02 – AdTech ecosystem overview

David Judd, 3rd July 2015
The Evolution of Display Advertising
Buyside

- CPM and Direct to Publisher
- Growth of publishers led to Ad Networks
- Decrease in CPM and birth of CPC
- Networks enabled clients to reach multiple audiences (unique users)
- The birth of fragmentation
- Further decrease in CPM and CPC
- Concerns around buying the same audiences (unique user) 2, 3, & 4x

- The birth of the Ad Exchange
  - Manage Audiences
  - Bid on media
  - Manage multiple publishers
  - Ability to buy media w/o speaking to pub

- Birth of the DSP and Agency Trading Desk
  - Ability to manage
    - Audiences
    - Bidded Buying
    - Campaign Goal

- Mature RTB ecosystem
The Evolution of Display Advertising

Sellside

- CPM and Direct to Advertiser

- Birth of the DSP and Agency Trading Desk adds new Publishing pains:
  - Greater Fragmentation
  - Harder to Manage Yield and eCPM’s
  - Audience Buying makes booking and deliver more challenging

- Birth of the SSP allows publishers to:
  - Allows Publishers to plug inventory into multiple ad exchanges/DSP’s
  - Manage Yield
  - Manage and monitor eCPM’s
  - Adjust inventory outlets
The advertising space has become increasingly complex.....
followed by mobile.
The landscape complexity is borne out of the demand for programmatic targeting on the buy-side, and yield optimisation on the sell-side.
Landscape architecture
## Value Chain: DSPs

<table>
<thead>
<tr>
<th>Ad Tech Platform / Channel</th>
<th>Capabilities</th>
<th>Shortfalls</th>
<th>Key Players</th>
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</table>
| DSP - Demand Side Platform | - Most of the key players in the DSP space have integration with a customer’s own or third party data providers as well as integration with the major ad servers and/or accessible API’s to build on.  
- Bid-forecasting tools allow advertisers the ability to predict the unique user reach and impression availability for a certain audience segment.  
- Individually value each ad impression. | - Attribution concerns: Cookie synching and device ID matching to audience profiles that are accessible via SSP’s is a technical capability that is still under a major spotlight and thus there will likely be more partnerships formed between DMP’s and DSP’s to support the capability to match data across platforms.  
- Automated optimization: Most DSP’s still have a weak campaign peformance optimisation algorithm. | - MediaMath  
- DataXu  
- Turn  
- Invite Media (Google)  
- Doubleclick by Google |
### Value Chain: Ad Exchanges

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<tr>
<td>Ad Exchanges</td>
<td>- Systematic efficiency gains: Ad campaigns go live quicker as there is far less human intervention (sales, ad operations, etc). Employees also spend less time manually managing and optimising yield across multiple ad networks and sources of demand for indirectly sold ad space. - Complete transparency and control for Buyers and Sellers: Buyers have control of where their ads will run and can choose to buy inventory only on brand-safe sites. Sellers have the option to create “private ad slots” to allow only trusted advertiser partners into certain ad space, and assign variable pricing floors depending on the buyer.</td>
<td>- Brand advertisers are still seeking the availability of higher quality inventory on these platforms. - Viewability and brand safety have been the major criticisms of AdX usage in 2014. However, initiatives such as the IAB’s standards on viewability and AppNexus’ Certified Supply programme, identifying the safest and most trusted inventory on the internet, providing buyers with financial guarantees that the inventory they are purchasing is valid, will help.</td>
<td>- AppNexus - Google Ad Exchange - OpenX</td>
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## Value Chain: SSP

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| **SSP - Sell Side Platform**  | - More and more premium Publishers are making their content and audiences available programmatically, as this eliminates the reliance on sales teams and driving sales targets.  
- This is relevant because Advertisers are moving away from costly human media buying teams and utilising their Agency Trading Desks to trade media through real-time auctions.  
- Publishers can control price floors according to demand source and do Direct Deals to directly negotiate and set rules to accommodate specific/unique terms with buyers  
- The capability to do inventory segmentation is key (defining which sections/placements/etc. are made available for purchase) and organising inventory into channels with relevant pricing e.g. Branded, Anonymous, by verticle, etc  
- Real-time reporting  | - Publishers are concerned about programmatic driving the value of their inventory down as well as foregoing the direct relationships with Advertisers and Agencies. SSPs were created in part to help publishers more efficiently aggregate and manage their relationships with multiple networks and ad buyers.  | - Rubicon  
- Pubmatic  
- AOL |
## Value Chain: Vertical Ad Network

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<tr>
<td>Vertical Ad Network</td>
<td>- A vertical ad network is dedicated to deliver advertising on a specific audience. The network is typically made up of smaller niche properties specialised around a specific content (e.g. Lifestyle, Travel).</td>
<td>- Low impression volumes</td>
<td>Ideas People Channel</td>
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<td>- Audience targeting and segmentation is more precise for Advertisers and hence price is higher</td>
<td>- Low reach</td>
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## Value Chain: Horizontal Ad Network

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| Horizontal Ad Network     | - A horizontal ad network offers scale in addition to targeting capabilities for Advertisers.  
- Delivers high impression volumes per day.  
- Generally RON and ROS inventory  
- Lower rates | - Reach is broad  
- Considered a “bind buy” as the Advertiser does not have the ability to target specific audience segments, placements, etc for their ads to run on | - Google Advertising Network  
- Microsoft Media Network  
- Burst Media  
- AOL Advertising Network |
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<tr>
<td>Mobile Ad Network</td>
<td>- These networks work very much like traditional ad networks, but focus on supplying ads to mobile devices as part of responsive web or app experiences.</td>
<td>- Mobile development overhead: Technical implementation of ad server SDK's into the Advertisers’ and Publishers’ apps to allow the mediation layers to operate effectively, is complex. And an understanding of the advertising eco-system is required.</td>
<td>- Most of the largest suppliers of mobile content - such as Apple (iAd) and Google (AdMob) - have secured their own mobile ad networks. Facebook has the Audience Network.</td>
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### Value Chain: Rich Media and Video Ad Networks

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| Video and Rich Media Networks | - Video and rich media advertising are the fastest growing areas in the advertising landscape and is proven to be the most effective means to drive brand engagement. Thus more brand dollars are shifting to these mediums. | Video ad measurement and fraud detection: Typically, video ad networks utilise different analytics and measurement standards compared to standard display ad networks, basing revenue largely on what's known as "potential reach," a total based on the combination of website visitation statistics (such as Comscore) along with a ratio of all the inventory being served by the ad network. - Video ad networks have been under intense scrutiny with regards to fraudulent ad measurement in the last 12 months | - Adap.TV (AOL Networks)  
- Brightcove  
- Videology  
- Auditude (Adobe)  
- YuMe |
Value Chain: Targeted Networks

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| Targeted Networks          | - Targeted networks strike the balance between providing the scale of a horizontal ad network with the audience and contextual targeting capabilities of a vertical ad network.  
- These networks also generally boast cross platform capabilities and support for multiple ad formats including video, mobile and rich media | - There should be careful consideration given to the technical viability and effort of standardising creative formats across multiple formats  
- The standardisation of measurement across platforms (e.g. TV versus digital video) should be another consideration in terms of the overall optimisation of campaigns | Collective, Specific Media |

Specific Media | Collective |
Value Chain: Performance Networks

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<tr>
<td>Performance Networks</td>
<td>- Performance-based ad networks, utilise ad targeting across multiple categories including demographics, search intent, page context, in-market intent, interests and lifestyles among other categories, to allow advertisers to choose specific websites or even specific content on those websites or even a specific discussion on social media sites, and tailor their ads specifically for these audiences. - Many performance-focused advertising networks use contextual and behavioral targeting, as well as basic targeting like geographic or demographic information, to place ads only in front of those users likely to find them helpful, click and make a purchase</td>
<td>- These networks typically partner with numerous data providers to enhance their targeting capabilities, and as such the Advertiser should consider employing methods to deduplicate data such as using anonymous identifiers. - Consumer privacy should also be a consideration when deploying these solutions</td>
<td>- RocketFuel - Criteo - Struq</td>
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Demand Side Platforms and Cross Device Capabilities

- Demand side platforms (DSPs) are either acquiring independent cross-device vendors or are supporting multiple vendor solutions to execute on cross-device campaigns.
- With ad spend shifting from desktop to mobile, cross-device capabilities are crucial for both desktop and mobile DSPs to expand their footprint and grow their lines of business beyond desktop only or mobile only.
- As cross-channel and cross-device ad spend grows in the coming years, chances are that pure-play “ID Matching” ad tech companies will either evolve into media execution platforms or get acquired by DSPs that expand their business across channels and devices.
- In order to deliver marketing services to users effectively across channels, DSP’s will need to ultimately evolve and innovate to include Companies’ offline data that can be anonymized and linked to online identifiers in a privacy-friendly way.
Data Management Platforms will become the Unifying Layer in the DSP-SSP Ad Tech Stack

- **Person-based linkages:**
  - Companies such as Facebook, Google, Yahoo and AOL, who are publishers as well as ad tech platforms, have the ability to link person-based identifiers by way of login and user profile data.
  - Ad tech companies that are independent technology providers, however, rely on matching of browser cookies and advertising identifiers such as Apple’s ID for advertising (IDFA) or Google Advertising ID.
  - Tech startups that link user devices using probabilistic estimation, such as **Drawbridge** and **Tapad**, have yet to establish their market dominance.
  - **Mediaglu**, a relatively smaller startup in the space, has recently been acquired by Appnexus
  - **Crosswise**, another player in the space, has recently launched its own solution in North America.
Industry experts expect the shakeout to continue

- “There isn’t room for even 20 major online ad companies in the long-term, let alone the hundreds that exist today”
- “I don’t know what the right number is, but it’s probably less than 10”
- Terence Kawaja, chief executive of Luma Partners, a boutique investment firm focused on digital-media.

- Advertisers and ad agencies are demanding more efficient ad buys, requiring more scale,”
- “Smaller outfits promising one particular service or another “are more expensive and only the best will be sustainable as stand-alone entities over time,”
- Colin R. Knudsen, managing director at Coady Diemar Partners.

- “...some adtech companies offering point solutions will also start to struggle, as an overwhelmed publisher and advertiser community will prefer to work with fewer partners, opting for ad tech companies offering full-funnel marketing suites. This likely will result in further consolidations of the fragmented adtech market, resulting in stronger conglomerates offering their customers a number of key services combined.”
- Alice Navarro, CEO Skimlinks
Increasing M&A activity in both adtech and martech space

Key drivers of M&A activity

- Programmatic
- Omnichannel in general
  - Mobile and Video in particular
- Real-time insights and decisioning
- New geographical markets
- Scale
- Marketing Automation
- Other consolidation moves

Total value of M&A deals: 36 BUSD
However M&A of specific Ad-tech companies is slowing down

"Investors are having a tough time understanding what an ad-technology company is," said Tim Vanderhook, CEO of ad-tech company Viant explaining Wall Street must decide if ad-tech companies are media companies or tech companies.

"Until they figure out what that is and the valuations settle down, then I think everyone is pausing on where they're going,"
Acquisitions driven by established players acquiring capabilities...

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<tr>
<th>Acquirer</th>
<th>Target</th>
<th>Description</th>
<th>Capability</th>
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<tbody>
<tr>
<td>Facebook</td>
<td>WhatsApp</td>
<td>- Audience data to bolster Facebook Audience Exchange</td>
<td>Data Protection</td>
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<tr>
<td></td>
<td>onavo</td>
<td>- HTML5 App and cross-platform mobile app analytics</td>
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<tr>
<td></td>
<td></td>
<td>- Video encoding technology</td>
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<td></td>
<td>privatecore</td>
<td>- Memory encryption technology</td>
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<tr>
<td>Google</td>
<td>dialog</td>
<td>- Video ad exchange</td>
<td>Data Protection</td>
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<td></td>
<td>admob</td>
<td>- Mobile Ad Network</td>
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<td></td>
<td>Admeld</td>
<td>- Yield optimisation platform</td>
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<td></td>
<td>admometry</td>
<td>- Online attribution platform</td>
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<tr>
<td></td>
<td></td>
<td>- Video ad management and exchange platform</td>
<td></td>
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<tr>
<td>Yahoo!</td>
<td>CLARITYRAY</td>
<td>- Ad-malware detection and prevention</td>
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<td></td>
<td>FLURRY</td>
<td>- Mobile analytics</td>
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<td>AOL</td>
<td>Convertigo</td>
<td>- Multi-touch, multi-channel attribution</td>
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<td></td>
<td>Visible</td>
<td>- Video advertising management and content syndication and exchange platform</td>
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<td></td>
<td>Adaptyv</td>
<td>- Video exchange platform</td>
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Ad networks supply ~60% of in-app ads
Deep-dive: Mobile segment

Shift from agencies and direct advertisement to ad networks, RTB etc.
Less end placement and positioning, more targeting

- **Ad networks**: 59%
- **Mediation platforms**: 14%
- **Direct to advertisers**: 15%
- **Agencies**: 7%
- **Real-time bidding exchanges**: 5%

1. Based on App Annie survey Feb 2014 with n = 781 respondents
Programmatic advertising is revolutionising the way that brands buy media and leading to a decline in the traditional marketplace.

Advertisers and media owners originally used programmatic to buy and sell unsold and low-quality inventory but premium and high-quality inventory is starting to be sold through programmatic too.

As programmatic methods become more integrated with the agency workflow, the process of integrating the audience buying tactics with direct placements will be more seamless, and the ATD platforms capabilities will likely evolve to create this efficiency.

With data and audience insights that enable better targeting, publishers can not only create custom packages at premium rates but also unlock the value of narrowly defined but previously overlooked segments and make these available via SSP’s.

In the UK market, programmatic ad spend was up 62% from 2013.

This compares to a 2.7% decline in traditional display advertising bought directly from a media owner.

1. Source: MarketingWeek, 28 November 2014
The growth of Real Time Bidding

Growth of RTB

- The key driver of growth in RTB is the availability of mobile and video inventory
- Platforms have evolved and have capabilities around integration and targeting of audience data segments, devices ID’s, retargeting and support for an increasing range of creative formats including rich media
- Key players in this arena are Rubicon, Criteo, AOL and RocketFuel
- Prices of programmatic ads escalated in 2014 as demand outpaced supply
- It is estimated that just under half (45%) of all digital inventory will be traded programmatically by 2016
- The major factors hindering adoption are still advertiser concerns around brand safety and viewability
Media spend attribution model has margins at each level of engagement

- Given the competitive situation from companies seeking growth and larger players seeking to defend revenue, margins could be competed away.
- Increased margin cost relative to direct advertiser to publisher relationship is justified by enhanced ROMI.
- As margins become more transparent, ad networks will need to think about becoming an enabler, offering value to agencies in the form of analytics or tech (offering the functionality and competing with other SaaS solutions)

Source: Acceleration, WPP
FB and Google dominate – building complete horizontal and vertical value chains

**Market share of global digital advertising revenue**

<table>
<thead>
<tr>
<th>Year</th>
<th>Mobile Internet Ad revenue</th>
<th>Digital Ad revenue</th>
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<tbody>
<tr>
<td>2012</td>
<td><img src="image" alt="9bn" /></td>
<td><img src="image" alt="105bn" /></td>
</tr>
<tr>
<td>2014</td>
<td><img src="image" alt="33bn" /></td>
<td><img src="image" alt="140bn" /></td>
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**Key reasons**
- Owns own inventory consisting of Internet's top destination sites
- Significant scale allows FB and Google offer advertisers audiences of up to ~1bn
- Owns complete value chains
- Paid Search still retains its dominant position and is expected to maintain the largest share of internet advertising revenue until 2018 [2]
- Mobile advertising had overtaken Classifieds in 2014 [2]
- The biggest game changer was the rise of social media and, more specifically mobile social media

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1. Source: eMarketer
2. Source: Global entertainment and media outlook 2014-2018, PWC, Informa Telecoms and Media
Telcos are investing in the digital advertising space, in some cases deploying significant capital.

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<thead>
<tr>
<th>Operator(s)</th>
<th>Initiative</th>
<th>Description</th>
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| verizon     | PRECISION MARKET INSIGHTS FROM VERIZON | - Advertising solutions for agencies, brands and channel partners to reach mobile audiences
- Anonymous unique device identifier “Precision ID” where customer data is never disclosed to advertisers |
| EE O₂       | WEVE | - JV between the UK operators Vodafone, EE and O₂, £13M revenue in first year of operation on £38M investment
- Lets advertisers target Weve’s 22 million-strong audience base of opted in consumers through Adfonic platform |
| Sprint      | pinsight | - Provides mobile advertising and other services leveraging Sprint’s 50+ million subscribers
- Pinsight launched through a partnership with Amobee, and acquired Handmark in 2013 to add own capabilities |
| SingTel     | [a-mo-bee] | - SingTel acquired Amobee for $321M in 2012, followed by Adconion and Kontera for $235M and $150M resp.
- End to end mobile ad solution, incl. agency and platform
- SingTel funded Nexage, acquired by Millennial Media for $108M 25.09.2014 |
| Ooyala videoplaza | Ooyala | - To build personalized cloud-based TV and video platform company.
- To build video ad serving and programmatic trading capability. |
Telco Initiatives:

2014

- Precision Market Insights, Verizon's data marketing arm, announced partnerships with BlueKai, the data management provider; Brightroll, a video ad platform; and the programmatic ad tech providers RUN and Turn.
  - The four will now sell its tool to advertisers for mobile ad campaigns that target Verizon's massive subscriber base based on demographics, interests and geography.

- Over the past year or so, AOL snatched up Adap.tv for programmatic video ($405 million), Gravity for personalization ($83 million), Convertro for attribution ($101 million) and Vidible for video distribution ($50 million).
  - These pieces combined with AOL's existing ad-tech infrastructure are meant to add up to a full advertising technology "stack," where clients can use a single interface to manage all steps of an automated ad buy. The product has been dubbed "One by AOL."

2015

- Rumours of Verizon AOL Acquisition.
- Rumours of Yahoo / AOL acquisition to enable Yahoo to compete with Google.
Who is driving innovation in the mobile market?

- **T-Mobile’s Data Stash**
- **Starbucks driving mobile payments**
- **Unilever pioneering mobile strategy**
- **Meat Pack incentivizing customers to come back to their store**