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Ad Tech: Forced to Grow Up

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In our first ad-tech sector piece, *Ad Tech: Brash Boys* (July '14), we said **consolidation was badly needed.** After 7-8 major deals in '14 (e.g. Sapient, Conversant), this continued in '15, led by AOL (acquired by Verizon for $4.4bn), TellApart ($533m, by Twitter), eXelate (~$200m, by Nielsen), Chango ($122m, by Rubicon), and many smaller ones. **Management has been unstable: nine of the 17 listed ad-tech firms (see Table 1), as well as Twitter and Facebook, saw changes in CEO/CFO in the last year** (~85% in the last two year); while Sizmek and Brightcove recently found new CFOs, Marin Software and Tremor are still seeking ones, while Rocket Fuel and TURN look for permanent CEOs. So far, only Criteo and Rubicon sustained growth rates of 60%+ (the latter on just $37m of 1Q15 sales), while others saw growth rates slow materially (Rocket Fuel, Tremor, YuMe, TubeMogul, etc.) or even decrease yoy (Marchex, Sizmek, Millennial Media). Take rates are coming under renewed pressure as advertisers get more sophisticated (requesting insight into ad viewability and building multi-touch attribution models), forcing ad-tech players to transition their business models from pure managed services (generally IO driven) towards SaaS offerings. **It is too early for investors to buy a "basket" of ad tech names as acquisition candidates: there are too many overlapping businesses, facing too much risk of take rates getting squeezed by large advertisers.**

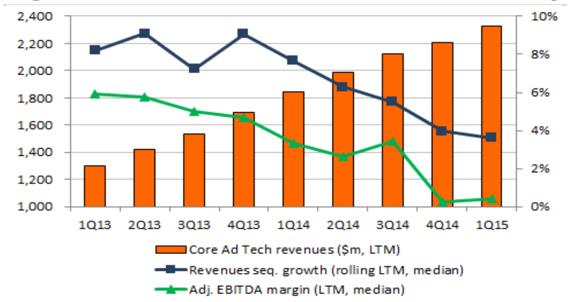
Where Is Spending Going?

The sector is not short of hype and buzzwords: video, viewability, programmatic, social, etc. **Seeing ~30 companies in the past month revealed that advertisers are committing more spend to Facebook (the vast majority of "social" budgets, the rest in trials on Twitter, and now diverted to Pinterest, SnapChat, etc.), remain deeply engaged with Google, while programmatic technology is causing deflation in pricing and raising questions about ROI among the vast pool of publishers outside large O&O "time sinks".** Just as Facebook knitted together personal data from Newsfeed, Instagram, Messenger, and single-sign-ons, Google was seen as improving its mobile offering by assembling profiles from users of its many apps (YouTube, Maps, Gmail, Chrome, Play, search, etc.) to offer advertisers better quality inventory, matching Facebook's results. **If our theme for the year was Goliaths out-gunning the many Davids, nowhere is this clearer than in the pull of Facebook and Google on ad spend.** Nanigans manages ~$500m of Facebook spend, 70% mobile, and saw rising volumes of video ads with CPMs up to $9, more than mobile averages ($5-$6), and with much higher CTRs of 1.7% (vs. 0.8% on average). Other vendors suggested app installs cost up to $10 for gaming, ~$5 for chains or "mobile-first apps". A limit on CMOs spending more remains their disparate internal systems, hard-pressed to match IDs, screens, inventory sources, attribution and track traffic. **The transition from a stable cookie-based desktop world to a multiscreen one is far less advanced than hype suggests, and programmatic systems mean it will come at lower margins for all but "end-to-end" players like Facebook and Google.**

Profitability Remains Weak

In our time following ad-tech (and most only IPOed recently), we are seeing the first shake-out phase of those that failed to sustain 50%+growth rates (Blinkx, Millennial Media, YuMe, Tremor, etc.). The market cap of 10 "core" ad-tech firms fell ~20% between Apr. '14 and May '15, and excluding three "winners" (Criteo, Rubicon and TubeMogul), the rest dropped an average of ~60% from IPO price. **There is a serious question to ask of investment banks that brought so many early-stage companies to market by referring to "vast" pools of digital ad spend, and whose coverage is largely of their IPO clients, not the wider market.**

Fig. 1: Ad-Tech Still Far Off From Profitability



Source: FactSet, Arete Research estimates.

We met the following companies in preparing this report: AdRoll, AOL, AppNexus, Brightcove, Criteo, Datamonk, Facebook, Fiksu, Foursquare, Fyber (RNTS), Inuvo, LinkedIn, Marin Software, Matomy, Metamarkets, Nanigans, Rocket Fuel, Rubicon Project, Sonata Local, Taptica (Marimedia), TURN, TUNE, Verto Analytics, Quantcast, Twitter, Yahoo, Yelp, YOC, YuMe and Zalando.

We believe this coming shake-out phase will see the market shift focus from sales to profit (even if this is using a flawed measure of "adjusted" or non-GAAP EBITDA). This means ad-tech firms have to lay out concrete plans to reach profitability and generate cash. We see the reactions to this in Triggit giving up, getting bought for next-to-nothing, Rocket Fuel launching cost cuts to hopefully ensure its cash can last beyond 1Q16E, and Millennial Media likewise needing to preserve cash (despite paying hefty executive compensation). **Fig. 1 shows how sector profitability has been decreasing on a rolling 12-month basis, but stabilised in 1Q15.** Nonetheless, we expect an ongoing number of profit warnings or downgrades to guidance in coming quarters (as already seen in 1Q15 at Matomy, Marimedia, TubeMogul, Rocket Fuel, etc.).

Proving Ad Quality: "Viewability and Attribution"

Viewability on mobile has been considered low, mainly due to how users engage with devices (e.g., vertical scroll vs. horizontal screens on desktop) and the many long-tail publishers that aren't optimising sites for mobile, meaning video ads do not get seen. When it comes to defining viewability, the digital media industry agrees no one should pay for ads that are not viewed, but cannot agree how to measure viewing. Google again reported a CPC decline in 1Q15 driven by YouTube usage and TrueView ads (where a lot of clicks are not paid for, when ads are skipped), with no further insight given as to what constitutes a "viewed ad". Facebook claimed it had 4bn views a day at 1Q15 (up from 3bn in Jan. '15), but defines a view by the duration of *three* "watched" seconds. Other have their own definitions, but no one is taking responsibility for solving this problem. Can any ad-tech player or agency create a measurement framework? Do publishers have to rebuild pages to make ads more viewable? Should independent institutions step in to define viewability (IAB, MRC, etc.)? Publishers being paid on a CPM basis may have little incentive to test viewability, much like agencies and ad-tech players charging on an eCPM basis want to maximise impressions. **Ad-tech players charging advertisers on a CPX basis (with the "x" being some action, i.e., clicks, site visits, log-ins, likes, downloads, etc.), but those buying ad inventory on a CPM basis will think differently.**

Attribution was the most discussed topic raised commonly by vendors, marketers and publishers. Today, roughly 75% of advertisers still use a single-step attribution approach, basically measuring the last click before the conversion (suitable for direct response marketing in highly competitive markets, where consumers are bombarded with ads). First-click attribution fits campaigns for new products at the top of the funnel, where consumers start to engage and find their own path to conversion. "Multi-touch attribution" (MTA) allows advertisers to understand where on the customer journey the decision to convert came from, and to adjust ad spend accordingly to drive sales, but still faces a variety of problems: (1) Advertisers are confronted with overwhelming amounts of data and lack the ability to understand the vendors' analytics, (2) convincing colleagues of the validity of the results (machine learning vs. "guts and intuition"), (3) turning insights into actions, (4) ad agencies as middle men with no clear interest to improve media buying, and (5) the unwillingness of large time sinks such as Google and Facebook to cooperate (providing sufficient data for advertisers and independent attribution firms), whereas other vendors such as Hulu, Yahoo or AOL provide deep insights. **Over time, advertisers will get more experienced at understanding the digital media they are buying. Large advertisers like Kellogg's and Kraft Foods seem to be withdrawing budgets from publishers that do not allow third-party verification and measurement.**

The attribution market is as highly fragmented as the ad-tech space itself. Two major players belong to large publishers, meaning advertisers doubt their independence. Adometry was acquired by Google, which also recently bought Pulse.io to improve mobile attribution, and Convertro was bought by AOL. We liken this "in-house attribution" to creating a test, taking it, and then grading it, always yielding an "A+." Criteo recently terminated its in-house app-measurement/attribution service Ad-X, claiming it wasn't core, but clearly saw advertisers asking for independent attribution solutions. Nielsen (with the acquisition of eXelate) may step into the game, while comScore tries to perform attribution with its panel data, and there are many smaller players (Adjust, AppsFlyer, Apsalar, Kochava, Localytics, and Verto Analytics). Oracle has made a number of acquisitions (BlueKai and Datalogix) to play a role in this space. **The major problem all those solutions face in multi-touch attribution is the identification of individuals cross-screen, as well as managing many different cookies and IDs (Apple and other Device IDs, Facebook IDs, and many other log-ins) given many content providers are unwilling to share data.**

The sheer number of companies "promising" to do "independent" attribution is a shockingly long list: AppsFlyer, Apsalar, AOL/Convertro, C3, Cognizant, Cognitive Match, DataSong, Encore, Facebook, Google/Adometry, IBM, Kochava, Market Share, Marketing Evolution, Networked Insights, Nielsen, Oracle, Quantcast, Rakuten, Sizmek, ThinkVine, TUNE, and Visual IQ. **What is certain is that the industry has, as yet, no agreed way to track ad spend and measure its effectiveness.**

SaaS Replacing Managed Services

Managed services still account for the majority of revenues in the ad-tech world (~75%), but recent developments promise this will change in coming years, as self-serve (SaaS or semi-SaaS) models come to dominate the market. Advertisers (CMOs) say they don't want to use 15-20 point solutions, while they aim to keep at least parts in-house (i.e., having a social media manager rather than a media planner on the agency side, adding BI capabilities such as CRM data, keeping control of "first-party" data, and limiting the number of third-parties they use for attribution of their ad spend). **This is all breaking down the traditional "blackbox IO business offering".** Nonetheless, ad-tech is a complex and fragmented market where best-of-breed vendors (Criteo, TubeMogul, Kenshoo) compete with increasingly end-to-end vendors (Facebook, DoubleClick, AOL, etc., if not also Rocket Fuel). In many cases, ad tech companies selling SaaS licenses have to compete with tools offered by larger players (e.g. Facebook PowerEditor, DoubleClick Bid Manger). Those more aligned with agencies (e.g. AppNexus) see the ~80% of spend through agencies declining only gradually, while others (Criteo, Turn, Rocket Fuel) seek to build up direct sales.

There are now examples of the change from managed services (generally IO business) to SaaS: (1) **TubeMogul** uses managed services as a tool to attract advertisers (showing them the possibilities of their platform), before migrating them to a self-serve DSP tool, which accounts for 78% of sales (a platform license fee plus small percentage of spend) in 1Q15 (up from ~50% in early '13). (2) **Rocket Fuel** recently started shifting its business model from managed services to a self-serve SaaS offering. It bought DMP [x+1] and allows advertisers to upload their own first-party data through use of its in-house DSP (clients pay a license fee to use the DSP, 2-10% of spend depending on search, native, display, etc.) and offers clients its media/prediction engine. **Turn** has taken a similar approach. **Nanigans** is almost done transitioning to SaaS, after adopting the model in Feb. '14. The adoption of SaaS models will give ad tech firms more predictable revenues, but less upside on spend, while advertisers (and their agencies) should find it easier to control their own data and get more transparency about the mark-ups charged on media buying. **With ad-tech becoming a SaaS product, larger advertisers have the choice between building teams in-house (Amazon, Zalando, P&G, etc.) or outsourcing to ad-tech players, which then will be integrated (vs. stand-alone systems) into their marketing organisations (Criteo, Rubicon, etc.).**

M&A and IPO Activity Still Alive

Many of the independent ad-tech players seem to have raised too much money in their early stages and the "overfunding" from VCs led to fancy office spaces, hard-to-reverse perks, sales force expansions, and rushing to market with niche early-stage products. The temptation has been to identify each company with a niche: i.e., Marin=Search, Criteo=Re-targeting, TubeMogul, Tremor and YuMe=Video, Nanigans=Social, etc.), which created a clustered market of 100s of ad-tech companies lacking scale and a culture where making losses was not seen as an issue (with the exception of Criteo). **This "dash for cash" has not been halted by dreadful performance of the past crop of IPOs.** The last 12 months have seen ad-tech IPOs of **MaxPoint** (market cap of $255m, down 12% since IPO), **Crossrider** ($141m, down 8%), **TubeMogul** ($521m, up 46%), **Matomy** ($102m, down 52%), and **Marimedia** ($45m, down 55%), while **Adgorithms** aims to float in June '15. And there are potential larger candidates seeking an IPO to fund their future growth: **OpenX** (a more tech-driven SSP/exchange rivalling Rubicon), **DataXu** (yet another DSP), **AppNexus** (programmatic infrastructure, combining SSP and DSP functions), and **InMobi** (mobile app and native ads) all aiming for valuations of $500m+, with several more names often cited in the media (AdRoll, MediaMath, Sprinklr, Quantcast, PubMatic, Kenshoo and Videology). Fiksu's IPO was halted shortly before its float and similar to Rocket Fuel's announcement (reducing workforce by 130 people or 11% of staff), Fiksu laid off ~10% of its workforce. **In the current market environment, investment banks are rushing another wave of IPOs out, without reference to how the last crop did.**

The slow transition from managed services onto a SaaS model (as described above) is attracting four groups of new market entrants: (1) **Software/Cloud vendors** such as **Oracle** (acquiring Datalogix and BlueKai); **SAP**, partnering with TURN; and **Adobe** (with its many acquisitions to build its Marketing Cloud). (2) **Ad Agencies** aiming to address digital marketing with **WPP** investing in AppNexus or **Publicis** buying Sapient (for $3.7bn) and a stake in Matomy. (3) **Data/measurement** companies enter the market, with **Alliance Data System** (buying Conversant for $2.3bn) or Nielsen stepping into attribution (buying eXelate for $200m). Early adopters were (4) **large O&O companies** such as Facebook, Google, Yahoo and AOL, all building out their ad-tech stacks. The market saw extensive M&A over the last 12 months, with acquisitions of AOL, TellApart, Yieldex, Triggit, Nexage, Chango, BrightRoll, LiveRail, Flurry, [x+1] and many more. Gravity4 snapped up several smaller ad-tech players (Triggit, etc.) and then bid for Rocket Fuel, though its bid was rejected. **It is almost as if being public is a hindrance, as larger players seem to prefer buying private companies** (Yahoo-BrightRoll, Facebook-LiveRail, etc.).

Table 1: Listed Ad-Tech Firms at a Glance with a Combined Market Cap of $7.2bn

Company	Market Cap. (1/6/15)	Comment	HQ	Burning/ generating FCF (FY14)
blinkx	$217m	**Ad network**, operates a video search engine (based on ~100 patents), busy integrating Rhythm, LYFE Mobile, grab media, Burst Media, Prime Visibility; widely accused of click fraud, hence declining sales.	London	
brightcove	$229m	A **provider of cloud services for video** enabling customers to publish and distribute videos to Internet-connected devices (PCs, smartphones, tablets, connected TVs) with the media being stored with Brightcove.	Boston	
crossrider	$217m	An **ad network** (similar to Rocket Fuel) with own AI engine (learning from data generated through campaigns); mainly focussed on mobile and managed services.	Isle of Man, UK	
criteo	$2.9bn	Largest pure play ad-tech player by market cap, largest EU sales base (+50%), focus on **retargeting** to 1bn+ customers, ~50% of sales routed through exchanges with the rest directly sold to publishers.	Paris	
Fyber	$462m	Fyber is an RNTS owned (93% of revenues) **SSP/exchange** helping its ~1,900 mobile app developers monetise audiences by connecting to its network of advertising partners, offering analytics and optimisation.	Berlin	
MARCHEX	$205m	**Mobile ad tech company focussed on direct response (DR)**; products range from digital call-based ads, pay-per-click advertising to proprietary web site traffic sources.	Seattle	
Marin Software	$206m	**Ad serving platform** providing tech to buyers (agencies, advertisers) with a focus on search but widening its portfolio to display and social; Marin operates a SaaS (avg. revenues 1.5% Search, 4-5% Social, ~10% Display) model similar to TURN and Nanigans, reducing sales volatility.	San Francisco	
marimedia Online Marketing Solutions	$68m	An **ad network/SSP** providing managed services for publishers, and self-serve products for smaller publishers, blogs and SME websites using its technology to identify relevant advertiser bids.	Tel Aviv	
MATOMY MEDIA GROUP	$151m	Similar to Criteo, a **performance-based/retargeting ad-network**, offering advertisers (mainly via agencies) and publishers affiliate networks, display ad networks, mobile ad solutions, email marketing, search and social marketing, and video services. The stock halved YTD.	Tel Aviv	
MAXPOINT	$235m	MaxPoint is an ad-network offering **marketing automation software** with a CPM pricing model (take rate 58%, likely under pressure soon) delivering display, social, and video ads. MaxPoint's solution aim to drive in-store sales (not e-commerce sales).	North Carolina	
millennialmedia	$233m	A mobile-first **ad network** trying to become an end-to-end solution as a DSP (JumpTap), SSP/exchange (Nexage and MMX), using AppNexus for RTB/programmatic infrastructure, with analytics via its DMP arm; each unit lacks scale, and it may run short of cash by YE'15.	Baltimore, MD	
rocketfuel	$350m	One of the largest **ad networks**, own AI engine incl. third-party data, with AI licensed to partners (iProspect), recently bought DMP [x+1] to shift from managed services to self-serve platform, now restructuring to stem cash burn before a cash crunch in early '16.	Redwood City, CA	
rubicon project	$734m	Listed since April '14, one of the largest **SSPs/exchanges** (competing with OpenX, Pubmatic, Smaato); reaching 97% of US online audience, serving 700+ publishers.	Los Angeles, CA	
Sizmek	$207m	Sizmek is an **ad serving platform** providing technology to buyers (agencies, advertisers), considering adoption of a SaaS model like TURN to provide more steady revenues.	New York	
TREMOR VIDEO	$138m	**Digital video ad network**, but a point solution mainly re-selling media on behalf of publishers (arbitrage business model, various remnant inventory sources); the firm is currently looking to replace its CFO.	New York	
TubeMogul	$515m	Like YuMe and Tremor, TubeMogul is a **digital video ad network** with a focus on providing a DSP solution to enable marketers to buy media from various SSPs/exchanges plugged into the system; also provides managed services to attract customers.	Emeryville CA	
YuMe	$156m	Similar to Tremor and BrightRoll (bought by Yahoo), YuMe is a **digital video ad network** and a point-solution, it reaches 200m unique customers and re-sells video inventory (often remnant inventory).	Redwood City, CA	

Source: Arete Research, FactSet. Market Caps as of 1 June 2015.

Table 2: Peer Group Analysis

	Ticker	Price (IPO)	Price 02/06/2015	Perf. since IPO	Target	Rating	Market Cap ($m)	EV/Sales 2014	EV/Sales 2015	EV/Rev ex-TAC 2015	EV/Rev ex-TAC 2016	EV/Adj. EBITDA 2015	EV/Adj. EBITDA 2016	GAAP P/E 2015	GAAP P/E 2016
Brightcove	BCOV	$11.0	$6.8	*-38%*	NR	NR	222	1.5x	1.4x	nm	nm	35.9x	24.8x	nm	nm
Criteo	CRTO	$31.0	$47.2	*52%*	$56	Long	2,717	1.9x	1.5x	4.7x	3.9x	17.2x	11.6x	50.6x	34.1x
Rocket Fuel	FUEL	$29.0	$8.2	*-72%*	$15	Positive	320	0.6x	0.5x	1.1x	1.0x	nm	15.4x	nm	nm
Marin Software	MRIN	$14.0	$6.1	*-56%*	NR	NR	221	1.5x	1.3x	nm	nm	nm	nm	nm	nm
MaxPoint	MXPT	$11.5	$9.7	*-16%*	NR	NR	249	2.3x	1.7x	nm	nm	nm	nm	nm	nm
Millennial Media	MM	$13.0	$1.7	*-87%*	NR	NR	236	0.6x	0.6x	nm	nm	nm	92.3x	nm	nm
Rubicon Project	RUBI	$15.0	$17.4	*16%*	NR	NR	659	2.6x	2.0x	nm	nm	20.7x	13.0x	nm	nm
Sizmek	SZMK	$9.5	$7.1	*-26%*	NR	NR	125	0.4x	0.4x	nm	nm	3.3x	2.7x	nm	nm
Tremor	TRMR	$10.0	$2.9	*-71%*	NR	NR	150	0.4x	0.3x	nm	nm	nm	27.8x	nm	nm
TubeMogul	TUBE	$7.0	$15.6	*122%*	NR	NR	471	2.8x	2.2x	nm	nm	nm	nm	nm	nm
YuMe	YUME	$9.0	$4.5	*-50%*	NR	NR	151	0.5x	0.5x	nm	nm	53.0x	10.7x	nm	nm
Ad-tech							**Mean**	**1.4x**	**1.1x**	**2.9x**	**2.5x**	**23.6x**	**24.8x**	**50.6x**	**34.1x**
							Median	**1.1x**	**0.9x**	**2.9x**	**2.5x**	**19.0x**	**13.0x**	**50.6x**	**34.1x**
AOL	AOL	$11.5	$50.1	*335%*	$39	Neutral	3,923	1.2x	1.2x	nm	nm	6.1x	6.1x	35.0x	32.0x
Facebook	FB	$38.0	$80.4	*112%*	$95	Long	225,900	11.9x	9.1x	nm	nm	18.2x	14.0x	75.8x	49.1x
Google	GOOG	$85.0	$554.0	*552%*	$675	Long	373,470	4.2x	3.7x	nm	nm	10.4x	8.6x	22.8x	18.1x
LinkedIn	LNKD	$45.0	$204.8	*355%*	NR	NR	25,798	8.0x	6.1x	nm	nm	36.4x	23.6x	nm	nm
Twitter	TWTR	$26.0	$36.4	*40%*	$30	Negative	23,833	9.9x	6.5x	nm	nm	37.6x	22.6x	nm	nm
Yahoo	YHOO	$13.0	$43.2	*232%*	$58	Positive	40,493	7.1x	7.2x	nm	nm	36.2x	22.9x	nm	56.2x
Yelp	YELP	$15.0	$48.6	*224%*	NR	NR	3,633	5.8x	4.3x	nm	nm	32.0x	20.5x	nm	43.4x
Internet							**Mean**	**7.1x**	**5.6x**	**nm**	**nm**	**24.2x**	**16.3x**	**44.5x**	**38.8x**
							Median	**7.6x**	**6.3x**	**nm**	**nm**	**27.2x**	**18.3x**	**35.0x**	**40.5x**

Source: FactSet, Arete Research estimates. Based on FactSet consensus for Not Rated stocks.

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Overall Industry Risks: The ad tech industry is highly fragmented, lacking transparency, and spans a wide range of advertising agencies, Internet services, enterprise software vendors and pure-play companies. The ability of any one vendor to establish a large market share of digital ad spend is limited by disparate audiences, and vast numbers of both publishers (hundreds of millions of websites) and advertisers (which are constantly and gradually transitioning to greater digital ad spend), as well as the complexities of location, time, and relevance (matching appropriate ads to individual users). Targeting (and re-targeting) can be either intrusive or highly effective. Proving performance based ads were effective is also difficult (attribution), while brand-based ads rely on relatively nebulous metrics. Overall, the ad tech industry is not highly profitable, but has been seeing rapid growth, mirroring that of Internet giants like Google and Facebook.

Primary Analyst(s) Coverage Group: AOL, ASOS, Criteo, Facebook, Google, Rocket Fuel, Twitter, Yahoo, Zalando.

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