

Retail Technology Outlook: Key Developments to Watch

Big data. While retailers have always had access to vast quantities of data (of varying but – invariably – imperfect quality), only recently have they been able consistently to turn the data into real information or insights that drive operating decisions. Developments in big data offer retailers an unprecedented ability to analyze data more robustly, with less aggregation (and generalization), and with higher efficiency, moving from inputs to output in a fraction of the time previously required. Imagine SKU level optimization in near real time, or at least “constantly” – across space, price, assortments and replenishment. Brute force has always been one of the ways deployed by hackers to crack encryption algorithms; and previously unimaginable brute force is now (and increasingly) available to crack the code of consumer preferences and demand patterns, with no need to construct a grand underlying explanatory theory. Similarly to how Google translator works – it does not “understand” language but merely “knows” what that language expresses – big data can translate past consumer behavior (in and outside the store) into an actionable if not metaphysical knowledge about preferences and demand.

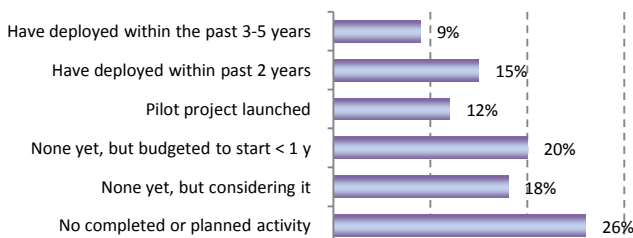
Mobility. Moving from rudimentary virtual store capabilities like research, order and check out, mobile capabilities will increasingly be oriented towards marketing – information capture (loyalty programs) rather than dissemination (the research function) – and exploitation of unique location based features. This new “mobility” will drive deeper integration across the notoriously fractured retail topology, not only between “channels” – to refer to the over-discussed notion of “omni-channel retailing” – but also between capabilities, integrating analytics, merchandising, CRM, loyalty, POS, payments, and other often separate areas of retail technology. The ability for product sellers, which through the rise of eCommerce can be the product company itself rather than a branded intermediary, to connect directly to customers 24x7 anywhere has profound implications for traditional retailers. The disintermediation threat posed to retailers by eCommerce is sharpened by mobile capabilities; retailers can retaliate by using these same capabilities to reconnect to consumers by recasting physical location, product inventory and personnel as a strength unavailable elsewhere. The rise of mobile commerce also threatens vendors of traditional POS hardware, who face a declining market, as we would expect retailers will require fewer physical terminals as in-store activity increasingly migrates to consumers’ hand-held devices (potentially purchased by the retailer). This hardware reduction impact adjacent vendors, as the resulting decrease in POS rollout costs could mean shorter refresh cycles and more investment dollars available for other application areas in the retail topology.

Consumer segmentation and supply chain segmentation. As big data enables greater analytic refinement and mobility enables the results of this refinement to be directed to consumers, customer segmentation continues to increase. This trend will continue, with consumers having increasingly differentiated shopping experiences. Indeed, we could envision the progression to a “design to order” environment from the current “build to order” environment, which is itself quite different from the traditional “order what was built” environment. Similarly to this consumer and purchaser segmentation, supply chain segmentation will increase as retailers strive to meet increasingly idiosyncratic user demand with idiosyncratic supply chains. We would expect drop ship and non-bulk technology transactional vendors to flourish in this environment, as well as vendors providing mundane coordination and planning solutions throughout the physical supply chain.

Retail Technology Spending

Retail enterprise IT spending for 2012 is forecast to rise 2.6% from 2011, with in-store IT spending to rise 3.1%. This year we expect an aggressive expansion of mobile technologies (see Retail Technology Outlook above), causing retailers to rethink the way in which sales associates interact and engage with customers. Although POS terminals historically take the largest percentage of the IT budget, investments in traditional POS this year could begin a secular decline, with 43% of retailers surveyed by RIS indicating that they will be making minimal hardware changes. Interest has shifted towards mobile POS, where associates, and potentially customers themselves, can process payments anywhere in the store through a tablet, smartphone, or dedicated device. While this could speed up checkouts, stores have yet to work out methods to ensure PCI compliance and security. Retailers will also be looking for improved accuracy in demand forecast technologies in order to minimize out-of-stocks and over-stocks at the store level.

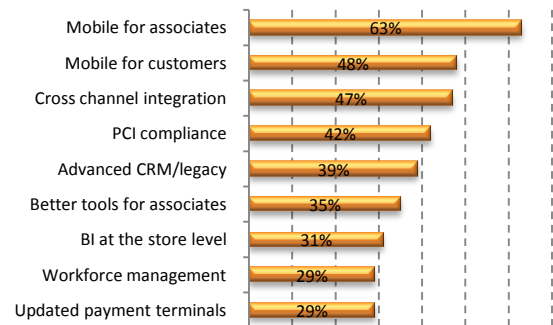
Mobile Payment Initiatives



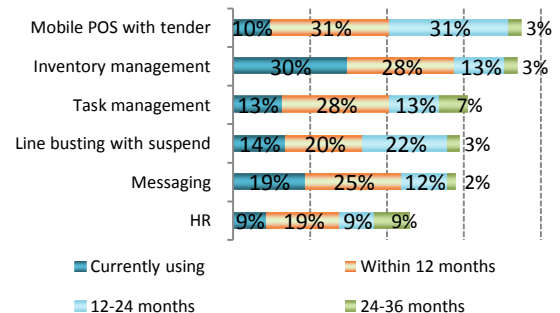
Sources: 2012 RIS Store System Survey; “The Mobile Payment Opportunity,” January 2012, Aberdeen Group

Retail Technology Consumption

Top Store System Priorities



Use of Mobility by Retailers



Source: 2012 RIS Store System Survey

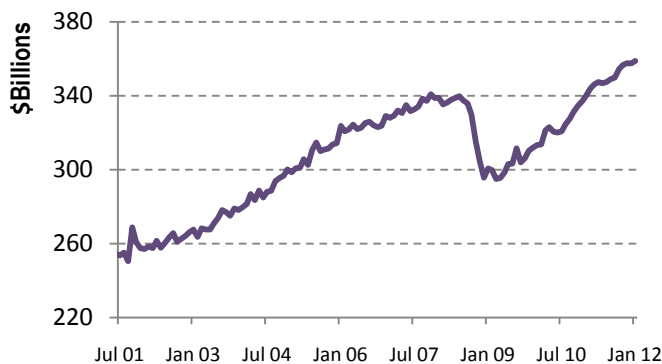
Retail Sales Summary

US retail sales for 2011 increased to \$4.2 trillion, up 7.9% from 2010 and finally surpassing 2008 levels. Weekly retail sales growth remained relatively steady throughout 2011 with a slightly stronger second half; however, Kiplinger's latest financial report notes that increased sales were due primarily to higher prices rather than quantity. The latest census retail numbers indicate that 2012 started off strong, with cumulative growth of 8% in the first two months in a year-on-year comparison to 2011. The increased sales were apparently caused by warmer than usual weather which spurred customer activity and unusually high gift card redemptions. Forecasts from Kiplinger show retail sales slowing down this year to reach an overall 6% annual growth rate. While this outlook for 2012 is still strong compared to GDP growth estimates of 2%, retail growth may be suppressed by the increasing cost of fuel and raw materials and the continued insecurity associated with global financial turbulence.

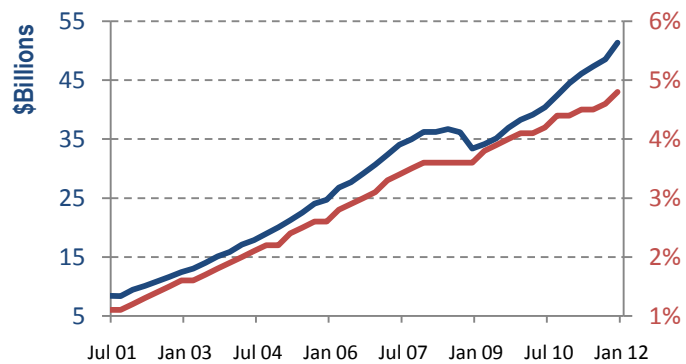
The uncertainty of the economy and the possibility of a double-dip (triple-dip?) recession caused consumer sentiment in Q3 2011 to dip to Q1 2009 levels, but sentiment has since recovered to Q2 2011 levels. Consumer sentiment has been much slower to return to pre-recession levels than after the tech bubble burst of 2001; customers are spending but are still cautious of fundamental weaknesses in the economy. Retail spending has shown strong polarization, with high-end department stores (e.g. Nordstrom and Saks) and discount stores (e.g. Dollar General and Target) experiencing higher levels of sales growth than mid-range stores. Retail sector employment is expected to continue its steady growth from 2011 throughout 2012. In an RIS survey, the majority of retailers surveyed indicated they would be looking to increase or maintain their current headcount.

eCommerce continues to be a fast growing channel for retailers, accounting for 4.6% of all retail sales, up slightly from 4.3% the prior year and consistent with long term trends. According to the National Retail Federation (NRF), retailers' websites or online channels eclipsed physical stores as the top channel for marketers (81% for brick-and-mortar vs. 86% online). The increased proliferation of smartphones and tablets should continue to drive this trend. This year retailers can expect to see more consumers visiting physical stores merely as experience centers, intending to assess a product in person only to purchase it via website – that of the retailer or a competitor. As with last year, social media in the form of Facebook and Twitter will continue to shape the online retail experience. Research firm EMarketer expects Facebook to become the top seller of display advertising this year with \$30 billion spent via social commerce by 2015. The challenge for retailers will be to offer a consistent omni-channel shopping experience – allowing consumers to research, buy and collect wherever/whenever they choose – while optimizing inventory, order management and fulfillment across all channels.

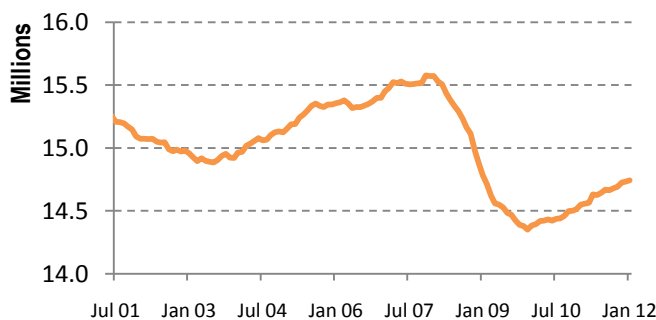
Total US Retail Sales Excluding Food Service¹



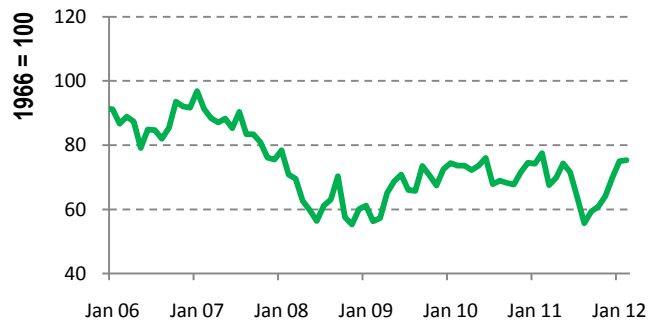
Total US eCommerce Sales and Percentage of Retail Sales¹



Monthly Retail Employment



Consumer Sentiment Index

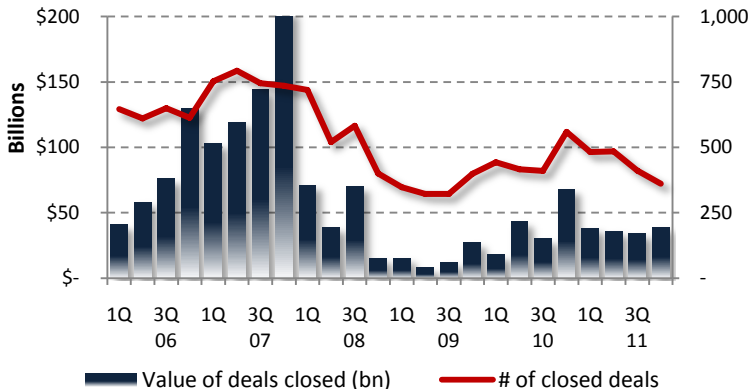


(1) All data are seasonally adjusted

Sources: US Census Quarterly eCommerce report; University of Michigan Index of Consumer Sentiment; US Census Monthly Retail Trade Survey; BLS Retail Employment Index; 2012 RIS Store Systems Survey; Goldman Sachs Weekly Retail Sales Index

Transaction Activity Outlook

We expect 2012 retail technology M&A activity to be similar to that seen in 2011 but with a bias towards the upside, as the market continues to muddle through with a so-called new normal level of activity. Relatively speaking, more smaller- than larger-sized transactions will be completed, consistent with activity since the financial crisis. We would also expect private equity to be somewhat more aggressive in 2012 than 2011, driven by funding dynamics and the need to deploy committed capital, as well as by the low cost and increasing availability of debt. SaaS - or cloud - companies will draw the overwhelming majority of interest, as legacy software companies face an increasingly challenged valuation environment.



Sources: Pitchbook.com
(1) Estimated

Notable Transactions



February 2012

Enterprise Value: \$427M

EV/Rev: 4.8x



EV/EBITDA: NM



December 2011

Enterprise Value¹: \$1,000M



ENDECA

EV/Rev: NA

EV/EBITDA: NA



August 2011

Enterprise Value: \$1,114M



EV/Rev: 3.0x

EV/EBITDA: 20.2x

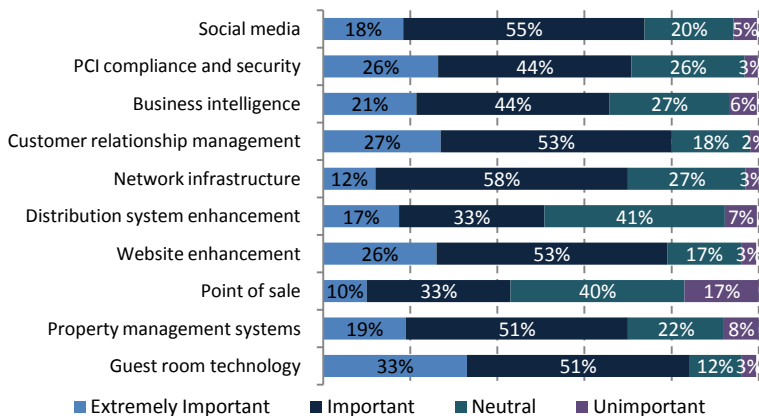
Technology in Hospitality

As in 2011, hotels and restaurants continue to face insufficient funding to make desired improvements in IT. A third of hotels surveyed by *Hospitality Technology* indicated guests expect greater technology (tablets, Wi-Fi, HD-TVs) than hotels can afford to provide. To address this, hotel IT budgets this year are predominantly allocated towards guestrooms, followed by property management systems, a flip from 2011. Nearly one third of hotel executives plan to offer tablets in guest rooms within the next three years. Hotels will be heavily focused on driving more revenue and enhancing guest services rather than saving costs and boosting productivity. The investments are being used to gain a competitive edge over those unable or unwilling to upgrade their IT systems.

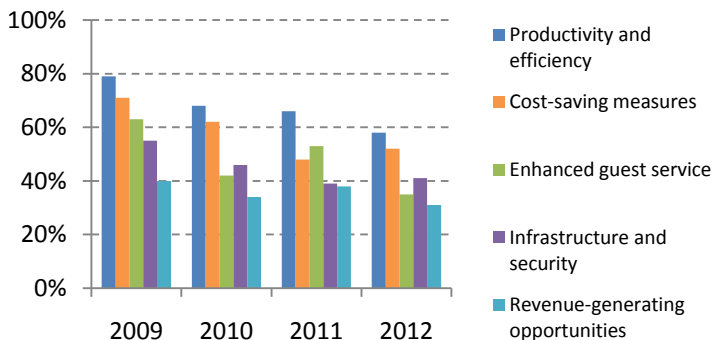
The National Restaurant Association forecasts a 3.5% increase in total restaurant sales for 2012. While the total guest count is expected to decrease, the increase in average guest check size should more than compensate. IT spending is expected to be focused largely on hardware and software updates after a long hiatus from years prior. Restaurant IT spending is largely driven by productivity/efficiency and cost-saving measures. Mobile technologies, in the form of wireless ordering and payment systems, are being implemented to speed up orders and reduce errors. With recent innovations in mobile systems, the perception that wireless handheld terminals are too expensive has been reduced from 90% of respondents in 2009 to 41% in 2012.

Sources: 2012 Lodging Technology Study, HT Magazine; 2012 Restaurant Technology Study, HT Magazine

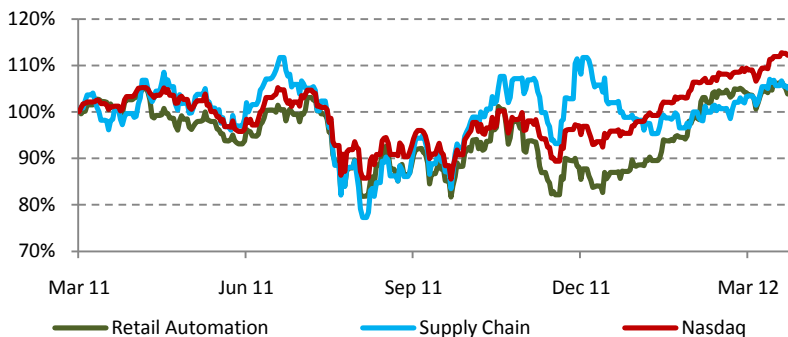
Hospitality Technology Spending Priorities



What Drives IT Spending for Restaurants



LTM Public Market Trading Performance



Source: Capital IQ as of March 27, 2012

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Public Company Valuation and Performance – Retail and Hospitality Automated Solutions (POS)

in millions USD, except per share

Company Name	3/27/2012	% of 52-week		Market Cap	Enterprise Value	Cash	EV / Revenue				EV / EBITDA				P/E Ratio		
		High	Low				LTM	LQA	CY2012 E	CY2013 E	LTM	LQA	CY2012 E	CY2013 E	LTM	CY2012 E	CY2013 E
NCR Corp.	\$21.83	98.7	142.9	\$3,390	\$3,890	\$398	0.7 x	0.6 x	0.7 x	0.6 x	12.7 x	10.9 x	5.3 x	5.0 x	70.4 x	8.8 x	8.5 x
MICROS Systems, Inc.	55.25	99.1	144.0	4,402	3,668	740	3.5	3.4	3.2	2.9	15.2	15.8	13.0	NA	29.4	24.6	21.1
Wincor Nixdorf AG	52.58	66.7	128.2	1,566	1,739	155	0.6	0.5	NA	NA	6.1	6.2	NA	NA	12.2	NA	NA
Retalix Ltd.	18.28	96.8	153.0	448	318	135	1.3	1.3	1.2	1.0	16.4	16.2	10.9	NA	33.2	NA	NA
GK Software AG (1)	57.51	88.0	130.0	101	90	19	2.1	2.8	1.8	1.5	8.8	13.4	7.0	5.7	16.0	NA	NA
Bematech SA	2.20	49.4	107.5	115	86	45	0.5	0.5	NA	NA	6.8	4.6	NA	NA	NM	NA	NA
PAR Technology Corporation	4.83	93.2	158.9	74	69	8	0.3	0.3	0.3	0.3	6.5	5.8	5.8	5.1	NM	12.2	11.5
Mean	84.6 %	137.8 %					1.3 x	1.3 x	1.4 x	1.3 x	10.4 x	10.4 x	8.4 x	5.3 x	32.2 x	15.2 x	13.7 x
Median	93.2	142.9					0.7	0.6	1.2	1.0	8.8	10.9	7.0	5.1	29.4	12.2	11.5

Company Name	Ticker	LTM as of	Operating Performance										1-Year		
			Debt to:		Gross margin		EBITDA margin		Revenue		EBITDA		Growth	EPS	
			EBITDA	Book Cap (%)	LTM	LQ	LTM	LQ	LTM	LQA	LTM	LQA	LTM-1	LTM	
NCR Corp.	nyse:ncr	12-31-11	2.8 x	50.8 %	20.9 %	22.2 %	5.6 %	5.5 %	\$5,443	\$6,532	\$307	\$356	13.2 %	0.7	0.3
MICROS Systems, Inc.	nasdaq:mcrcs	12-31-11	0.0	0.0	56.2	56.3	22.9	21.4	1,054	1,082	241	231	10.1	1.6	1.9
Wincor Nixdorf AG	xtra:win	12-31-11	1.1	40.3	24.2	22.4	9.3	8.7	3,069	3,242	286	281	1.5	4.5	4.3
Retalix Ltd.	taser:rtlx	12-31-11	0.0	0.0	41.2	39.6	8.2	7.9	236	250	19	20	13.8	0.4	0.6
GK Software AG (1)	db:gks	09-30-11	0.7	17.6	41.5	30.7	23.3	20.9	44	32	10	7	15.6	0.4	(0.5)
Bematech SA	bovespa:bema3	12-31-11	1.3	8.1	37.3	40.0	7.8	10.2	163	183	13	19	(9.6)	3.7	3.6
PAR Technology Corporation	nyse:par	12-31-11	0.3	3.7	25.4	23.3	4.6	5.0	229	240	11	12	(4.4)	0.2	(0.9)
Mean			0.9 x	17.2 %	35.2 %	33.5 %	11.7 %	11.3 %					5.7 %	1.6 x	1.3 x
Median			0.7	8.1	37.3	30.7	8.2	8.7					10.1	0.7	0.6

Source: Capital IQ as of March 27, 2012 and Filed 10-K and 10-Q financial reports; foreign currencies converted to U.S. dollars using current exchange rates

(1) GK Software AG forward multiple data for 2012 and 2013 from Vara Research estimates

Recent M&A Activity in Retail Supply Chain Related Technology

Date	Target	Acquirer	Enterprise Value		EBITDA	EV / Revenue		EV / EBITDA	Description
			Value	Revenue		Revenue	Revenue		
Mar 12	Aidata Solution Finland Oy	Soltq Oy	\$11.0	\$17.5	-	0.6 x	-	-	Supply management software for specialty retailers
Mar 12	LiftRetail Solutions	VeriFone Systems, Inc.	-	-	-	-	-	-	Digital marketing systems
Feb 12	DemandTec, Inc. (1)	International Business Machines Corp.	\$426.9	\$89.1	-	4.8 x	NM	-	Collaborative optimization network of software services
Feb 12	Emptoris, Inc.	International Business Machines Corp.	-	-	-	-	-	-	Supply, category spend and contract management
Jan 12	Rightnow Technologies Inc.	Oracle Corporation	\$1,521.4	\$216.2	\$23.9	7.0 x	63.8 x	-	Cloud-based customer experience software products
Jan 12	Superclick, Inc.	AT&T Corp.	\$12.3	\$11.3	\$2.0	1.1 x	6.0 x	-	IP-based data management solutions
Dec 11	Endeca Technologies, Inc. (2)	Oracle Corporation	\$1,000.0	-	-	-	-	-	Search and business intelligence software solutions
Nov 11	RTP, LLC	The Active Network, Inc.	\$21.5	-	-	-	-	-	Point of sale systems for resorts
Oct 11	ADI Time LLC	Asure Software, Inc.	\$6.8	\$4.6	-	1.5 x	NM	-	Cloud time and attendance management software
Sep 11 A	Clarity Commerce Solutions plc (3)	Better Capital Limited	\$16.5	\$32.1	NM	0.5 x	NM	-	Loyalty, intelligence, promotion, returns and POS solutions
Sep 11	Sometrics, Inc.	Serve Virtual Enterprises, Inc.	\$30.0	-	-	-	-	-	Analytics and ad platform
Sep 11	Contactual, Inc.	8x8 Inc.	\$29.7	\$9.1	-	3.3 x	NM	-	Hosted contact center solutions
Aug 11	Radiant Systems, Inc. (4)	NCR Corp.	\$1,114.4	\$367.2	\$55.1	3.0 x	20.2 x	-	Point of sale and site management systems
Aug 11	Magento Inc. (5)	eBay Inc.	\$180.0	-	-	-	-	-	eCommerce platform
Jul 11	GlobalExpense Limited	Concur Technologies, Inc.	\$22.7	-	-	-	-	-	Expense management software solutions
Jul 11	DigiPos Store Solutions Group Ltd.	Better Capital Limited	-	-	-	-	-	-	Point of sale systems
Jul 11	eCarList, LLC	DealerTrack/AAI, Inc.	\$45.3	\$7.0	-	6.5 x	-	-	Web-based inventory management and distribution platform
Jun 11	CyberShift, Inc.	SumTotal Systems, Inc.	-	-	-	-	-	-	Workforce and expense management solutions
Jun 11	GSI Commerce, Inc.	eBay Inc.	\$2,421.4	\$1,408.9	\$103.3	1.7 x	23.4 x	-	eCommerce and interactive marketing services

Source: Capital IQ and public company filings

Amounts in millions of U.S. dollars

Mean for deals	3.0 x	28.4 x
Median for deals	2.4 x	21.8 x

(1) Enterprise value calculated on \$13.2 per share times 33.9M shares outstanding, less \$59.5 net debt, plus \$39 in options

(2) Estimated from The Boston Globe blog "Innovation Economy"

(3) Enterprise value calculated on 25 pence per share of Clarity times 41.4M total shares converted to USD at \$1.60/GBP

(4) Enterprise value calculated on equity value of \$1154.1 million, plus total debt of \$12.1 million, less total cash of \$102.6 million, plus \$50.9 million in other considerations

(5) Source: "eBay Acquired Magento for over \$180 Million - But Not Everyone is Smiling," TechCrunch, 23 June 2011. In March 2010, eBay acquired a 49% stake in Magento (a product developed and marketed by Varien until eBay's investment) and in June 2011 announced plans to acquire the remaining 51%.