computing as a positive for the large-cap Internet stocks, given the potential for greater operational efficiencies. But we also see this Driver as a specific revenue driver for AMZN, and to some extent, for AKAM and GOOG. AMZN is a clear beneficiary of this trend as the company builds out its Amazon Web Services and CloudFront services for businesses so that other companies can host their IT server infrastructure on Amazon's Cloud Offerings without having to buy expensive equipment and hire engineers to run the data centers. All in, we believe that AWS has already become a $2B revenue segment for Amazon. AKAM should also be a beneficiary, although its recent low revenue growth raises questions about its competitive positioning. Akamai management believes that company's Enterprise Segment can grow to $1B in 10 years due to the secular growth of Cloud Computing, coupled with Akamai's strong Cloud Computing offerings. Finally, we believe that GOOG should benefit from the Cloud with its Google Enterprise offering that allows companies to utilize office applications (documents, spreadsheets, email, etc.) over the Cloud rather than paying expensive licensing fees for physical software applications. Also, Google has a similar service to Amazon's AWS service, which many smaller companies are utilizing for complex algorithms and computations.

7) The "Hardware as a Service" 'Net Model

Haas is not only a top business school, but it is new term that we think we've coined to describe the clear trend of large-cap 'Net companies migrating toward a tighter integration with specific consumer hardware devices as Internet companies are looking to expand into Hardware to control the full stack. We believe Internet companies feel the need to manage the entire consumer experience, and thus, they need to manage the hardware design / look-and-feel of specific devices. While such a unified hardware-software strategy might sound similar to the one Apple has implemented with great success, we believe Internet companies are implementing a clever variation: Sell hardware to enable users consume more software.

We think such strategic moves probably first began when Amazon launched a dedicated eReader 3 years ago. With the clear success of the Kindle e-Reader, Amazon recently launched the second generation of Kindle Fires in September this year. At the launch, several elements of Amazon's "HaaS" strategy were embedded through Bezos' presentation. For instance, Bezos reiterated that differentiated Hardware would likely not provide a long-term sustainable advantage versus differentiated Software. And, possibly succeeding in the low-priced Tablet market, we believe Amazon is now in the process of adding a third device in this family: the Amazon smartphone. While we view this as the next logical step for Amazon, we are still skeptical about Internet companies succeeding solely on the basis of a hardware device, unlike how Apple has been able to succeed over the years. On the other hand, we believe Amazon's success with its forays into hardware sales is

largely contingent on stimulating consumption — either physical or digital goods — with the device acting as the "razor" in the popular "razor-blade" strategy.

Along similar lines, we'd highlight Google's acquisition of Motorola as a clear "hardware-ization" of another large cap 'Net company. We think GOOG will get significant IP protection for its Mobile/Android ecosystem. But we think Google (similar to Amazon) faces an increased risk to the Android OEM partner network ,and Motorola manufacturing competencies seem far afield from GOOG's core competencies.

All in, we believe we will continue to see further entries by 'Net companies into the Hardware space as they hope to own the entire ecosystem and hope to provide a better consumer experience within this ecosystem. However, we'd also highlight the risk associated with this trend. While Amazon has proven success with the Kindle e-Reader, its success with the tablet is still unclear. And we are skeptical about its reported efforts with a Smartphone as it is a category that we believe Amazon would find very hard to differentiate oneself as a late comer to the highly competitive Smartphone market. And, Google hasn't shown much success yet as an integrated SmartPhone provider.

8) Internet Companies Get "SaaS-y"

As traditional software businesses morphed to an Internet-based delivery model, their pricing structures also morphed into a predominantly license-based model to a primarily subscription-based model. Such a transformation enabled software companies to innovate as well as increase customer adoption at a faster rate. Also, such a model allowed software companies to have greater visibility into future revenue streams and become more resilient during economic downturn.

We believe emerging business models of certain Internet companies emulate such a transition experienced by Software companies. For context, historically, we have seen two primary types of Internet business models: Ad-based and eCommerce driven. However, recent Internet companies have combined the concept of "freemium" services where consumers access the service for free (or at a subsidized rate) while businesses provide subscriptions for access services. Below we provide a list of Internet companies that have successfully combined a freemium-subscription based pricing model to expand its user base as well as customer base.

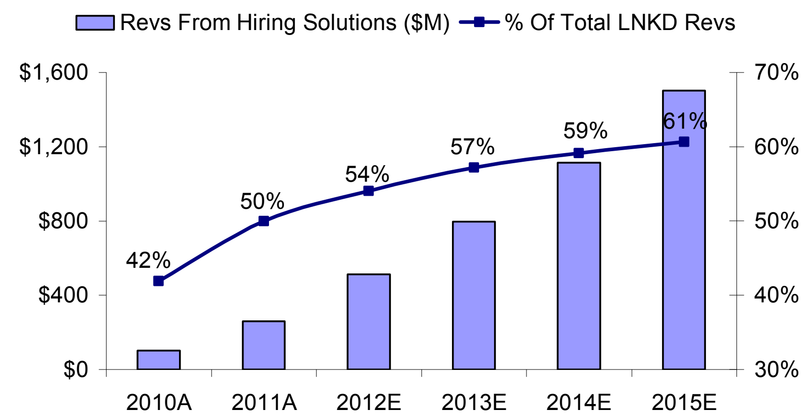
Figure 44. Internet Companies with Recurring or Subscription-Based Revs

Company	% of Revs from Subscriptions	Description
Netflix	100%	Subscriptions to consumers
LinkedIn	~ 50% to 55%	Subscriptions to both corporations & consumers
Zillow	~ 60% to 65%	Subscriptions to real estate agents; free to consumers

Source: Citi Research

And, as another piece of evidence toward increasing importance of SAAS-type business models, below we illustrate the 5-year trend in revenues from LNKD's hiring solutions. We estimate the revenues from LNKD's Haring solutions segment would increase from about 42% of total revenues in 2010 to more than 60% of LNKD revenues by 2015, growing at an excess of 70% growth rate (CAGR).

Figure 45. LNKD Revenues from Hiring Solutions: 70% 5-Year CAGR



Source: Citi Research, Company reports

9) Push for Big Data Gets Even Bigger

"Big Data" is the phrase on everyone's lips lately, but few retailers are efficiently utilizing their information to better understand their customers and direct their behavior. We think Google is the King of Big Data, with thousands of engineers, PhDs, and statisticians who analyze vast troves of data and deliver search results and ads that are personalized to the individual. While online pure-players like AMZN and EBAY are leveraging the data gathered from customers' browser, mobile, and e-mail habits to offer highly specific promotions, retailers are largely hesitating to get into the Big Data game, due to the overwhelming task of sifting through what they have, or not believing they can draw sufficient conclusions to warrant the expense. When retailers get on board with predictive analytics, we believe they will see significant increases in sales and profitability as they make each customer interaction richer, with the potential to increase operating margins by over 60%, according to a 2011 McKinsey report.

We believe that Broadlines retailers will begin to think differently about investing in technology as Big Data continues to emerge and executives understand the potential underlying sophisticated analytics. In addition, retailers that focus on implementing innovative technologies could gain a competitive advantage over peers through differentiation. We continue to expect DG, JWN, M, and WMT to make the biggest splash in retail technology, as they push to drive both top-line and bottom-line growth.

Key Technology Themes in 2013: Convergence of Marketing & IT

We continue to view the incorporation of Big Data and incorporation of predictive analytics as must-have competencies for retailers to begin developing in 2013. Big Data will filter through massive amounts of information collected from social media, mobile, and stores to deliver actionable insights in real-time.

While Big Data development stands to drive up IT spending in the near-term, we anticipate that it will be a necessary expenditure to ensure survival in the long term.

In speaking with Todd Michaud, a Marketing Technology and Big Data expert, he emphasized that Big Data will be a higher priority to companies in years past as marketing departments push management for necessary CapEx. We believe this will result in traditional retail IT structures to disintegrate as technology investments transition from a cost needing to be controlled to a point of strategic advantage.

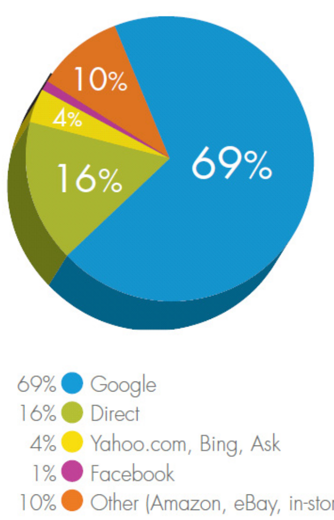
The grassroots movement has found some ground to stand on as executives understanding of the concept of Big Data becomes clearer.

However, as executives realize the possibilities of Big Data they will also come to appreciate that they do not have the staff to execute. With market share being lost to ecommerce companies that figure out the incorporation of analytics (e.g. Amazon), retailers ultimately will realize that they need to do more to compete technologically. The far reaching implications of this retailer-vs.-ecommerce competition will be the convergence of technology as consumers gravitate towards true omnichannel shopping.

There are now a massive amount of data available to retailers. The challenge is extracting valuable insights from it.

Customer Analytics — Customer analytics allows retailers to build predictive capabilities, improve customer retention, and better plan for the future based on one view of the customer across all channels. There continues to be a dramatic increase in the amount of data available to retailers, and this is creating two challenges on the analytics front. The first is managing and properly capturing the data, and the second is how to extract advantageous information from it. These challenges should not be addressed sequentially; instead, retailers need to tackle them simultaneously to become more flexible in adapting to the desires of customers. Big Data analytics is one emerging solution to this problem and consists of advanced analytic techniques operating on big data sets. Retailers that can effectively analyze Big Data can better predict sales volumes of products by using customer profiles and other factors. This forecasting can be done based on region, age, and income as well. Predictive analytics allows for consistent and reliable business decisions, and in some cases can even be automated. In addition, building extensive customer profiles allows retailers to improve customer retention and build loyalty.

Figure 46. Where Consumers Start Shopping



Source: ChannelAdvisor

For instance, Figure 46 indicates that knowing where customers start their shopping online gives retailers an understanding of how to optimally connect with them and position their campaigns in the future.

Loyalty Cards – We believe that the continued roll-out of loyalty card or private label credit card programs has a great opportunity to drive customers through the doors and create a sense of brand loyalty. In addition, the spending data aggregated from cardholders can provide invaluable insights to the company on customer preferences and their corresponding purchasing patterns. The retailer can then customize its offerings and further increase loyalty based on the data generated from previous private label credit card sales. We believe that SKS, KSS, CVS, JWN, and M have the most attractive rewards systems, based on rewards points, bonus benefits, and customized offerings. We also believe that TGT has a great opportunity to capitalize on its REDcard program, as the program provides customers with a consistent opportunity to save on merchandise.

The dunnhumby algorithm assigns characteristics to thousands of product lines by looking at associations between products in consumers' baskets.

dunnhumby – KR first began implementation of customer analytics in 2003 by partnering with dunnhumby. dunnhumby is a U.K.-based firm that specializes in database management, analytical services, and data mining. The company became famous for its work with Tesco's Clubcard and evolution of analyzing data gained through loyalty card programs. Though standard practice in retail is analyzing aggregated sales data without a loyalty card, it is impossible to know precisely who has bought specific items. However, with loyalty cards dunnhumby found links to individual customers and compiled a database of customer "DNA" that gave Tesco and suppliers insight to tailor prices, optimize promotions, and cater to its most-valued customers.

These data drove SSS growth at Tesco and inspired French retailer Casino and U.S.-based Kroger to form join-ventures with dunnhumby. It is important to note that KR owns a 50% stake in dunnhumby U.S.A., making KR the only food retailer in the U.S. with whom dunnhumby U.S.A can work. This implementation gave KR the ability to design customized offerings to various customer segments and to target its promotional spending and pricing investments toward more profitable customers. Since the end of 2003, KR has posted consistently positive IDS ex-fuel (identical store sales) growth, while its direct supermarket competitors have had difficulties keeping pace.

Analyzing customer sales data allows retailers to identify new opportunities.

M followed suit in 2008, signing a multi-year agreement with dunnhumby to analyze Macy's customer sales data and develop customer segmentation models, in order to build a new loyalty program. Macy's is "versioning" its mailers so that they are more relevant to customers. Since October 2009, Macy's has been testing tailored communications with over 500,000 customers. For instance, if a customer never shops a particular category, then the mailer that Macy's sends them will either not feature that category or will allocate fewer pages to it. Accordingly, the tailored mailer will "lead" with categories that you do shop. Anecdotally, Macy's sent out 6,941 versions of a recent March book, and saw a +5% lift in sales per name mailed, in some cases.

TGT implemented DemandTec nextGEN Shopper Insights in 2010, which helps identify new opportunities to reach specific guest segments with more tailored assortments, promotions, and pricing. SKS partnered with 5one in 2011 to provide data-driven customer segmentation and insights, and help SKS drive sales and improve the customer experience. In addition, JCP implemented Outlier (owned by Qualcomm) in 2010 for mobile customer loyalty. The technology provides shoppers with mobile access to special deals, targeted offers, and JCP's loyalty program. JCP Rewards members can view their account from a mobile device, check their points, and access a monthly reward coupon. Companies like CQuotient and Clientricity are working with major retailers to help utilize customer insight to inform strategic decisions. We believe that retailers will continue to experiment with customer analytics solutions as they attempt to tailor their product offerings, build loyalty, and drive sales.

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Appendix A-1

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