

A long-exposure photograph of a road at night, showing light trails from vehicles. The road is dark, and the light trails are bright and colorful, with a prominent blue/white trail on the left and a red trail on the right. The perspective is from a low angle, looking down the road.

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MAKING DATA WORK FOR RADIO

February 2017

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TURN
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WHAT QUESTIONS DOES THIS PUBLICATION HELP YOU ADDRESS?

This report has been designed to help radio broadcasters, their sales departments and independent audio sales houses to take full advantage of the data available to them. If you are asking yourself the following questions, we hope you will find inspiration within its pages:



CHAPTER 01: DATA FOR ONLINE AUDIO PUBLISHERS

// The importance of data

For advertisers, data-driven marketing is already happening. While not every brand requires granular targeting, for many – airlines and financial services, for example – it is essential. Data-driven marketing is not only about precise targeting, it also means more data available for tracking and analysis, which is very valuable even for mass market campaigns.

On the one hand, media that can provide reach that is not supported by rich data will struggle to compete in the digital field. On the other hand, media that deliver targeting without reach will also find it difficult to achieve relevance in an environment dominated by companies that can offer marketers both reach and data. Google, Facebook and – in the audio space – Spotify and Pandora now have that capability.

Herein lies the challenge for radio as it embraces digital and continues to extend into audio at scale. Radio publishers have a unique opportunity – engaged, loyal audiences, high quality content, an advertising product free of the problems of ad blocking and ad avoidance so prevalent in digital – but much work needs to be done in order to make the most of that opportunity and to offer marketers reach and targeting.

Many radio broadcasters have some catching up to do before they can truly compete with other players in the digital field. This is more of a business challenge than a technical one, as radio publishers can collect, aggregate and activate the same minimum data sources as

any other digital company – cookies, mobile IDs, geolocation data, data on audio streaming, etc. Leveraging these data sources, using an appropriate data architecture, will allow radio publishers to increase the targetability, and hence value, of their inventories and thereby bring in incremental revenues.

// A step-by-step approach

Taking audio advertising to the next level firstly requires the development of an overarching data system that allows all audience interactions – both online and offline – to be leveraged. Mastering this valuable first-party data is the cornerstone upon which more advanced data integration may be built. At the basic level, this includes the use of smart audio players that comply with the latest technical standards and the collection of a range of machine-generated data. It requires the integration of data from the publisher's CRM systems, competitions, marketing activities and other audience touchpoints, and it may involve the use of a registration system to identify listeners.

At a more mature level, it will require the use of data management technologies, such as data management platforms (DMPs), data warehouses and data onboarding platforms, as well as the ability to use commercially available third-party data sets and second-party data partnerships to offer better targeting. This in turn opens opportunities to exploit the programmatic marketing environment, with a radio publisher able to open the pipes to new or existing private marketplaces, for example, and to make audio inventory available to trade alongside other digital channels.

CHAPTER 02: THE OPPORTUNITY

// Radio's range of potential data touchpoints

Radio broadcasters have an increasing range of touchpoints, some new and others longstanding, with their audiences, each of which can yield valuable data. The broadcast signal has long been accompanied by offline connections, such as listener call-ins, competitions, song voting, polls, surveys and newsletters, offering stations a feedback loop through which to better understand their listeners.

As radio's digital footprint has become near ubiquitous, these traditional touchpoints have been augmented by websites, social media presence and tools that allow listeners to interact with their station's brand online and, in some cases, affect radio output in real time. Virtually every station's stream is now available online, both through broadcasters' own audio players and mobile apps and via aggregators of one kind or another, which offers additional online audio and video advertising inventories and the possibility to synchronise audio with display formats. See figure 1 for an overview of radio touchpoints.

Stations that belong to wider media groups may sit alongside a stable of television, print and other online properties, each of which delivers its own set of data back to the owner. In some cases these may share a common brand; for example, Bauer Media's Kerrang! brand in the UK exists as a magazine, a radio station (broadcast on DAB digital radio and streamed live and on demand), a web portal and a TV channel. NRJ can be found in France as a radio station, a large collection of online brand extension

audio streams, a pop music themed website, a broadcast TV station (NRJ 12), a video catch-up platform (NRJ Play and NRJ 12) and a concert and events organiser. Fans of the station can even have an NRJ branded bank card.

Alternatively, a media owner may have a number of assets that do not share a common brand but that may nonetheless have an intersecting audience; listeners to an oldies radio station may also be readers of a classic car magazine, for example, and if the publisher owns and collects data from both these assets it has an opportunity to match data points from an individual user across platforms and devices and form a unified view of that user. This can significantly enrich the user's profile (behavioural data, interests, etc.), allowing the publisher to execute more effective product management and marketing and increase the value of advertising inventory by going beyond traditional silos and offering marketers better targeting and retargeting.

This range of potential touchpoints allows radio broadcasters to compete with the data sophistication of any online publisher. The key place of audio as an advertising format in a radio station's inventory actually places the medium's publishers at a distinct advantage, as audio is a more premium ad space than the display formats that form the bulk of online advertising. Given an appropriate data strategy and architecture, radio broadcasters can use the information delivered across these touchpoints for managing and improving their on-air content, enhancing their marketing and increasing their revenues from online advertising.

However, the typical level of data maturity in radio broadcasters remains relatively low, and there is therefore a significant opportunity to leverage data more effectively to develop higher advertising revenues.

FIGURE 01: A RADIO PUBLISHER'S MANY AUDIENCE TOUCHPOINTS



// The data maturity levels of radio broadcasters in online audio: levelling up

Collecting and owning data is not enough on its own. To serve the purposes mentioned above, data needs to be managed and, in the case of multiple sources, correctly matched up in order to facilitate commercial operations. The first step for any publisher that wants to monetise its audience more efficiently and to achieve a higher yield from its inventory is to make its users identifiable.

By understanding their own level of data maturity, radio publishers can develop a strategy for increasing the sophistication of their data lifecycle. The IAB's paper Data Maturity Model: Digital Advertising¹ identifies the stages of the data lifecycle and helps publishers evaluate their own maturity ranking within each stage. The IAB defines the three stages given in figure 2, alongside the cross-cutting dimension of organisational readiness, which applies to all stages.

This guide serves as a useful framework within which to level up to more advanced maturity levels, at the highest of which a publisher is defined as having a company culture that embraces data, a focus on ongoing optimisation and technology processes as well as exploring new arenas.

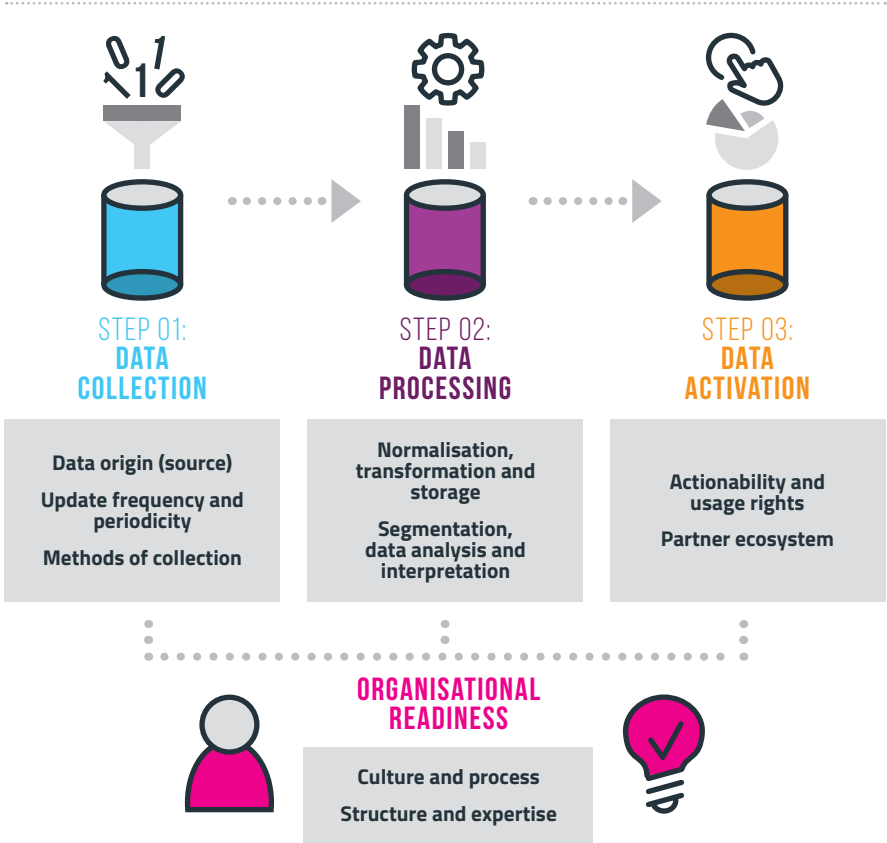
In the case of radio, it may be observed that many European broadcasters have a fairly low level of data maturity, lacking an overarching data strategy and instead taking a fragmented approach to data collection, storage and activation and a prevailing focus on short-term objectives and solutions. While much variation exists between radio companies, a typical case

would be that it collects basic statistics from the websites of its stations, server-based statistics about its online audio streams, some data about its listeners gleaned from social network interactions and information gathered through competitions, events and marketing activities. The key issue is that, while potentially valuable in their own right, these sets of data are often fragmented, isolated, incomplete, non-systematised and therefore not actionable in most cases. Such data therefore fails to achieve its full potential in driving incremental revenue and increasing the value of the radio company's ad inventory.

To maximise the opportunities of digital, it is necessary to move from a broadcast model, where a reach figure for an anonymised audience is sufficient for ad sales, to *matchable* audiences. The following capabilities can be identified as a way to move a radio publisher to a higher level of data maturity:

- To collect a basic set of machine-generated and behavioural data – cookies, mobile ad IDs, active sessions, web statistics, geo position, etc., and to use third party tracking tools;
- To be able to create user accounts and store them properly and safely, with an easy login functionality;
- To be able to find ways to incentivise people to log in on all platforms;
- To collect extra information about these users from the multiple touchpoints identified above, including offline data sources, second and third-party data partnerships, social media, DMP, data aggregators, media agencies and/or clients;
- To activate and commercialise data through the use of impression-level targeting and audience segments, dynamic ad

FIGURE 02: DATA LIFECYCLE ILLUSTRATED



Source: Adapted from IAB Data Maturity Model: Digital Advertising. (July 2016)

insertion, programmatic marketing, product improvement and personalisation of the user experience, media brand marketing and loyalty retention.

Turning an audience into identifiable and matchable listeners by aggregating and activating user and device identifiers, such as cookies and mobile ad IDs, allows radio publishers to – as a minimum – provide advertisers with

unduplicated reach, frequency capping, basic targeting and audience segmentation, dynamic and/or sequential creative as well as ad tracking to inform further attribution and ROI analysis.

This is the minimum standard of data expected of a premium publisher in digital, and such data-infused inventory can achieve a higher price.

// Data maturity levels for radio publishers: a taxonomy

The following classifications show the typical data characteristics of radio publishers as they move from a lower level of maturity to higher. Any decision to invest in the infrastructure and technology required for greater data maturity should be a business decision based on the expected ROI of such development.

Level 1

At level 1, a radio publisher is either not collecting any data on its listeners beyond the market Radio Audience Measurement (RAM) data or log files to estimate the reach of its online streams. These streams may be delivered using audio players that are not up to current digital technical standards, which limits the collection of information that could be used to create and add value to audio inventory.

A key challenge from a monetisation perspective is that online audio inventory of this type usually has smaller scale and is therefore more often used by advertisers for direct response campaigns rather than to build reach or to add an incremental reach to FM radio campaign. However, it's important to note that along with growing online radio consumption across the majority of European radio markets, usage of online audio for boosting/adding reach to FM radio has become more common practice. Inventory that has poor, non-matchable data is of little value to the typical digital buyer when compared to the richness of data that most digital publishers can offer, let alone from giants such as Google, Facebook and – on the audio side – Pandora or Spotify.

Level 2

At this second stage of maturity, a radio publisher collects and uses at least the bare minimum of machine-generated data available from its websites, streams and mobile apps, including cookies, mobile advertising IDs and geolocation data.

Compared to more complex user registration systems, the collection of cookies, IP addresses, mobile advertising IDs and data about website visits and audio sessions does not require any particularly advanced additional tech stack. Publishers can aggregate and analyse data from their digital assets using tools such as Google Analytics or its alternatives and collect data from their mobile apps and players using APIs. Essentially, simply following the latest and most widely recognised industry standards, such as the IAB's various guidelines and DAAST protocol, and using compatible ad serving and streaming technologies is enough to enable audience segmentation and simple targeting and to potentially match these data with third-party within a DMP for more granular targeting.

Level 3

In addition to machine-generated data, human-generated declared data plays a very important role in digital marketing. As soon as a user agrees to register and/or share some information about themselves, the value of each contact increases significantly, because this is the bedrock of user ID matching and attribution analysis. This in turn allows the publisher to deliver a better user experience and better marketing services to advertisers.

// Targeting opportunities opened by data maturity

The data available to radio publishers increases in value for advertising targeting as follows:

- Machine-generated data (cookies, IP addresses, mobile advertising IDs, log files);
- Declared data (age, gender, geographical location, email address);
- Behavioural data (interests, point-of-sale data, views, sessions, content preferences, search, etc.).

The correct stewardship of the above forms of data allows publishers to create cross-device and cross-platform user IDs and to match them against available second and third-party data, creating unique and highly valuable audience segments for marketers, and to integrate its own audience offer within wider audience segments for programmatic buying.

To leverage data beyond that available from a publisher's own machine-generated sources requires a more complex technology infrastructure, often managed by a DMP, as well as a sophisticated strategic and operational approach within the organisation.

// Indicative value of inventory based on data maturity

Figure 3 illustrates the estimated CPM values that can be achieved for online audio in the US market.

This example clearly demonstrates that for any given reach of online audio, the ROI of data-infused inventory increases significantly, both for the buyer and the seller.

Therefore, the more radio publishers start to discover and deploy solutions to move their businesses to the next level of data maturity, the more value they will be able to extract from their digital assets and audiences.

// Designing an appropriate data project architecture

A critical first stage in any strategy to develop greater data maturity starts with a comprehensive analysis of the data systems, touchpoints and technologies currently in place. Such an overarching data taxonomy allows to identify opportunities and acts as a basis on which to identify the business and technology

FIGURE 03: ESTIMATED AUDIO INVENTORY CPM

Richness of data behind the impression	Average CPM (US)
"Dumb" impression (reach from log files)	\$2-4
Basic machine-generated data (cookies, mobile ad ids, geolocation)	\$4-8
Registration data (age, gender, geolocation)	\$8-12
Retargeted impression	\$12+

processes required to build a new architecture.

Radio publishers at the lower levels of maturity identified above typically have outdated data setups, in which different data sets are unable to talk to each other and be activated. The key challenge is therefore to integrate these fragmented data sets so that users can be identified across platforms and made targetable for DSPs and ad servers.

Hiring an in-house data scientist to design a new data architecture is unlikely to make financial sense for most radio companies, and it is therefore more common to take advice from a specialised agency at this stage. However, it is important to have in place a project manager with solid business and technology understanding from the early stages of the process. The following roles are essential within the data project team:

- Data expert/project lead – to outline data architecture, including sources, data capture tools, processing and analytics, necessary in-house tech stack and outsources;
- Business leads in respective areas (product, marketing and advertising) – those who will represent the final users of the data and can set up a relevant list of requirements to the data system from the business perspective based on the needs of their departments/roles within the organisation;
- Product management – the people who currently develop and maintain the radio publisher's digital assets (websites and apps, in most cases) in order to smoothly integrate data in and out processes as well as data activation tools (CMS, personalisation, advertising, communications, etc.).

CHAPTER 03: RECOMMENDATIONS FOR RADIO PUBLISHERS TO ACHIEVE GREATER DATA MATURITY, MAXIMISE INVENTORY VALUE

The following step-by-step guide may be used when considering the process of designing and building a new data infrastructure. It is important to ensure a smooth flow of data at each stage of the data lifecycle: Capture, Integrate, Organise, Analyse and Act.

1. Start with the end objective – how will you use data?

- Product development: programming, music and content management, personalisation, audience measurement and insights, etc.
- Marketing: retaining existing audience, acquiring new listeners, promoting brands and products such as mobile apps, events, cross-brand initiatives, etc.
- Advertising: targeting, retargeting, brand activations, direct marketing, second-party data partnerships, attribution, feedback loop, ROI studies, etc.

2. What steps do you need to take in order to ensure data security and compliance?

- Compliance with existing data protection legislation.
- Compliance with the General Data Protection Regulation set to come into force in May 2018.

3. What kind of data will you need to create unique user IDs?

- Registrations, cookies, mobile advertising IDs, IP addresses, geolocation data, emails, messages, comments, social media, socio-demographic data, tastes, content preferences, listening habits, etc.

4. What kind of data sources do you already have; what additional data sources could you leverage?

- First-party data from media touchpoints: registration, website, mobile apps, audio player, video player, competitions, email and newsletters, social media presence and interactions, call centre, events, subscriptions, uploads, product sales, etc;
- Online and offline third-party data: data brokers, external DMPs, audience research, audience measurement, etc;
- Second-party data through partnerships with other publishers, advertisers and media agencies.

5. What integration architecture will you need to resolve multiple IDs collected from different sources in order to create unique user IDs?

6. What adtech/martech and infrastructure will you need to achieve the project's objectives?

- Taking into account: performance, availability, scalability, reliability, cost.

7. What data activation technology will you need to make this data actionable – to impact on product management and advertising?

8. What skills and personnel will be required?

- For the data project design and implementation;
- For ongoing management of data within the organisation.

CHAPTER 04: THE DATA ECOSYSTEM FOR RADIO PUBLISHERS

// Classifying data available for radio publishers

Data, audiences and analytics may be described and classified according to a number of criteria, including the source of the data, whether data is voluntarily given or inferred, whether it describes interests or intent and whether it serves to describe or predicts behaviour. The following section defines some of these characteristics.

// Classification based on ownership: first, second and third-party data

Data can be classified as first-party (publisher or advertiser)², second-party and third-party, and each offers different benefits within the advertising ecosystem. The determining feature is the relationship between the data collector and the individual about whom the information is being collected, which has implications for the value of the data and the uses to which it can be put.

First-party data

A “first party” is an entity that collects information from or about users and is the owner or controller of the website or service with which the user interacts directly³. This data includes any information that the publisher or advertiser has collected through a direct relationship with a consumer, for instance a listener who enters a radio station competition or a logged-in listener to its online audio streams.

The data may take the form of email addresses, purchase history held in a CRM platform or it may be defined from behaviour patterns across the publisher or advertiser’s own site, including an audio player or mobile app.

First-party data is very valuable, as for the most part it is unique and accurate. The owner of the data may use it solely for their own purposes (increasing the value of their advertising inventory in the case of a publisher or improving the effectiveness of their campaign in the case of an advertiser), or they may choose to make this data available to others under a negotiated deal of one form or another.

Second-party data

Second-party data can be described as someone else’s first-party data. It has similar advantages, in that it is unique information about consumers, but it can add greater scale than first-party data on its own, as well as the accuracy that is typically lacking from third-party data. Under an agreement between the two parties, an advertiser and a publisher can, for example, match their own data sets in order to identify attributes about their users that they did not know before. This can be used for better advertising targeting, for content personalisation or potentially as a source of revenue in the exchange of data itself.

Second-party data is a relatively recent phenomenon, and it is especially interesting as it requires actors in the advertising ecosystem to develop new strategic partnerships, which can be very valuable in competitive marketing strategies. Second-party data is not usually commoditised, unlike third-party data, and it offers both audience extension and targeting. The data sharing may be negotiated between two or more publishers, between a publisher and an advertiser, or between two or more advertisers, providing the actors involved

share some common marketing objectives. The data exchange may take place through a Data Management Platform (DMP) or elsewhere, and it may be negotiated on a simple transactional basis or under a more complex commercial deal.

One of the most useful sources of second-party data for radio publishers is that which can be collected using social login. When users register for access to a site using their social media profile, the publisher can – with the user’s agreement – access certain information about them. The publisher can use this data, but it remains the property of the social media network in question.

Third-party data

Third-party data is aggregated and packaged information that is available for licence. In the online environment, third-party data is typically provided by DMPs or data aggregators, and these organisations do not have a direct relationship with the customer or user about whom the information is being collected. Third-party data is widely available on the open market, and while it is therefore not unique, it offers scale and targeting capabilities.

// Declared vs. inferred data

Declared data is personal or specific information that someone voluntarily shares. Examples include name, email addresses, age, gender, geographical or other information collected when a listener enters a radio station competition, signs up for a newsletter or creates a user profile to log in to a publisher’s websites. It is generally considered to be of very high quality, as it is provided by the user directly, although it is not immune to deliberate or accidental inaccuracies.

Inferred data segments are based on qualitative

or algorithmic inferences, for instance by understanding a user’s pattern of site visits or by more complex mathematical modelling of personality scoring³.

// Interest vs. intent data

Interest data is information about what the user is interested in, and it may be collected by the type of content that individual consumes. It can be used to target display advertising, for example.

Intent data derives from a user’s behaviour that suggests they have an intention to, for example, buy a particular product or service. This may be through searching for particular terms, comparing products or adding items to a shopping cart. This type of data is used in search engine marketing and may also be useful for retargeting⁴.

// Descriptive vs. predictive vs. prescriptive analytics

Descriptive analytics seeks to provide answers to the question: “what has happened?” Raw data is analysed in order to gain insights into the past, and in marketing this can be used to understand attributes about a particular audience segment and make inferences about how to target them with advertising.

Predictive analytics addresses the question: “what could happen?” This may be used, for example, to predict the future behaviour of particular groups of people or for finding new sales prospects.

Prescriptive analytics is used to offer advice on “what should we do?” These techniques are relatively complex to administer, mainly relevant to large organisations, and they leverage

FIGURE 04: AN OVERVIEW OF DATA SOURCES AND ACTIVATIONS

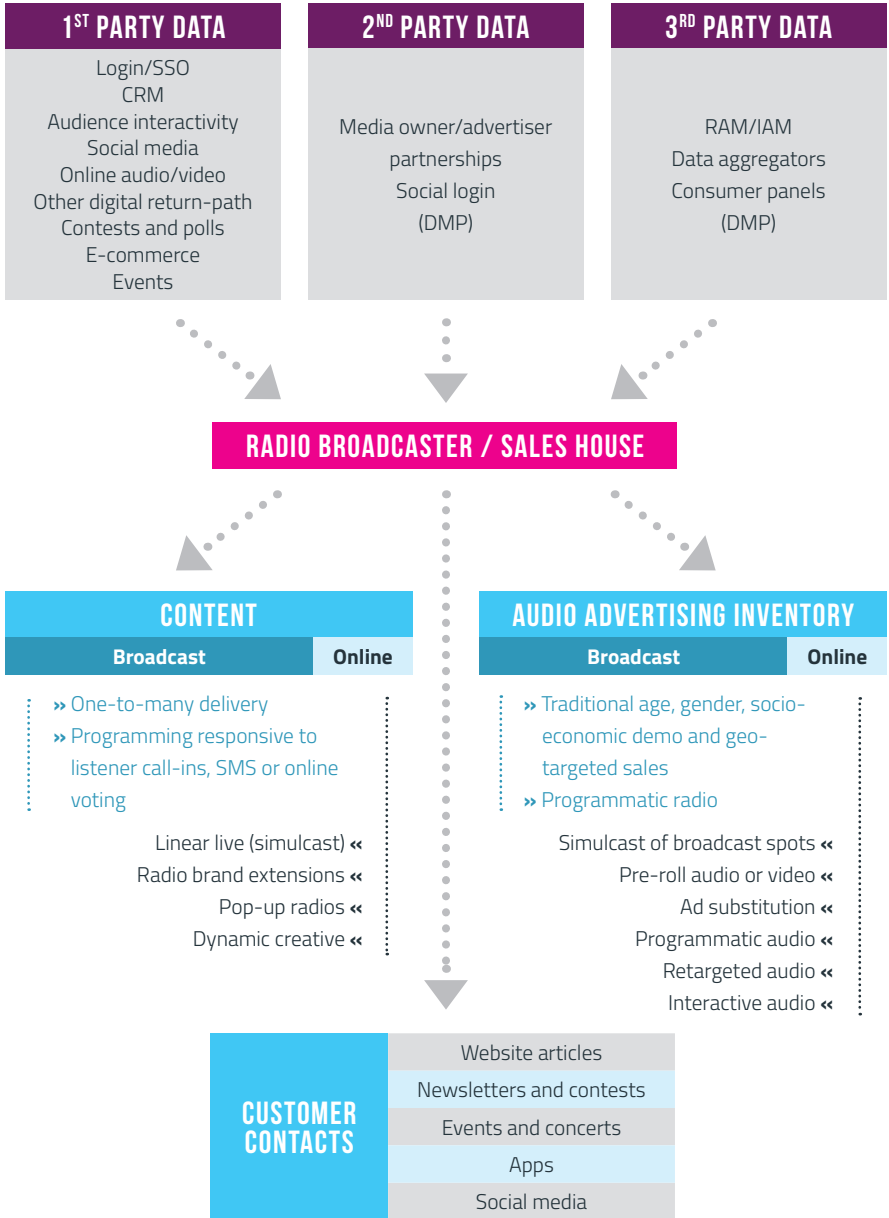




FIGURE 05: TYPES OF DATA THAT MAY BE COLLECTED AND USED FOR AUDIENCE SEGMENTATION

Data classification	Examples
Demographic/Socio-economic	Age
	Gender
	Marital status
	Income level/social grade
	Home ownership status
	Profession
Psychographic	Education level
	Spending habits
	Values
	Interests
	Personality traits
Behavioural	Political preference
	Website visits
	Video or audio streams
	Advertising interactions
	Web searches
	Brick and mortar visits (e.g. shops, showrooms)
Geographic	Purchases (online or offline)
	Interest (inferred from behaviour)
	Current location
	Places visited in the past
Contextual	Routes routinely travelled
	Planned trips
	Content metadata (descriptive information)
	Keywords
	Time of delivery/access
	Operating system or device platform

Source: egta - Automated & Programmatic Marketing (May 2015)

TYPES OF TARGETING THAT CAN BE APPLIED TO ADVERTISING CAMPAIGNS

Type of targeting	Examples
Targeting	Demographic Geographic Behavioural Contextual Time-based Semantic Emotional Lookalike
Retargeting	Site Search Creative Keyword

optimisation and simulation algorithms to predict the outcomes of ranges of possible courses of action and their likely outcomes⁵.

// Sources of data and data collection tools

Depending on their digital and non-digital assets, marketing and programming activities and the sophistication of their technology infrastructures, radio publishers can extract data on their audiences (and in some cases link to the audiences of other media platforms) from a range of online and offline sources.

Listener engagement, competitions, marketing and events

Radio has always been one of the most interactive and engaging media, complementing the one-to-many nature of broadcasting with the one-to-one connection of phone-ins, shout-

outs, competitions, polls and even e-commerce sales. Each such forms of interaction are valuable sources of first-party data, as well as allowing for behavioural analysis of the audience.

Radio publishers now have a variety of digital touchpoints, such as station websites, apps, mini-sites for specific activations and social media, which serve to both increase listener interaction and to facilitate the collection of useful data. These platforms may also be used to increase the motivation for listeners to share their data, for example to receive newsletters, special offers, invitations to concerts and events, to enter competitions, to participate in music tests and listener advisory boards, to engage in stations' social media communities and fan clubs or to receive a personalised listening experience. In the case of personalisation, this may include a reduced ad load with more relevant commercial messages offered in exchange for the listener's basic demographic information, for example.

In less sophisticated data setups, this information is typically stored and managed using CRM databases and email services. These systems require maintenance, including the cleaning of data sets and, if applicable, integration within the publisher's wider data ecosystem.

Specialised engagement tools and competition engines are now available on the market to help radio publishers activate their audiences and collect additional first-party data, which can then be used in marketing or advertising activations.

Web analytics

This is one of the longest established areas of online data collection and analytics. Using web analytics tools, such as Google Analytics and others, it is possible to extract information from cookies, server logs and tags (including third-party and social network tags). This can then be used to analyse the size of an audience and its dynamics, sources of referral traffic, the effectiveness of audience acquisition campaigns, user profiles and so on, as well as to connect with user IDs created from other sources. Web analytics data may also be enriched with third-party tracking data to match a publisher's visitors with wider audiences.

Examples of interactions that may be tracked on a radio company's digital platforms include launching an audio player, watching a video, filling in a form, reading news or other content, buying concert tickets or merchandising, downloading a podcast from an archive, subscribing to a newsletter, etc.

Mobile apps and proprietary player data collection

Mobile applications and proprietary players represent another important source of first-party data. Depending on settings and the opt-in

status of users, this allows the generation and/or collection of the following (non-exhaustive) types of data: registration data; email addresses; mobile advertising IDs (Apple's IDFA, Google's Advertising ID, Facebook App User ID); geo-positioning; type of OS and device; activity time and usage patterns.

Registration tools

Self-registration is a cornerstone of user identification, and therefore a registration tool is a critical component of any login-based data ecosystem. Different approaches to registration mechanisms can be taken, and in many cases the registration tool will allow all of the following as options:

- Creation of a new account specifically for the publisher in question.
Advantages: publisher retains control and ownership of all first-party data.
Disadvantages: burden on user to create a separate new account and remember the login details; possibility for fake email addresses and/or false age and demographic information.
- Social login, in which a social media account is used as the registration.
Advantages: easy to manage for the user; verified, accurate, granular and advanced data set from social network.
Disadvantages: reliance on second or third-party data; if user deactivates social account, publisher also loses access to this data.
- Single sign-on (SSO), a solution that allows to use a single registration to log in once to access a number of connected apps and platforms (for example, a single Google registration allows access to YouTube, Google Docs, Chrome, Gmail and other Google products).
Advantages: publisher can acquire data across a range of different touchpoints; easy access for the user.

Disadvantages: only accessible to publishers that own a portfolio of suitable assets; requires more sophisticated data processing and technology.

At the outset of designing a new data ecosystem that includes user registration, it is necessary to decide which of the available options to choose: to develop an in-house solution, use a Platform as a service (PaaS), Software as a service (SaaS) or Infrastructure as a service (IaaS). Registration is relatively complex and expensive to develop, and small to mid-sized publishers tend to use registration tool services from companies such as Gigya or Janrain. However, beyond a certain threshold of unique users, especially in cases where the publisher is leveraging numerous assets, it may be more cost effective in the long term to develop a solution in-house, even accounting for the additional length of development time this requires.

Social login data

While a key advantage of social login for users is simplicity, with no need to remember yet another account name and password, a major benefit for publishers is access to rich, verified and constantly updated insights about the individuals that visit its digital platforms. For example, a radio publisher that deploys a social login may be able to identify not only the age, gender and location of its users, but also information about their tastes in music based on their interaction with content on the social media platform, on condition that the publisher has requested access to this data and the user has consented during the login process. Effectively, this is an automated ability for the publisher to take a look at the logged in user's entire history on Facebook, for example, see which musicians, bands and artists they have liked, or the locations they have been tagged in.

Taking the case of Facebook, as the social media

platform with the largest number of users, this data can be accessed by the radio publisher and used for targeted advertising and building audience segments. However, when sharing data with app developers – in this case the radio publisher – Facebook insists that the primary focus should be on improving the user experience⁶.

Figure 6 shows the fields that a publisher can request access to.

Third-party data providers (data brokers)

A number of companies collect information about consumers that can be used by media buyers in targeted advertising campaigns. Data is not typically bought, in that no change of ownership takes place, but rather licenced for a particular use. The major players in this industry include Acxiom, Datalogix, Epsilon and Experian, and these large firms sit in a fragmented market estimated by the consultancy firm Gartner to include up to 5,000 data brokers worldwide.

Recent years have seen some convergence between data providers and data technology firms: for example, in 2014, Acxiom acquired the data onboarding provider LiveRamp, and Datalogix was acquired by Oracle, a matter of months after the company bought the DMP BlueKai.

DMPs, such as Lotame, also act as data market places, allowing companies to exchange their own first-party data sets, enabling them to leverage the benefits of second-party data.

FIGURE 06: PERMISSIONS REFERENCE - FACEBOOK LOGIN

public_profile	user_tagged_places
user_friends	user_videos
email	user_website
user_about_me	user_work_history
user_actions.books	read_custom_friendlists
user_actions.fitness	read_insights
user_actions.music	read_audience_network_insights
user_actions.news	read_page_mailboxes
user_actions.video	manage_pages
user_actions:{app_namespace}	publish_pages
user_birthday	publish_actions
user_education_history	rsvp_event
user_events	pages_show_list
user_games_activity	pages_manage_cta
user_hometown	pages_manage_instant_articles
user_likes	ads_read
user_location	ads_management
user_managed_groups	business_management
user_photos	pages_messaging
user_posts	pages_messaging_subscriptions
user_relationships	pages_messaging_payments
user_relationship_details	pages_messaging_phone_number
user_religion_politics	

public_profile	
▪ id	▪ link
▪ cover	▪ gender
▪ name	▪ locale
▪ first_name	▪ picture
▪ last_name	▪ timezone
▪ age_range	▪ updated_time
	▪ verified

Source: [Facebook for Developers/Docs/Facebook Login](https://developers.facebook.com/docs/facebook-login)

CHAPTER 05: TECHNOLOGIES AND PROCESSES

// Data storage, processing and activation

There are several technologies that can be used to collect, organise, store and use data, and in many cases there is a degree of overlap in functionality depending on a given provider's offer. The following section looks at these processes through the lens of the Data Management Platform, but they are not all exclusively carried out by that particular component of the adtech stack.

It is important that a radio publisher considers its own specific data environment and objectives when assessing the capabilities of technology providers; neat labels are increasingly difficult to apply to solutions on the markets as companies build out and increase the sophistication of their offers.

// The data warehouse

A data warehouse allows an organisation to aggregate data from multiple sources so that it can be analysed and used to improve business intelligence. A data warehouse typically handles incoming information at the enterprise level, in contrast with the data mart, which is typically oriented to a specific business line or department (sales, marketing, finance, etc.)⁹. Data warehouses may be built in-house, however there are a number of companies that offer the compatibility to analyse large data sets, some of the best known being Amazon RedShift, Vertica (Hewlett-Packard), and Teradata.

Data is moved from its source into a data

warehouse using a trio of processes called ETL (Extract, Transform, Load). This ensures that data is properly formatted and normalised. The three processes are commonly carried out in parallel.

- Extract: data is collected from sources, validated and stored in a temporary database.
- Transform: data is processed to ensure all data conforms to common formats.
- Load: the transformed data is moved into the permanent, target database.

// The Data Management Platform

The Data Management Platform (DMP) is a component of digital marketing that can be used by publishers and advertisers. It has been described by [x+1], a pioneering DMP, as follows:

A DMP "... provides the requisite, yet somewhat unnoticed, function of data collection, translation, classification, indexing and storage. It's the 'plumbing' part of data-driven marketing online."

One way to understand the role of a DMP is to consider its four main functions⁹:

1. Import data from users and other data sources;
2. Group data into segments (audiences), which share common attributes;
3. Send instructions to place ads, usually via a Demand Side Platform (DSP). This is a combination of who to target, with what message and (in some cases) on what channel or device;
4. Measure the impact and improve the instructions.

In digital marketing, the DMP is used to

collect, store and analyse data, generating audience segments that can be used to deliver targeted advertising to users. It is a smart data warehouse that can unify diverse data sets, aggregating information from a publisher's online, offline and mobile channels, organising it and making it actionable. The DMP can also be used to connect to third-party data sets or even to trade data between organisations in a second-party data relationship (see figure 7 for a simplified illustration).

// Data collection

A DMP can collect data in three ways. It can receive data that is sent to it by the publisher (onboarding, see below), it can collect information from a publisher's digital properties using data collection tags, and it can use APIs to collect server-to-server data.

A publisher adds collection tags to its website to collect information about what visitors are doing and how often. Activity tags track the things users do on the site, while media tags are used to track media impressions and clicks. Activity within the mobile environments of iOS and Android is tracked using mobile SDKs, which enter code into the app itself and deliver data to the DMP.

// Onboarding

This is the process through which offline data is transferred to the digital realm¹⁰, and it offers a way to connect data between different silos. Customer records, for example from a publisher's CRM system, are uploaded, anonymised (PII removed in a process known as hashing) and matched to online devices and digital IDs. Data segments can then be activated for use in marketing applications and media platforms.

One of the leading onboarding providers,

LiveRamp, explains its service as resolving identity between offline CRM data and digital devices, but also integrating data from any consumer touchpoint that any stakeholder in the ecosystem might have. This allows a richer understanding of the consumer to be developed¹¹:

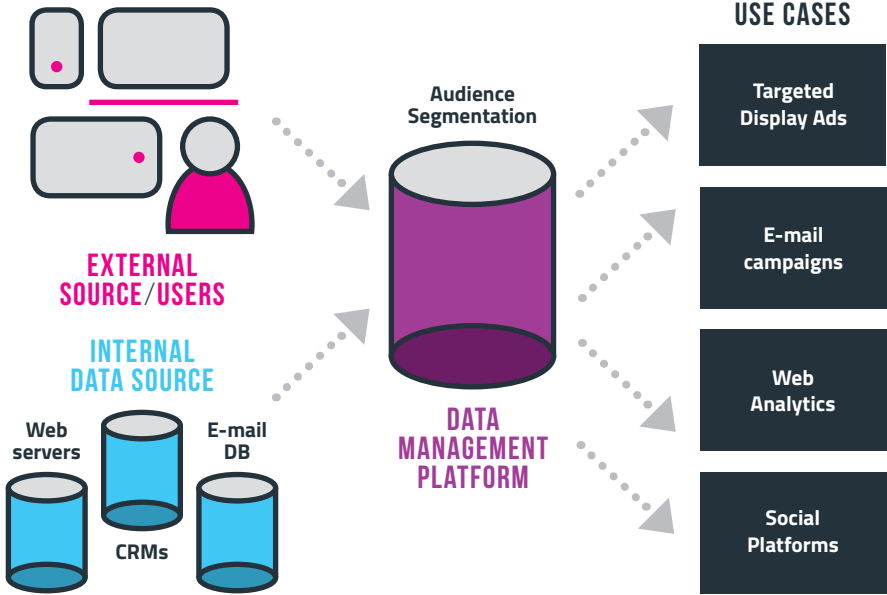
1. Unifying everything a company knows about its users (resolving all first-party data together). This requires identity resolution;
2. Augmenting that understanding with what other organisations know about those users (bringing in second and third-party data from different data owners);
3. Activating against that data, using it to create audiences and segments, reach users on whichever touchpoint is going to be most appropriate for them;
4. Taking the interaction data from users' engagements and using it to develop a better understanding of that customer.

This process has become much quicker in recent years; a process that could take days or even weeks can now be done in as little as an hour by some providers.

// Storage and organisation: IDs and attributes

A DMP uses IDs and attributes to identify information about people and categorise them as distinct user profiles that can then be activated. These categories are also known as data taxonomies. IDs may, for example, take the form of customer IDs, platform IDs, device IDs or DMP IDs, each of which usually represents an individual user. As one user may have many IDs, the DMP requires a key to map one ID to another and develop a coherent record associated with each individual.

FIGURE 07: DATA MANAGEMENT PLATFORMS



Attributes describe what is known about these users, and these may be binary in form (male/female), categorical (high income/medium income/low income), or they may represent a narrow range of values (0 = aged <18, 1 = 19-25, etc.)⁹.

// Cross-device identity

With the rapid increase in smartphone and tablet adoption, new technologies have been developed to identify users as they move between desktop and mobile environments. As the Internet of Things (IoT), wearables and connected TVs start to emerge as more significant platforms, the number of devices from which a user's data may be derived is

steadily increasing.

The dominant tracking vehicle of the desktop, the cookie, is unreliable in the mobile web and ineffective in the app environment, as in-app cookies cannot be shared between apps. To overcome this limitation, two methods have been developed to track users across devices – deterministic and probabilistic matching.

Deterministic matching creates a cross-device linkage when a user is logged onto the same service via a website on one device, for example, and an app on another. This use of personally identifiable information (PII) to make a match between devices is largely the preserve of companies with large, logged in user bases across desktop and mobile assets, such as Facebook, Twitter, Google and Apple. There

are questions about the privacy issues related to this type of tracking, as well as the walled garden nature of the Internet giants' data universes. Deterministic data sets are likely to have higher accuracy than probabilistic sets, but it is much harder to achieve scale, and therefore advertising reach. Even Google and Facebook only count a percentage of the online population among its identifiable users, and in many cases people only log in to a service on one of their devices, making a deterministic match impossible.

Probabilistic cross-device matching relies on statistical modelling to create likely matches between devices, based on pseudonymous data points that arise from device usage. This observation data may include IP addresses, GPS data, browser cookies, mobile IDs, Wi-Fi networks accessed, operating system, time of day, and many other things beside. By avoiding PII, or in some cases using smaller, core PII data sets that be modelled to create larger audiences, probabilistic offers scale. It is also potentially less problematic from a privacy perspective, as the device matching occurs without the user ever being identified from PII¹².

// Audiences (segments) and targeting

Within the DMP, an audience is a group of users that share a common set of attributes. Belonging to that audience determines what actions will be taken with respect of that user: delivering targeted advertising; personalising websites and other digital assets; sharing with other systems (syndication).

The attributes used for a targeted advertising campaign may be first-party or third-party. First-party attributes are based on the publisher's own data about its users, for

example activity on their website or some other forms of engagement. Third-party attributes are data acquired from data vendors, and could for example be a list of anonymised users that have recently visited a particular type of website.

A targeted campaign will also include other parameters, such as blacklisting certain websites, budget, objectives and so on, as well as pre-determined criteria for measuring the campaign's success. Success may be measured by Click-Through Rate (CTR), site landings or interaction, or whether a user has converted and purchased something.

// Targeting based on third-party data

For a radio publisher with a relatively limited number and variety of digital assets, it is possible to use a DMP to licence third-party data in order to build audience profiles for targeting and then to deliver campaigns against this data. In the absence of rich first-party registration data, and where the publisher is only collecting cookies from their websites, connection to a DMP is required to have access to third-party cookies and to widen the targeting opportunities.

One drawback of the use of third-party data is that its quality may be low; it may not be up-to-date and it may not be fully relevant. For example, third-party data might be used to target a campaign for a car maker to people by 'auto' attribute; however, this audience could include people who are interested in F1 racing, for example, which is not the equivalent of a 'people in market for a car' segment. This reduced relevance will lead to a drop in the performance of the targeting, and first-party data is therefore very important and valuable.

// Targeting and retargeting based on second-party data partnerships

Extending the example above, if a radio publisher were to approach a car maker offering to enter into a second-party data partnership, further targeting opportunities would become available. By using a DMP to match users, the radio publisher could identify and target audio spots to people already known to the car maker, for instance customers and others appearing in its CRM system. Alternatively, the publisher could re-target audio spots to any user on whom the car maker has first-party data, such as people who had previously been served a display or video ad for that brand. Furthermore, the car maker could use the publisher's first-party data to retarget any form of digital advertising to users that had been previously exposed to an audio campaign on that publisher's online radio station.

// Lookalike audiences

The DMP can leverage third-party data and algorithmic modelling to build audience extensions (also described as audience expansion). An advertiser, for example, may use lookalike audiences to identify people that share similar characteristics or behaviour patterns with its best customers and target their advertising messages to them, as they have a higher probability of conversion.

The leading DMPs in the field use machine learning – a form of artificial intelligence – to create new lookalike audience segments that can be continuously refined and updated as the data sets grow¹³.

// Delivering a personalised experience

The DMP can be used to make decisions about what content should be delivered to a particular user, based on the same principles as for targeted advertising. This may be content on a website or app, or it may be used to trigger other forms of communication such as mobile SMS messages or emails.

Content personalisation and recommendation can be used to ensure a publishers' visitors are presented with content that is more likely to fit their interests, based on the profiles developed by the DMP.

// Buying and selling inventory: SSP and DSP

While the DMP plays a critical role in ingesting, sorting and activating data, it requires connectivity to other marketing technologies to turn data into actions. Some DMPs remain as standalone platforms, and the companies that offer them promote the benefits of such an arrangement, while others have integrated DSP capabilities or vice-versa. The distinct roles of ad networks and SSPs have also become blurred, and some providers offer solutions for both publishers and advertisers. Adform and AppNexus, for example, each feature SSP and DSP technologies. Along with DMPs, DSPs and SSPs perform the core functions of automated advertising buying and selling, a central tenet of programmatic marketing.

DSPs are used by agencies and advertisers to buy digital inventory across search, display, video, and audio either on desktop or mobile devices (or both). A DSP may be a standalone product or integrated within a provider's wider

A STRATEGY TO ENRICH A RADIO PUBLISHER'S FIRST-PARTY DATA FOR BETTER INTEREST-BASED AUDIENCE SEGMENTATION

For a DMP to discover a user and include them within an audience segment based on a particular interest, that user needs to have a relevant attribute according to whatever rules the DMP has set when building the segment. A challenge for radio publishers is that they may have limited interest-based information about many of the users in their first-party data set, particularly when relying mainly or entirely on pseudonymous, machine-generated data delivered from their ad server.

However, the publisher can enrich this data by engaging its audience and effectively getting to know its users better. This can in turn make a greater proportion of the publisher's audience identifiable by the DMP when an advertiser is looking to target a specific group of people based on their interests.

For example, a travel agency wants to target people who are interested in going on holiday. In order to qualify for this 'travellers' segment, only users that the DMP can infer have a relevant interest, for instance through declared data or data based on their browsing behaviour, will be included. Unlike newspaper or magazine publishers, which put out large amounts of content that can easily be analysed to understand what each user is interested in, the output of radio publishers is rarely differentiated to such an extent, making it more difficult to apply interest-based attributes to each of its users through its normal audio programming.

To mitigate this limitation, the radio publisher could engage its audience with an online quiz or game on a holiday or travel theme, publish relevant articles on its website or social media feeds to track reactions, etc. The key is to trigger users to express their interest in the topic of travel in one way or another. Such forms of engagement will enrich the radio publisher's first party data with additional attributes relevant to the advertisers' requests for specific targeted advertising campaigns. If a user interacts with this content, it can be inferred that they are more likely than not interested in travel, in which case they can be labelled in such a way that they will be identified and included in the DMP's 'travellers' segment.

Strategically, the radio publisher can identify the most demanded audience segments and purposefully carry out similar activities across a range of different subjects. As a result, the publisher will – over time – enrich its first-party audience data significantly and increase both the size and volumes of the targetable audience segments and its yield. Users that interacted with a quiz about new models of car could then be eligible for an 'auto' segment; people that played an online game on the radio station's website about baby names would be labelled for a 'new parent' segment and so on.

This is a more strategic and proactive approach to audience segmentation than simply mapping a publisher's audience against someone else's segments, and it can be used to make a publisher's audio inventory more targetable, and therefore more valuable, without reliance on third-party data enrichment alone.

technology offer, and it may offer access to several ad networks on an impartial basis or to just one major network, for example those of Yahoo! or Google. In programmatic advertising, the DSP makes decisions on what impressions to buy on an automated basis according to the advertiser's pre-set requirements, and this automation extends to pricing in the case of RTB.

If the principle objective of the DSP is to allow advertisers to buy the impressions that best fit their requirements with the greatest cost efficiency, the SSP is designed to make a publisher's inventory accessible to buyers and to maximise the value that can be extracted from this inventory. An SSP connects a publisher's inventory to ad networks, ad exchanges and DSPs, and the publisher can set rules such as price floors and determine which advertisers can buy their inventory.

// Dynamic pricing in digital audio

Digital audio is starting to make its way into the programmatic space, largely spearheaded by the leading radio broadcasters and online audio publishers. As the capabilities of automated trading start to become established methods of transacting digital audio inventory, and more sophisticated data architectures open more advanced targeting opportunities, so have the possibilities of dynamic pricing followed – at least in theory.

However, the first moves into programmatic audio have largely seen the use of private market places and direct deals, with fixed pricing for inventory. The reluctance to embrace dynamic pricing models, as typified by RTB, may be explained by a perception gap between audio buyers and sellers: while audio publishers view their inventory as premium, based on its

high quality context, scarcity, reduced clutter and immunity to ad blocking, advertisers may not yet be prioritising programmatic audio in their paid media mix¹⁴. While digital audio can be measured effectively, at least in terms of delivery, attribution – and therefore actual impact on an advertiser's tangible KPIs – is considerably harder. For example, the click-through rate (CTR), which has long been a fundamental metric in digital advertising, is largely irrelevant in audio advertising.

Spotify announced a notable advance in mid-2016 that opens the door to dynamic pricing in digital audio. Spotify is working with Rubicon Project, The Trade Desk and AppNexus to make its mobile advertising inventory available for buyers to bid on, alongside display and video inventory, leveraging Spotify's first-party data¹⁵. Advertisers can also layer on their own data.

// Measurement

In a 2015 report, the IAB noted digital audio's inherent strengths from a measurement perspective¹⁶. Unlike broadcast radio, which relies on estimates based on representative samples to measure reach and demographics within the wider population, every digital audio stream and advertising impression can be measured and verified by third-party tracking services. Standardisation in both the delivery and the measurement of digital audio advertising has also been improved by the development of the IAB's Digital Audio Ad Serving Template (DAAST), through which ads can be tracked and data sent to the ad vendor as well as any other parties specified.

Triton Digital's Webcast Metrics provides market-level reporting on digital audio audiences in the US, using log files from participating publishers and its proprietary API, which allows online audio usage on any type of Internet-enabled device to be monitored. In



PERSONALISING THE MESSAGE: DATA-DRIVEN DYNAMIC CREATIVE AND PERSONALISATION BY A MILLION ADS

Data can be deployed to unlock the true potential of advertising not only by delivering the right message to the right person in the right place and at the right time, but also to tailor the message specifically to each user or audience segment.

The concept of dynamically changing the content of advertising messages in real-time has been a widely-used technique in digital display advertising for some years. Perhaps the most common use is the personalised retargeting that is used by e-commerce sites, travel and hotel booking sites and others to remind visitors about products they have searched for or looked at a later time or on another device. This form of advertising is typically used by marketers to reach consumers with a high intent to purchase specific products and increase the probability of conversion.

Dynamic creative in video advertising is a more recent phenomenon, one that works particularly well for publishers that are delivering content to registered users. The UK's Channel 4, for example, has delivered personalised campaigns

for Burberry, in which a perfume bottle appears with the viewers initials as a monogram¹⁷, and Coca-Cola, where the viewers of its 'Share a Coke' video spots saw a bottle with their own names on the labels¹⁸, and the same principle can now be applied to audio advertising.

A new start-up called A Million Ads has developed a platform that can harness data to dynamically personalise different elements within an audio spot, based on information about the user themselves (name, age, gender, language, device type), environmental data (day, time, location, weather, message sequence), publisher and advertiser data (deals, offers, dynamic prices, odds, behaviour, user segments) or by overlaying third party data (traffic, UV and pollen levels, events).

"In many ways, our technology is simply enabling advertisers to communicate the way humans do instinctively," Sam Crowther Head of Creative Development at A Million Ads explains to egta. "We reference relevant information in every conversation we've ever had, so it makes sense for brands to do the same."

At a relatively simple level, the creative can be tailored to the time and day of the week: "Good morning, how's your Tuesday going?" or "Good afternoon, how's your Thursday going?" Listeners' location data was used in the first dynamic creative campaign for The National Lottery in the UK. A Millions Ads enables the message to thank people for playing and referenced the number of good causes that had been supported in their city, region and/or nationally. Where the user's gender is known, this can be used to tailor the message for female and male listeners respectively:

A campaign run on Bauer Media's InStream service for the magazine subscription service Ready involved a female voiceover saying "Not sure what to get him for Christmas?"

with corresponding popular male magazines showcased, while a second almost identical script had a male voice saying “Not sure what to get her for Christmas?” with popular female magazines.

“This was the first campaign I created using data to dictate the creative just before I joined A Million Ads. It wasn’t dynamic but the success in response rates convinced me this was the future” notes Sam.

At a more sophisticated level, DMP data can be used to deliver different creative to particular audiences based on interest, such as to ‘Music lover’, ‘Fashionista’ or ‘Car driver’ segments. It can also ensure the ad’s music bed genre or tempo fits the listening habits of the listener to help build affinity towards a brand. Cross referencing if someone is already a customer of a service or not to determine if a sales or loyalty message is delivered, would also benefit advertisers.

A recent survey of UK radio listeners found that personalisation makes audio ads significantly more effective and engaging. A campaign for a high-street retail brand was 52% up in recall and 49% up in engagement for personalised over non-personalised versions of the spot, suggesting that – given the right data – audio publishers now have a powerful new tool to take to their clients.

Germany, Goldmedia's Webradiomonitor uses data from surveys of online audio providers to offer insights into digital audio usage, and agma, the country's radio JIC, also reports reach figures for online radio channels based on log files. Médiamétrie in France includes digital audio in its Internet Audience Measurement.

Efforts are being made in a number of countries, notably the US and Germany, to align the measurement of broadcast radio and online audio within a common reporting. See epta's report on Online audio hybrid audience measurement for more information on these techniques¹⁹.

// Attribution

Attribution, as the science of evaluating the impact of each marketing touchpoint (its cost against impact on purchase decision) made a big step forward with the development of Internet advertising and the return-path data associated with this marketing environment. However, early attribution models were usually focused on one or two connected touchpoints within the online ecosystem (banner ad/paid search results/advertiser's website), and therefore last-click or first-click models, which assign all credit to one of those touchpoints and are very inaccurate and limited²⁰, have for a long time been the most common ways to measure the effectiveness of online campaigns.

The main challenge for radio publishers when it comes to attribution is to provide advertisers with relevant models and metrics that allow to track the impact of audio advertising on overall marketing KPIs and sales and therefore to help marketers avoid assigning all credit incorrectly to banner advertising or paid search. Attribution on a campaign-by-campaign basis can be quite easily achieved by installing a tracking pixel on an advertiser's website. However, this naturally limits the measurable impact of the campaign to

digital interactions, which may be less relevant for a brick-and-mortar retailer for example, and the advertiser may not see a significant benefit of adding such a pixel to their site just to measure their digital audio campaign. This method also becomes more difficult within mobile devices, and tracking the user's journey from hearing an audio spot to taking some kind of desirable action is also complex when the listening takes place on a desktop device and the action occurs on a mobile device, or vice-versa.

First- or last-click attribution models based on clickthrough rate (CTR) have been used to measure conversion rates in digital audio campaigns synchronised with a banner, but the nature of the medium is clearly less than ideal for this metric. As with radio advertising, digital audio ads may lead to brand engagement sometime after the impression is delivered, and conversions may take place on a different device. Therefore, post-listen attribution based on cookie-syncing or device ID-syncing is preferable to CTR or last-click attribution.

DAX – Global Radio's trading platform for digital audio in the UK – has recently launched its Listener ID measurement tool²¹. This allows advertisers to measure the effectiveness of their campaigns on digital audio platforms, to profile their audiences based on a range of consumer attributes and track the user interaction and journey on their site and understand which creative routes are driving traffic for their campaigns.

New attribution models for audio advertising campaigns, such as promo codes within native ads in podcasts or in-store foot traffic metrics (for example, the Foursquare panel, see page 44) are also being developed.

Mobile devices offer an alternative mechanism for listener interaction with advertising: voice activated response. XAPPmedia, for example,



CASE STUDY: RMS DELIVERS GERMANY'S FIRST PROGRAMMATIC AUDIO CAMPAIGN FOR BURGER KING

RMS, the sales house that represents the majority of Germany's private radio broadcasters, partnered with Amnet (Dentsu Aegis Network's programmatic buying unit) and tech provider AppNexus, to allow Burger King to buy pre-stream audio spots across the RMS web radio network and display advertising, controlled and optimised in real time.

RMS made pre-stream audio inventory available on Amnet's programmatic trading platform, alongside the agency's existing digital channels. Through the insertion of cookies, it was possible for Burger King's display and video advertising to be retargeted to users who had heard the restaurant chain's pre-stream audio spots.

This example of using real-time data to identify and target specific audiences demonstrates how programmatic platforms can be used to break down traditional media silos and deliver advanced, cross-format advertising solutions. While programmatic trading has been available for search and display for a number of years, with video only recently starting to break into the space, audio buyers have largely been unable

to leverage the advantages of automation, targeting and increased efficiency that can be achieved through programmatic platforms.

This model allows advertisers to use their existing programmatic trading frameworks to easily add audio to their mix, enabling them to take advantage of audio advertising's particular strengths and amplify the impact of their display and video campaigns.

For radio sellers, it aligns the audio advertising product with the requirements of today's media buyers for cross-device and cross-platform campaigns and advanced audience targeting capabilities. It also increases the efficiency of trading for the seller, as the billing process in this case was automated and handled through the SSP, thus eliminating the need for traditional invoicing.

The concept and technology developed and deployed by RMS and Amnet worked well, triggering interest from other clients on the market. This paves the way for further trading of online audio through programmatic platforms at greater scale in the future.

has developed an interactive advertising technology that allows listeners to engage with audio ads; as an attribution tool, this can be considered as an effective substitute for the CTR in display advertising.

Ultimately, the most effective route to attribution may be to actually demonstrate that the medium works, that digital audio advertising is effective. This is exactly the approach that the industry has been taking for many years to demonstrate the effectiveness of broadcast radio advertising and to justify its use as a valuable asset for marketers.

// Business Intelligence tools (BI)

Business Intelligence tools allow a company to monitor and analyse data, which can then be used to deliver business insights to relevant people throughout the organisation. They provide a platform for transforming often diverse sets of data about users and customers into actionable information that can be used to increase revenues, profitability and the company's operations.

For example, a publisher could use a BI tool to understand what content was generating the most attention among its users, share that data with the content teams and thereby strengthen its offer.



CASE STUDY: BAUER MEDIA GROUP

Bauer Media specialises in building cultural connections with valuable audience groups, using its entertainment network of iconic, multi platform brands across magazines, radio, digital and television. The company reaches 25 million consumers in the UK²², where its radio brands include KISS, Absolute Radio, Magic, Kerrang! Radio, Heat Radio, Planet Rock and an extensive portfolio of local stations. Globally, Bauer Media Group reaches more than 200 million consumers across 20 countries, and is the leading commercial radio broadcaster in Europe.

Before it embarked on a transformation of the way it collects, processes and uses information in its portfolio, Bauer had a system of isolated datasets that were often unable to connect with each other. Some of these were outsourced from partner vendors and others built in-house. The key challenge was to integrate these fragmented datasets to be able to identify users across platforms and activate the data through a DMP for product management, marketing and advertising purposes. Its digital division, called Bauer Xcel Media, runs its digital data platform.

The business case

A proper data management system is a significant investment, and essential for a media company that wants to excel in the digital

advertising market and understand, retain and grow its audience. Bauer's objectives were to achieve data integration across brands and audiences, equip the sales teams with cross-platform data insights, improve the product portfolio and build class-leading ad targeting and programmatic advertising.

Bauer evaluated the projected ROI associated with each element of the new system; for example, integrating a DMP opens access to new clients and unlocks new revenues that were not previously available to the company.

Data project design, project team and skillsets

The first step was to develop a central vision and strategy for the new data system, followed by the development of an overarching data taxonomy that could connect users across Bauer's 120 brands. By understanding the company's touch-points and existing data connections, it was possible to design a data system that would enable Bauer to build a unified understanding of its consumers across its brands, select and implement the technical solutions required to capture, store and activate data, and to connect its audience into the wider digital advertising environment.

The project was managed and carried out by a core group of about ten people, who supervised teams throughout Bauer's organisation. While designing the architecture of the new system was the responsibility of an external specialist agency, it was important to build in-house data expertise to restrict unnecessary development costs, identify optimal solutions and negotiate prices with vendors.

The project team was comprised of specialists in the following areas: Product, Commercial, Technology, Data and Architecture (data systems design). When assembling a project team of this kind, it is necessary to bring together both the

FIGURE 08: BAUER MEDIA GROUP'S TECHNOLOGY STACK

Platform	Description	Provider
Competition engine/marketing engagement platform	<p>Provides a unified platform for creating and managing engagement campaigns, such as competitions and quizzes.</p> <p>These engagement tools allow to analyse how users are engaging with content and to offer corresponding options for interaction.</p> <p>Engagement campaigns can be used to both build loyalty and to collect rich first-party data from the audience. In addition, they offer an opportunity to carry out brand integrations for the broadcaster's advertiser clients.</p>	<p>Wayin (formerly EngageSciences)</p> <p><u>Rationale:</u> Overhauling its competition engine, including streamlining an existing seven platforms into one, was an early priority for Bauer, as this was providing the most email addresses for the publisher and contributing significant revenues.</p> <p>This also allows advertising campaigns to be more interactive, targeted and effective, thereby increasing the yield.</p>
Registration tool	<p>This tool streamlines the registration process and offers two important functions:</p> <ul style="list-style-type: none"> ▪ Social login ▪ Single sign-on <p>The social login allows permission-based access to viewers' identity data from Facebook, Google+ or Twitter. The single sign-on offers one access to all Bauer sites, with the user remaining logged in when visiting different media assets.</p>	<p>In house</p> <p><u>Rationale:</u> Building a registration tool is time consuming, but given international scale and sufficient internal expertise it may be more cost efficient in the longer term, as third-party services can be expensive to operate.</p>
Events tracking and analytics	<p>Collects data on <i>events</i> on Bauer's digital platforms to analyse users' online behaviour and to evaluate the level of engagement (assigns points to different actions – page visits, email registrations, competitions, etc.)</p> <p>This tool collects data using trackers or webhooks, and it can be connected to a company's data warehouse for storage and BI tools for analytics, and other elements within the tech stack.</p>	<p>Google Analytics/Big Query</p> <p><u>Rationale:</u> The company uses Google Analytics intensively across the portfolio. Big Query integrates easily with GA, allowing scaled data analysis and audience segmentation for advertising and internal marketing.</p>

<p>Data warehouse</p>	<p>To track all activities across Bauer’s media assets and create a single customer view for each user.</p> <p>The data warehouse is connected to the various platforms for collecting, analysing and activating Bauer’s data.</p>	<p>Amazon Redshift</p> <p><u>Rationale:</u></p> <p>Cloud solutions are available and more cost-effective than investing in own technology. Specialist agency required to design data warehouse, in addition to in-house specialist.</p>
<p>Email service</p>	<p>Enables the delivery of newsletters and solus campaigns, which in turn generates user engagement data.</p>	<p>Oracle Responsys</p> <p><u>Rationale:</u></p> <p>Responsys integrates well with the BlueKai DMP, also owned by Oracle.</p>
<p>DMP</p>	<p>To match third-party data with Bauer’s own first-party data, which would allow the creation of custom audience segments and more effective targeting and retargeting.</p> <p>This data would also offer better insights into the audience; for example, a person who can be identified as having young children and having just bought a house is more likely to be in-market for a new kitchen or baby clothes.</p>	<p>BlueKai (Oracle)</p> <p><u>Rationale:</u></p> <p>The advantage to Bauer comes from extending its own extensive data targeting capability with other external sources of data, which means that a third-party solution is the best option.</p>
<p>Business Intelligence tool</p>	<p>Offers reporting and analysis based on the data that has been collected from all of the <i>data in</i> sources.</p>	<p>Looker</p> <p><u>Rationale:</u></p> <p>Looker integrates directly with the data warehouse, without any intermediate layer, reducing complexity and increasing efficiency</p>

business-minded people who know what has to be done and the data/technology experts who know how to achieve this.

The new data architecture

Bauer's new data architecture is built on the services of a number of technology providers, and it can be broadly classified as consisting of *Data In* and *Data Out* elements, with data warehousing taking a central position between the two sides.

Data In includes quizzes and competition, user-generated content, social media interaction data, social login/SSO registration data and interaction data from Bauer's media portfolio. The data from Bauer's radio assets includes platform (web, mobile app, mobile web), music preferences, IP address, number and duration of sessions, listening hours and average time spent. The collection and processing of all this first-party data from different platforms results in the accumulation of multiple IDs – registration ID, competition ID, DMP ID, mobile ID, Google Analytics (cookie) ID, etc. – which need to be matched to create a single, data rich, Bauer ID. This Bauer ID can then be used for advertising and product management.

Data Out includes marketing activations, targeted advertising (using audience segmentation based on first-party data), campaign monitoring and evaluation, reporting and analysis, and insights into customers, audiences and behaviour.

Conclusion

Bauer has taken a major step forward, transforming how the company collects, processes and activates data. Individual users can now be identified and these identities resolved across multiple touchpoints and platforms; the media assets are heavily integrated into the digital advertising market, with high levels of user targeting. This gives

Bauer in depth and rich insights, which inform both product development and commercial solutions for clients which create cultural impact and drive actions.



INTERVIEW WITH: IAN CURD, MARKET DEVELOPMENT FRANCE & DACH, LOTAME

egta: *Why would I as a publisher need a DMP, and what can it offer me?*

Ian Curd (IC): Let's start with how the DMP came to its current place. It's been much talked about in martech and adtech recently, but it's actually been around a long time. The DMP started out as a way for publishers to gain more intelligence about their audiences and to be able to package that as inventory that they could sell to trading desks and ad agencies with more intelligence behind it. The theory was, if you have better intelligence, you can sell for higher CPMs.

We – and any DMP that has existed as long as we have – all have their backgrounds in publisher use cases. Where that's grown over the last two years is towards the demand side. This trend has been happening probably since about 2014 in the US, and it is really starting to take shape here in Europe at the moment. But the real modus operandi of the DMP remains the same. It's the ability to pull data from multiple disparate sources, to intelligently organise that data in the middle, and to be able to activate and

analyse that data after you've pushed it out to wherever you need it to go.

That's got a whole number of layers to it. It's got an advertising layer to it, so targeting new customers or speaking to existing customers, it's content management, in the corporate case it's feeding into business intelligence tools; it's all of those things.

But the point is where you start from, typically from a digital perspective at least: you have data sitting in a lot of different places. You have an ad server, you're collecting information about your users through your own tags or third-party analytics tools on your site, but there's nothing sitting there in the middle bringing all of that together. That's what a DMP does. You often hear the analogy that the DMP is like the brain of the digital stack, or the central nervous system.

egta: *We're looking at this from two angles – the purely online space, but also bringing programmatic and data enrichment into linear advertising. If you need a DMP for the digital space or the linear space, is it a different animal?*

IC: It's not. Start from the fundamental building block of this brain. The way to think about it, whatever side of the corporate marketing or media angle that it sits on, the DMP is the place where the client can regain control over its own audience. You use third-party, but you base it off your own data. You see that third-party in relation to your own audience the whole time. Therefore, you are constantly building out control over your own data.

It doesn't start with third-party, it starts with first, even if first is small. We have a machine learning tool that can build lookalike models using the power of Lotame's third-party data network, but off of a thousand uniques. We collect data through tags, at a very minute and unstructured data level, and we can apply machine learning algorithms to build models off

it.

egta: *You use machine learning to develop audiences from smaller sets of data, are there other examples of how machine learning can be used in media sales?*

IC: We work with big publisher clients, and publisher-to-publisher some of them are doing some pretty interesting things. Our machine learning tool can be applied two ways: either to find an audience that looks or acts like the audience you can see, or to optimise campaigns.

egta: *How does the DMP help target consumers that you already know or a lookalike audience?*

IC: The first thing that we do with a new client is to put Javascript tags on everything in their digital environment, and we start pulling in all sorts of unstructured data. But within the platform that we build, those unstructured data points become building blocks. They become audience hierarchies, which are things against which you can target through DSPs. We've got about 80 DSPs server-to-server piped into Lotame.

So, this is the fundamental building block of first party data. But any kind of mature DMP will be able to connect to a list of third-party data sources on top of that model. But in between, you should be able to use the DMP to actually trade your data either with another partner or directly, almost like you're a data provider as well.

egta: *In relation to that, would you say that second-party data could become considerably bigger by automating this process?*

IC: Absolutely. We say to our clients that we provide the technology and the plumbing for them to do that. The big hold back on this space of second-party data across the world has been the fear of trading data, a bank with a publisher for example, and the commercials around it.

It's put it in a rather sedentary state, but now it's happening. You see data partnerships happening.

egta: *If I'm a broadcaster looking at the possibilities of data, what kind of questions should I be asking myself?*

IC: One of the things we often hear is clients talking about the new data space and thinking they've got to get their new programmatic pipe set up, but we actually think it's the other way round. You should understand your data first. Because when you start pulling all your data together, you begin to realise things you didn't really know: your customer has certain tendencies to do this or that, you never really realised they had an affinity with a particular football club, for example. These things only come up when you start to master your own first-party environment. The next thing is what do you actually want to do with it? Do you want to extend the audience and target more people that are like that?

egta: *At the tech level, how do I build the link to get my data into the DMP?*

IC: Data from any source will typically come in or out of the platform through one of three ways. Either we build a server-to-server connection with that technology, we API integrate that technology or we can do batch file uploads.

egta: *Are there any pitfalls to avoid?*

IC: The difference between success and failure comes down to a client having a really strong idea of what it is that they want to do and having the right people running that. If you can imagine inside an organisation, you've got people coming from a sales background, a marketing background, a technology background, and if all of them are fighting in their own corner with no one overseeing a coherent strategy, it can get really waylaid, messy and non-directional.

With publishers, for example, the temptation is sometimes to see the DMP as part of ad ops. It's not like a piece of programmatic tech – in the programmatic age there's sometimes been a tendency to commoditise the DMP and heap it in there as well. Where's the green button that makes me money? It doesn't work like that!

You need the right people and the right vendor that can understand the balancing point between achieving short term ROI goals for the platform and the longer-term strategy. If you just focus on short-term deals and short-term briefs in agencies, you're chasing after your tail with no defined strategy and you'll get blown around by the wind. To have a DMP in an organisation is about preparing for the future, because not having one could result in you being blown away by competitors that do.

egta: *What's the next step with regards to video and audio platforms?*

IC: The question often gets asked in meetings – what's the next big thing? Or can you guide us through your product roadmap?

Some clients are asking this before they have mastered a foundation strategy for their data. So in a sense we are often calling clients back to basics when it comes to their data sets. In other words, let's gain a thorough understanding of our first party data sets before we start using it in a complex way or chasing the next big thing that is 'en vogue'.

That said there are a couple of big waves that are gathering pace and will be top conversation in 2017. Firstly, in Europe GDPR and privacy is informing almost everything tech companies and media players are talking about. This despite the fact the implications haven't fully been realised or thought through by many businesses.

From a product perspective we are seeing big conversations around convergence between

traditional broadcasting and digital. These have huge implications for both video and audio. 'TV DMP' is an emerging and big phrase in 2017.

Digital Audio is also reaching an exciting tipping point, but still lacks a genuine scale behind its ad inventory ability. DMPs and 3rd party DMP marketplaces are extremely well equipped to help vendors like AdsWizz and publishers like Spotify, Deezer and SoundCloud as well as traditional broadcasters take full advantage of this coming wave.



CASE STUDY: RADIONOMY AND TARGETSPOT

The Radionomy Group of companies, since December 2015 part of Vivendi, is comprised of Radionomy, SHOUTcast, TargetSpot, Hotmixradio, and Winamp, with operations across Europe and the US. Radionomy and TargetSpot are the most significant companies in the group in terms of digital audio advertising:

- **Radionomy:** an online radio platform that allows people to create their own radio stations or listen to more than 12,000 stations across a wide range of genres.
- **TargetSpot:** a digital audio advertising network that includes over 100 of the leading online music, Internet radio and audio content providers in the US. TargetSpot has also been building a significant presence in Europe since 2015.
- **SHOUTcast:** SHOUTcast is an innovative streaming technology used by more than 55,000 radio stations around the world to broadcast their programming online. The platform also helps over 10,000,000 listeners each day to discover thousands of radio stations each day using the SHOUTcast directory

TargetSpot/Radionomy's data environment

In many ways, Radionomy has more in common with traditional radio publishers in terms of the way it monetises its online stream than it does with on-demand or personalised audio platforms such as Spotify, Deezer or Pandora. TargetSpot/Radionomy offers a 'long tail' for audio advertising, since the large portfolio of online radio stations it monetises are, for the most part, relatively small – typically with tens, hundreds or a few thousand listeners to each, as opposed to the hundreds of thousands that might listen to the simulcast or brand extension of a large radio broadcaster – the initial starting point with regards to the data it can capture about its audience is not dissimilar to that available to a broadcast radio publisher. Radionomy listeners may choose to register, including through social login, but the large majority (about 90%) do not and are therefore effectively anonymous.

However, where Radionomy differs from many radio broadcasters lies in its approach to collecting that data, leveraging external data sources to enrich their own first-party data and using these to improve the targeting of spot advertising across its network of stations. An understanding of the audience is built up through a combination of automated, machine-generated processes, (such as the collection of cookies, device IDs, user IDs and IP addresses), declared data through registrations, human-curated data provided by the station creators (the genres and characteristics of the stations they build, from which age and gender can, for example, be inferred with some degree of accuracy), and information from third-party data providers (BlueKai, Quantcast, LiveRamp and others).

Radionomy has developed its own proprietary data technology, including an internal DMP, and

a key focus in the coming years will be increasing the sophistication of this infrastructure by signing deals with other data providers and building better connections with Vivendi's other divisions, such as DailyMotion and Universal Music Group in order to aggregate the data.

19% of Radionomy's listening comes from devices on which it is not possible to drop cookies or collect IDs, for example Smart TVs, Apple TV and Sonos Hi-Fi systems, rather than through its own platform. This is another differentiator from on-demand services, which typically have 100% registration and access available only through their own players, even when playing through Wi-Fi speakers, for example. For this reason, TargetSpot/Radionomy also make use of data through DMPs, for example from Nielsen and Bisnode, to be able to target on IP address, GPS localisation and ZIP codes, as this information is always collected even if the stream is received through an external device or platform.

Enriching audience segmentation and targeting through third-party data partnerships through TargetSpot and the Radionomy platform

Radionomy/TargetSpot has partnerships with a number of leading data providers – BlueKai, Quantcast, LiveRamp, Nielsen, Bisnode and Neustar – which together can provide data that has been collected either from cookie drops or through declarative means. Along with publisher first-party data from registrations and social logins, user IDs and device IDs, IP addresses, GPS coordinates and the information known about the content and profile of any given radio stream, this allows audience segmentation based on four different approaches: demographic, behavioural, geographic and contextual.

An example of how multi-layered targeting can

be achieved, in this case with TargetSpot in the US as the seller, can be demonstrated as follows: the retailer Macy's wants to target its existing customers with *message A* (for example, based on loyalty to the brand) and a wider audience of prospective customers with a different *message B* (for example, an awareness campaign targeted to a particular socioeconomic group). Macy's can use its own advertiser first-party data, such as records held in its CRM system, to identify all its known existing customers listening to radio streams in the TargetSpot network through anonymised cookie matches, and these listeners can be served with advertising *message A*.

If Macy's also wants to reach Hispanic people with a household income in excess of \$30k *per annum* for its awareness campaign, this can be achieved using a service called Nielsen ZIP Code Look-up. This is a lifestyle segmentation system that marketers can use to determine which ZIP codes in the US over-index for households with particular characteristics, such as education level, income level, race and ethnicity, family composition and so on. Based on this data, TargetSpot can then deliver the retailer's advertising *message B* to listeners in those ZIP codes where the desired audience is more likely to be found, thereby increasing both the efficiency and the effectiveness of the campaign. Bisnode offers similar data services to marketers in Europe.

The difficulty of attribution in audio campaigns

While the holy grail of digital marketing is to be able to attribute any and all advertising contacts to measurable actions within the marketing funnel, including sales, this is a particular challenge for digital audio publishers such as Radionomy and sales houses like TargetSpot. As a large proportion of listening takes place on devices (for example Wi-Fi speakers or Connected TVs) that do not allow effective user tracking, it is

often impossible to link a user's online activities with the audio spots they may have heard.

Companion banners on desktop and mobile, which can be clicked, offer some indication of response, but they are poorly suited for the way audio is often consumed as an accompaniment to some other activity that puts the screen beyond the user's attention, such as jogging or driving.

For brick-and-mortar retail clients, however, foot traffic is a more important indicator of a campaign's impact than website visits. Radionomy/TargetSpot is developing a solution to attribute foot traffic to audio campaigns in the US using data from Foursquare's panel of more than 1 million users and a data company called RTBiQ. Foursquare is a location-based check-in app, and its volunteer panellists agree to permanently enable location sharing, even when not using the app²³, meaning that Foursquare can track every store those users visit. While this solution is still in its early stages as an online + offline attribution technique for audio campaigns, it has already been used by retailers such as Macy's, which has been a TargetSpot client for many years.

A new ad server for digital audio campaigns

TargetSpot has developed a new ad serving tool for its publisher clients, and the company's Head of Partnerships, Eric van der Haegen, talked to *egta* about the new technology.

egta: *What new capabilities are you bringing to the market, and what limitations do you see from the audio ad servers currently available?*

Eric van der Haegen (EvdH): Because there are only three of them on the market, where you have low competition I think innovation has stalled. The more competition there is, the more innovation. Digital audio ad

servers have not changed that much for the past three or four years; they are still based on the same infrastructure and technology, but the request now from all advertisers, agencies and publishers is actually real-time data.

Today, in the digital audio ad server, if you want data you select your variables and you get a CSV file, which you have to manually convert into graphs and to use in your presentations. But you have almost no real-time visual data. Don't put numbers in an excel sheet: you should put them in graphs, in insightful visual representation of your data. And I think this is the big game changer – it's that the data – whether it's DMP data or campaign data – is all transformed into visual reporting, which we don't see in other ad servers.

That's also the feedback that we get from the demos we have given to our publishers, that we are really changing the game in terms of business insight, making it easier to make business decisions on campaigns. Should you push a different campaign because your CPMs or margins are too low? Where are your impressions being delivered? What are your top campaigns, your top publishers? How is your campaign running? Who is listening to the audio spot and through which device or portal? You see that all in one moment, and you don't need to download a CSV or Excel file.

The second feature is targeting. There are very few technologies now where you can upload your own DMP data. It's very cumbersome to make it work, so we are creating the necessary APIs to actually include any data. If you want to use our BlueKai and Quantcast or any other data provided by TargetSpot, you just use it. But you maybe have, for example, your own DMP in place and an advertiser or an agency wants to connect the ad server with that. And also reporting, to show how the campaign performed against the data that you have pulled in.

egta: *In terms of real time reporting, is part of your objective to open the door to dynamic pricing or real-time bidding?*

EvdH: Absolutely. If you have the real-time data, the technology that we provide is also a programmatic SSP. For now, it is more private marketplaces that publishers are setting up, so they are negotiating a fixed CPM for delivery of impressions per advertiser or agency. However, while the door is open to RTB, digital audio is unfortunately lagging a little bit behind on that; we are working on OpenRTB 2.4, which is the latest protocol, but lots of digital players are working in 2.3 or even earlier versions, so we need the technology space to really step up and start going into that area.

At the moment, we've developed a yield management tool that allows you to choose what is the priority for you as a publisher or sales house. Many publishers, of course, want to put the priority on pricing. So, with all the targeting possibilities we can offer now, there are new tools. You can sell a campaign at a higher price if you have targeting, and then you choose that campaigns that are sold at a higher price have priority over other campaigns. This is not RTB – the prices do not change in function of the offer and demand – but the optimisation of your campaign will be done based on the yield management tool and based on the price.

egta: *Are you positioning TargetSpot as a competitor to the incumbent providers?*

EvdH: We are not putting our technology in the market under licence or to sell it – we only provide it to our publishers and providers. Are we a competitor? We hope that with the different innovations that we are putting in, others will improve their technologies and also innovate.

egta: *You've mentioned that there is still an issue with the quality of data you get from the publishers you work with – what's the main barrier*

to getting better data around digital audio?

EvdH: I would say the technology used for listening to digital audio is very different to that for the regular FM business, where the measurement data is mainly declarative. Radio companies therefore generally don't have data managers or scientists in house, and they are only discovering right now that they could sell their inventory for much more, and a higher price, if they make it 'smart'. We don't call it 'dumb' inventory, because there is always a little bit of information, but most of the publishers don't even know where their streams are listened to. If you ask a publisher where most of their digital listening takes place, they will probably say 80% of it is through their player, which is not the case. If they put the necessary technology in place, they will see that maybe their player is generating 30% of their audience and the rest is through TuneIn, iTunes, Sonos, Smart TVs, etc. I think it's a fragmentation of the channels on which you can listen to digital audio that makes it difficult to collect all that data.

Another issue is the political barrier. Some of our large publishers do have Big Data information, but they do not know whether they want to share that information, and whether they can use that information in function of the countries they are streaming to. If you have radio on the Internet, you are listened to everywhere, and the rules are not the same in each country. So, sometimes they do have the information but they do not know whether they want to, or can use, that first-party data.

CHAPTER 06: ENSURING COMPLIANCE WITH THE STRICT NEW DATA PROTECTION RULES TO COME INTO FORCE IN MAY 2018

A new General Data Protection Regulation (GDPR) (Regulation (EU) 2016/679) comes into force from 25 May, 2018, replacing a set of rules that have been in place since 1995²⁴. This legislation will apply to media companies and other organisations throughout the EU, and in broad terms it will give consumers more control over how their data is used and retained.

The potential liability for companies will also be extended. While under the existing rules, only the data controller is liable for data breaches, the liability for any damages will extend to both the data controller and the data processor. As a simple example of this differentiation, if a media owner outsources the management of its customer databases to a third-party company, the media owner itself is the controller and the outsourcing firm the processor. There will therefore be a greater obligation for companies such as media owners to consider the privacy implications of their products and services, as well as to carry out privacy impact assessments. It will be mandatory for many organisations, including public companies, to have a Data Protection Officer (DPO).

The penalties for companies that breach the new rules include fines up to 4% of global sales.

People will have the right to have their own personal data (PD) corrected if it is inaccurate, and the regulation expands their right to remove irrelevant or outdated information, the so-called “right to be forgotten.” Consumers will also

have a right to stop marketing companies from building a data profile of them.

Some of the changes to EU data protection laws that will be relevant for publishers and media include:

- A right to be forgotten;
- “Clear and affirmative consent” to the processing of private data by the person concerned;
- A right to transfer your data to another service provider;
- The right to know when your data has been hacked;
- Ensuring that privacy policies are explained in clear and understandable language;
- Stronger enforcement and fines up to 4% of firms’ total worldwide annual turnover, as a deterrent to breaking the rules.

Updating the ePrivacy legislation

In January 2017, the European Commission also proposed a revision to the existing ePrivacy legislation, which would convert the current Directive into a Regulation. In part, the objective is to correlate better with the GDPR when it comes into force.

Among other things, the existing ePrivacy Directive governs the rules for obtaining users’ consent for the collection of data on their online activities, for example by the use of pop-up banners that inform visitors about the way a publisher collects data and offer an opt-out. Informally, the rules are known as the cookie directive for that reason. The proposed new rules will change the way publishers have to obtain consent and give consumers more control over the way their data is collected and used, something the Commission refers to as “Privacy by Design”²⁵.



INTERVIEW WITH: DIDIER ANGELO, LEGAL ADVISOR, TF1 PUBLICITÉ

egta: *When GDPR comes into force, what do you expect to be the main implications for media owners in terms of the ways they collect, store and use data about their viewers, listeners and visitors?*

Didier Angelo (DA): Media owners will need to give users back the control of their Personal Data (PD). This means giving users an easy access to policies and other documents relating to PD protection, and making them understandable. Media owners will need to track their actions relating to users' request to exercise their rights (right to access, right to know the purpose of the data processing, right to rectification, right to object, right to be forgotten, right to data portability).

They will need to make impact assessments for activities which are likely to jeopardise users' rights and individual freedoms and implement technical and organisational measures to secure users' PD.

egta: *How would you advise media owners to address their internal operations and strategies to be prepared for the GDPR?*

DA: They will need to increase the awareness

of business teams on the regulatory changes and the increase of financial penalties, mobilise all departments of the company (Legal, Marketing, Information System, Product, Audit, ...) that deal with PD, each one in its own area of expertise, in order to bring their activities into line with the GDPR.

They will also need to designate a competent person to hold the role of Data Protection Officer (DPO).

egta: *What type of questions should media owners be addressing to advertising technology and data providers as they further develop their digital presence?*

DA:

- When were you audited for the last time, in connection with PD protection (particularly data breaches)?
- How are you going to oversee the next PD transfers?
- Are you certified according to a mechanism approved under art. 42-43 of the GDPR?
- Have you signed a code of conduct approved under art. 40-41?

CHAPTER 07:

OVERVIEW OF DATA COMPANIES AND THEIR SERVICES

DMP: Performs a central role in digital marketing, importing data from users and other data sources, grouping data into segments that share common attributes, sending instructions to place ads, among other activations, and measuring and improving these instructions.

Some DMPs are standalone offers, while others form part of a wider suite of technology solutions alongside other data services, DSP capabilities, etc. Providers include:

- Oracle BlueKai
- Lotame
- Krux (Salesforce)
- Adobe Audience Manager
- Neustar Identity Data Management Platform
- Core Audience (Hearst)
- Ignitionone
- Rocket Fuel DMP

Data provider/broker: Offers access to third-party data sets, usually through a licencing arrangement, which can include a wide range of information about consumers. These data sets are typically used for targeted advertising campaigns, including lookalike targeting, retargeting, etc.

- Acxiom
- Datalogix
- Epsilon
- Experian

Customer identity management:

Used to turn anonymous visitors into known customers. The following companies offer registration tools to identify and understand visitors:

- Gigya
- Janrain
- ForgeRock

Data warehouse: a repository for all the data that an enterprise's various business systems collect. Companies providing data warehousing solutions include:

- Amazon RedShift
- Vertica (Hewlett-Packard)
- Teradata

Audio ad serving: Enables the delivery of data-infused audio advertising, including ad insertion, in compliance with the IAB's DAAST standards. AdsWizz and Triton Digital – two of the leading players in audio ad serving – also offer a range of technology solutions designed to facilitate the trading, delivery and measurement of audio advertising from the buy and sells sides.

- AdsWizz (AdsWizz Audio AdServer)
- Triton Digital (Triton Advertising Platform – Tap)

Engagement marketing platform:

Offers a range of capabilities to collect and activate data through user/customer engagement, either through a publisher or advertiser's own platforms or via social media. The following companies offer such services:

- Wayin (merged with EngageSciences)
- Livefyre (Adobe)
- Offerpop
- Spreadfast (merged with Mass Relevance)

REFERENCES

1. Interactive Advertising Bureau (July 2016). *Data Maturity Model: Digital Advertising*
2. Pike, L. (14 April, 2016). "What is First Party Publisher Data?" *SpotX*
3. Interactive Advertising Bureau (Updated January 2016). *Data Segments & Techniques Lexicon*
4. Creighton, M. (5 February, 2016). "Intent Data Is Powerful Tool For Business Decisionmakers", *Madison Logic*
5. Halo (21 July, 2016). "Descriptive, Predictive, and Prescriptive Analytics Explained." *Halo Business Intelligence*
6. Facebook for Developers: *Facebook Platform Policy*
7. Moore, S. (8 June, 2016). "How to Choose a Data Broker", *Gartner, Inc.*
8. Levy, E. (21 September, 2016). "Demystifying Data Warehouses, Data Lakes And Data Marts", *Sisense, Inc.*
9. Kihn, M. (30 July, 2015). "How Does a DMP Really Work?", *Gartner for Marketers*
10. Advertising Age (24 June, 2014). "What Is Data On-Boarding?", *AdAge*
11. Schuster, J. (16 February, 2016). "How LiveRamp Data Onboarding Integrations Work", *LiveRamp*
12. Chang, H. (22 April, 2016). "Deterministic vs Probabilistic Data", *Adobe Systems, Inc.*
13. Lotame (27 February, 2014). "Lotame Optimizer Leverages Advanced Machine Learning", *Lotame*
14. Weissbrot, A. (11 April, 2016). "Programmatic Audio Emerges – And Looks For Its Place In The Media Plan", *AdExchanger*
15. Bruell, A. (20 July, 2016). "Spotify Boosts Audio Programmatic With New Ad-Tech Deals", *AdAge*
16. Interactive Advertising Bureau (November 2016). *Digital Audio Buyer's Guide – 2.0*
17. Ghosh, S. (2 September, 2014). "Burberry puts personalisation at the heart of My Burberry campaign", *Campaign*
18. Thinkbox (4 January, 2016). "The story of 'Share a Coke'", *Campaign*
19. egta (January, 2016). *Online audio hybrid audience measurement*
20. Jack, R. (26 November, 2013). "Last-click is dead, long live the click; why last-click attribution modelling is so 2011", *Qubit*
21. Kimberley, S. and Gwynn, S. (20 October, 2016). "Global to track user behaviour on mobile through Dax", *Campaign*
22. Bauer Media Group: *Our Company*
23. Heine, C. (22 February, 2016). "Foursquare's Potentially Game-Changing New Tool Can Measure Foot Traffic Generated by Digital Ads", *Adweek*
24. Sheftalovich, Z. and Meyer, D. (15 December, 2015). "EU strikes deal on data protection rules", *Politico Europe*
25. European Commission - Press release (10 January, 2017). "Commission proposes high level of privacy rules for all electronic communications and updates data protection rules for EU institutions", *European Commission*

FURTHER READING

The following resources offer valuable sources of information on the topics covered in this report.

On the role of DMPs in digital marketing - Articles by Martin Kihn, Research Vice President at Gartner:

- *What Does a Data Management Platform Do, Anyway?* (7 January, 2015)
- *How Does a DMP Really Work?* (30 July, 2015)
- *Top 10 Amazing Secrets of DMPs Parts 1 & 2* (12 & 14 January, 2016)

On the value of first and second-party data for digital publishers

- Articles by the video advertising platform SpotX:

- *What is First Party Publisher Data?* (14 April, 2016)
- *What is Second-Party Data?* (28 April, 2016)

On the data maturity levels of organisations:

- *IAB Data Maturity Model: Digital Advertising.* (July 2016)

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