



World Federation
of Advertisers

In association with  **INFECTIOUS
MEDIA**

Global programmatic market maturity report 2018



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1 / Introduction & Executive Summary

Recent WFA research identifies that there are on-going challenges in the programmatic ecosystem, including: transparency & agency models; ad fraud, brand safety & viewability; measurement, ‘walled gardens’ & identity; regulation & privacy. But despite the issues there remains appetite for a buying model which delivers much in terms of process efficiency and customer marketing effectiveness. Used appropriately, programmatic is a lever for better outcomes and growth.

“Many of us at leading brands and agencies spend a significant amount of time investing in our tech and buying infrastructure, however these efforts - and the discussions we have as an industry - are overwhelmingly US and Western-Europe centric. For a Global Marketer like EA which operates in more than 30 countries around the world – it’s imperative to have an informed understanding of how solutions built for mature markets may or may not be operable in other parts of the world which are important to our business.”

Belinda Smith, Global Head of Media, EA

From a base in desktop display, WFA members have been increasing their programmatic investment in video and mobile in particular. While nascent, we are seeing the potential for programmatic within TV and even Out-of-Home environments. The promise of ‘Programmatic Everywhere’ is becoming a reality. But while the market has been characterised by considerable global growth, unsurprisingly, the adoption and maturity of programmatic on a local level varies considerably.

Though much of the global programmatic infrastructure has been born out of the Western world, one size does not fit all. For advertisers to scale their programmatic operations, it’s necessary to know the size and attributes of each market to provide a tailored approach. China, for example, with its relatively closed programmatic environment requires a markedly different approach to the US. But while markets present local nuance, opportunities do exist to group these, enabling the execution of broad approaches applied to countries which share common characteristics.

The following categorisation has been identified for the 13 markets covered in this report:

- **Programmatic First Markets** – most inventory sources are accessible programmatically, providing scaled access to premium video inventory, often in a flexible and transparent commercial model. Advertisers should demand high viewability, fully disclosed trading and a high level of data access.

- **Maturing Markets** – most inventory and formats will be available via programmatic, but access will be less automated. Factors such as legacy trading relationships and/or geographic or cultural remoteness has suppressed maturity. It may be necessary to visit these markets to establish relationships with publishers.
- **Mobile First Markets** – predictably these markets exhibit much higher volumes of inventory on phone and tablet than in other categories. A solid solution for capturing and reporting on device IDs is critical.
- **Emerging Markets** – suppliers in these markets are often entering programmatic from traditional trading, meaning legacy trading practices persist. Transparency can be a problem and focused attention on scope and contracting is recommended.

Media buying is, ultimately, a local business and demands a local approach. But there are considerable opportunities to consolidate and simplify this, avoiding the need for a unique programmatic stack per market. ‘Media transformation’ is the focus for many WFA members and this report supports that ambition, helping marketers to define their global programmatic strategy with local executional tactics.

2 / Background & Methodology

This research encompasses 13 important markets across the maturity spectrum including: US, UK, France, Germany, Japan, Australia, Brazil, Russia, India, China, South Africa, Indonesia and Malaysia.

Unlike previous reports in this area, this research uses a single methodology to assess the ease of programmatic trading across these markets, with the aim of producing a like-for-like comparison between markets.

The majority of data used in this report has been gathered from trusted global partners, with the addition of pre-existing published data where necessary. The data has been interpreted with the aid of Infectious Media's international experience, building on the agency's work in researching and developing programmatic market maturity over the past 10 years.

For this report, the measure of programmatic inventory is confined to media opportunities that are available within real-time auctions. The social 'walled gardens' such as YouTube and Facebook, and inventory only made available via the automated guaranteed process, are outside the scope of the research.

In order to build a robust, representative picture of programmatic maturity across the 13 markets covered in this report, data was collected over a 12 month period from global and local SSPs. This quantitative data was then assessed through the lens of Infectious Media's experience working with programmatic suppliers in different markets on behalf of advertisers. BidSwitch, a company that provides middleware to connect programmatic partners, provided invaluable help with data collection.

Auction data was analysed using signals that correlate with levels of programmatic market development. This was then mapped to publicly available spend and audience size figures to give a further measure of maturity.

Market maturity was defined by assessing the relative level of programmatic adoption by publishers and advertisers. For publishers, high Private Marketplace (PMP) availability and a high proportion of direct seller relationships indicates advanced programmatic adoption. For advertisers, the amount of programmatic spend compared to the size of the online population provides an indication of the propensity to buy programmatically.

Breakdown of report data

Demand

Spend per capita

Total investment into programmatic channels on the buy-side was divided by online population to get a spend per user, giving an indication of maturity of markets.

Supply

Private Marketplace (PMP) level

Sophisticated selling methods, such as PMPs, indicate sell-side commitment to training and technical investment in programmatic monetisation. PMP penetration provides a strong signal of the level of inventory access and how easy planning and programmatic execution will be in-market.

Inventory content type

Video is often the last medium to be monetised programmatically by publishers due to high direct sell rates. Strong video availability correlates to a mature market and means omni-channel programmatic campaigns can be executed. The data used in this report measures video as a percentage of total availability across major global and local exchanges.

Ads.txt analysis

The number of publishers who have implemented an ads.txt file on their site is an important indicator of the maturity of a market's supply ecosystem. For this report, local domain data was analysed to determine the proportion of publisher sites that:

- Haven't implemented a file - 'Unknown'
- Are working directly with supply side platforms - 'Direct'
- Are using networks to monetise inventory - 'Reseller'

In addition, inventory from resellers that have not been approved by the publisher - 'Unauthorised' - has been included to understand the level of domain-spoofing fraud in the market.

Device usage

Although the proportion of mobile and app usage in a market is not necessarily linked to maturity, it does change the approach to programmatic campaigns. So, analysis of this has been included plus an assessment of what this means for advertisers entering the market.

Supply partners

When initiating programmatic activity in new countries, a centralised approach which uses as few platforms as possible is generally considered simplest for global marketers. For the purposes of this analysis, markets have been considered less mature if custom local technology is needed for access, or if legacy trading structures exist.

3 / Market Categorisation

In the course of this analysis, four categories of market have been identified that share common characteristics in terms of their level of maturity and device usage. →

These can provide insight into which markets require a similar approach, and present signals to consider for markets outside the scope of this report.

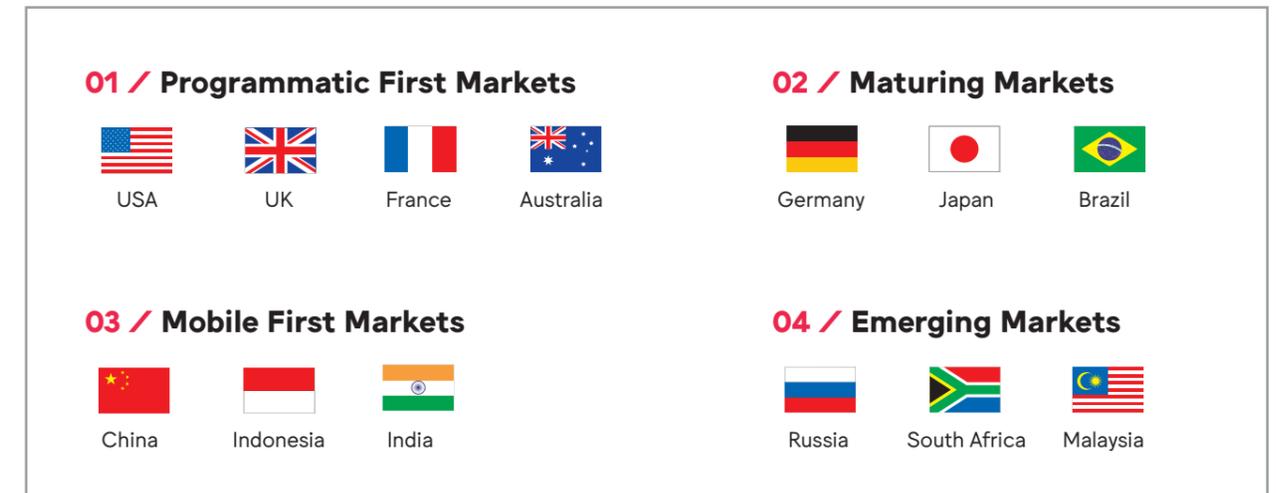


Figure 1 - Market categorisation by programmatic maturity.

01 / Programmatic First Markets



Marketers in the Programmatic First category are likely to have already transitioned most of their digital display spend over to programmatic platforms. This should translate to most, if not all, inventory sources being accessible programmatically, and often in a flexible and transparent commercial model.

These markets have an array of demand and supply-side businesses in their programmatic ecosystem, originating from both the global and local level. This is more pronounced than in the other market categories where publishers and buyers may be less open to programmatic trading.

Programmatic First approach:

- Advertisers should demand high viewability, fully disclosed trading and a high level of data access.

- Most publisher inventory outside of Facebook and Google is available via an exchange, and usually via multiple exchanges.
- Future facing marketers should be considering automated TV, audio and OOH in these markets as display begins to consolidate.

Generally speaking, spending large budgets on the open marketplace (OMP) in Programmatic First Markets does not tend to be an issue. In these markets OMP scale is achieved through the wide adoption of header bidding by premium publishers. This scale allows advertisers to maximise the viewability of video and display budgets and pursue direct to publisher relationships within exchanges.

In these markets, publishers are increasingly providing greater access to data in order to increase revenue. To power more specific audience targeting, advertisers should consider speaking directly to larger publishers and telcos to incorporate 2nd party data within campaigns.

Additionally, these markets see a high proportion of impressions available on tablet devices. Meaning it may be possible to reach higher value audiences such as families and higher income users by targeting tablet inventory.

3 / Market Categorisation

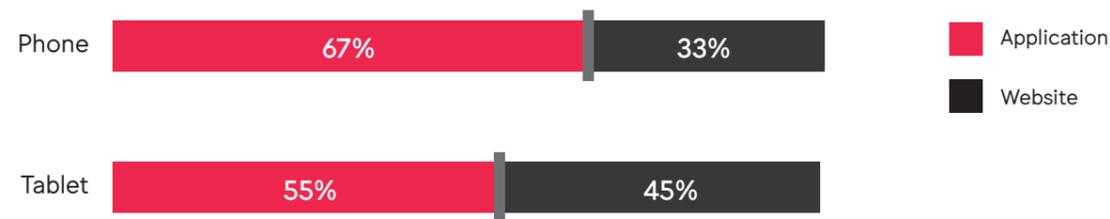


Figure 2 - Split of Mobile app & web inventory by device type in Programmatic First Markets

Programmatic First Markets do not exhibit significant differences in app inventory availability versus website inventory on tablets or phones (see Figure 2). There are sufficient volumes of web inventory in these markets for this to be the lead environment for advertisers. Apps can be used tactically when there is an opportunity.

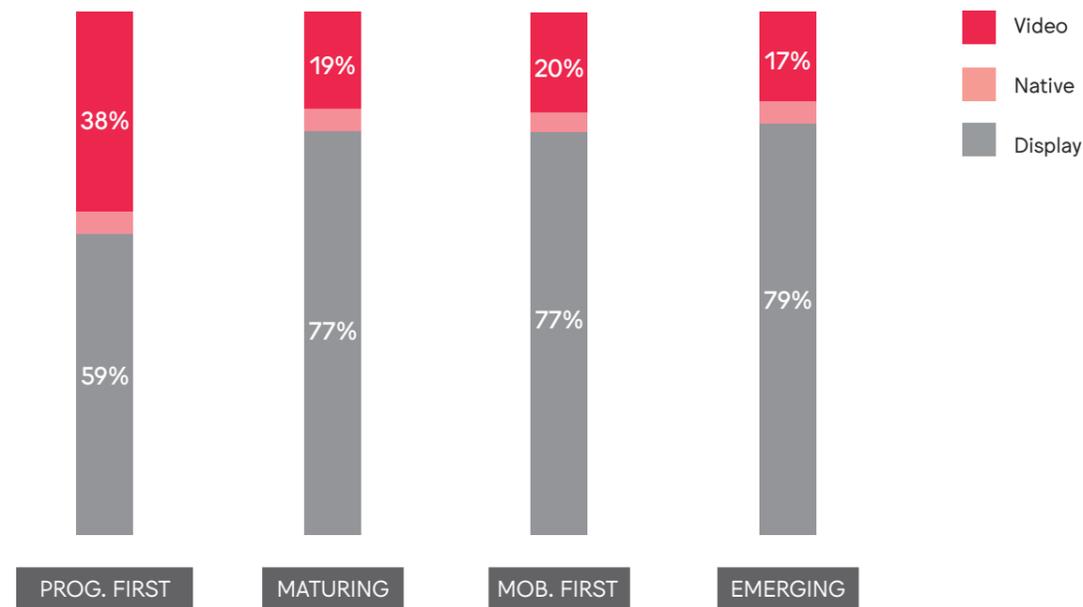


Figure 3 - Proportion of inventory content type by market categorisation

Publishers in Programmatic First Markets tend to sell a much higher proportion of their video inventory via SSPs than in other market categories (see Figure 3). Publishers selling their most valuable assets in this way signifies a full embracing of programmatic as a monetisation technique across all properties. →

For advertisers, this means it is possible to take a scaled approach to programmatic video campaigns in these markets, even outside of YouTube inventory.

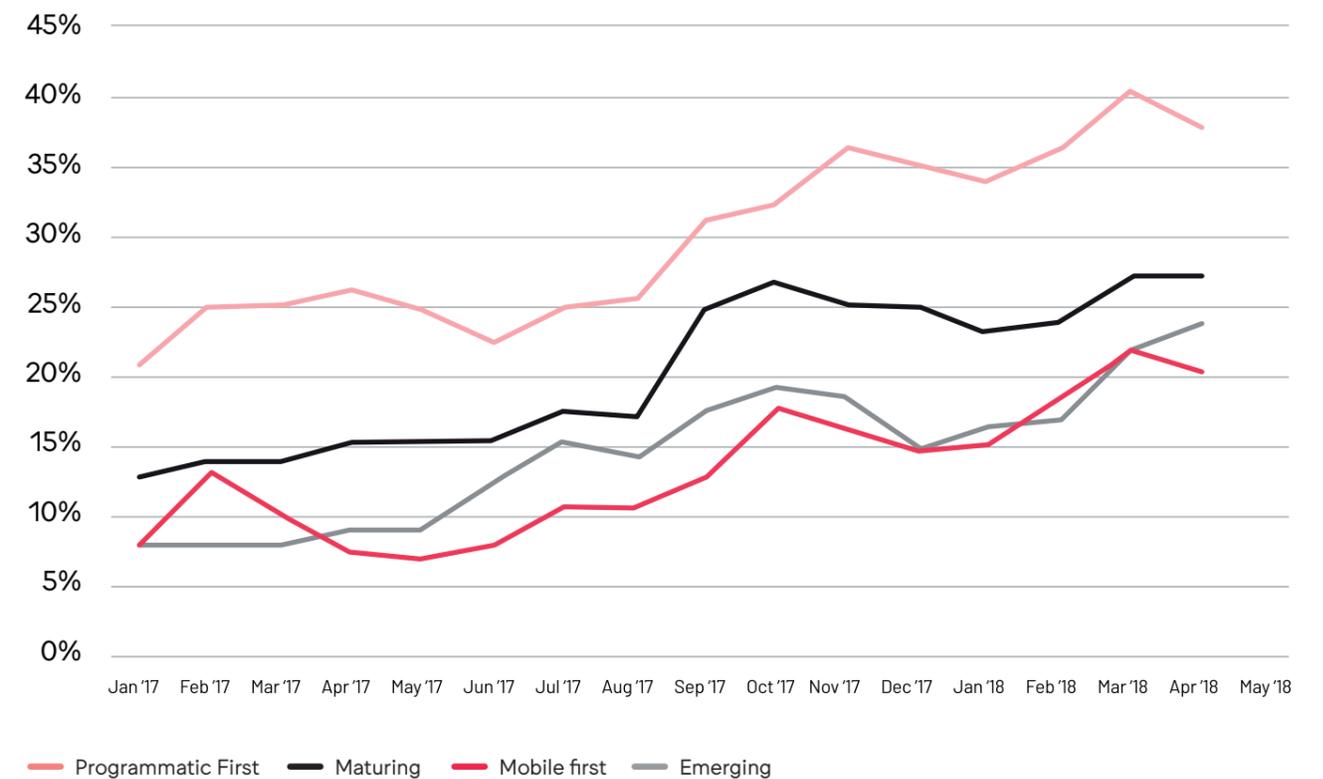


Figure 4 - PMP adoption over time per market category

The PMP deal is considered to be a relatively sophisticated buying technique; a high adoption rate of these tends to be a symptom of more mature markets. PMP adoption is growing globally (see Figure 4), but the growth rate is particularly marked in the Programmatic First category with up to 40% of inventory traded this way.

PMP adoption tends to increase prices, but the opportunity for advertisers is presented through access to unique publisher (2nd party) data. Media plans can benefit from

the incorporation of this data, becoming more customised to specific advertiser needs. When scaled, this approach is particularly beneficial if applied to publishers' most valuable assets, such as video-on-demand (VOD).

Other markets outside the scope of the study (e.g. The Netherlands, Canada or Sweden), could anecdotally be included in the Programmatic First category. Although each market has its own nuances, most have followed a similar trajectory.

3 / Market Categorisation

02 / Maturing Markets



Germany



Japan



Brazil

Digital is an important channel to advertisers in these markets, but their maturity lags behind the Programmatic First category, in some dimension. In some cases, legacy trading relationships in the Maturing category mean that programmatic has not grown as quickly here as in other markets. Other factors, such as geographic or cultural remoteness, may prevent buyers and sellers from adopting programmatic as quickly.

Maturing Market approach:

- Most inventory and formats will be available via programmatic, but access will be less automated. It may be necessary to visit these markets to establish relationships with publishers.

- Agencies and sales houses generally have a more prominent position in these markets, meaning traditional trading relationships remain embedded.
- Publishers are less in control and access to data is therefore more limited.
- With sales houses holding much of the valuable inventory, network style buys should still be considered to gain access.

Commercial structures and level of knowledge are often the biggest limiting factors in the Maturing Market category. Ad tech has been rolled-out to publishers in these markets, but buyers and sellers often still prefer to use traditional methods to trade.

Publishers can see programmatic as a threat to existing trading relationships; concerns that it will undermine prices achievable through direct sales are not uncommon. As a consequence, some sellers in less mature markets may still be focusing on programmatic as a means to monetise

unsold inventory. This reduces advertisers' ability to trade flexibly, meaning there is a need to speak directly to larger publishers to gain access to premium inventory.

In comparison with Emerging and Mobile First Markets, PMPs are being used for a greater proportion of inventory sales in Maturing Markets (see Figure 5), highlighting the importance of direct business relationships between buyers and sellers in this market category. This trend is most pronounced in Germany where the PMP share is higher than the Programmatic First Markets.

In comparison with Programmatic First Markets, surprisingly, some of the markets in the Maturing category exhibit particularly high levels of ads.txt Direct inventory (see Figure 6). While this would typically signify better access

to publisher data (a mature characteristic), it's important to avoid using ads.txt data in isolation when judging maturity.

In reality, the excess of ads.txt Direct in Brazil and Germany can be attributed to a high concentration of programmatic inventory within a small number of sales houses and publishing groups. By placing barriers between publishers and advertisers, this market structure reduces the publisher data available to buy against.

Advertisers need to work with direct to SSP sellers as much as possible for performance-oriented campaigns in these markets, while assessing resellers and testing the value of the ads.txt Unknown inventory.

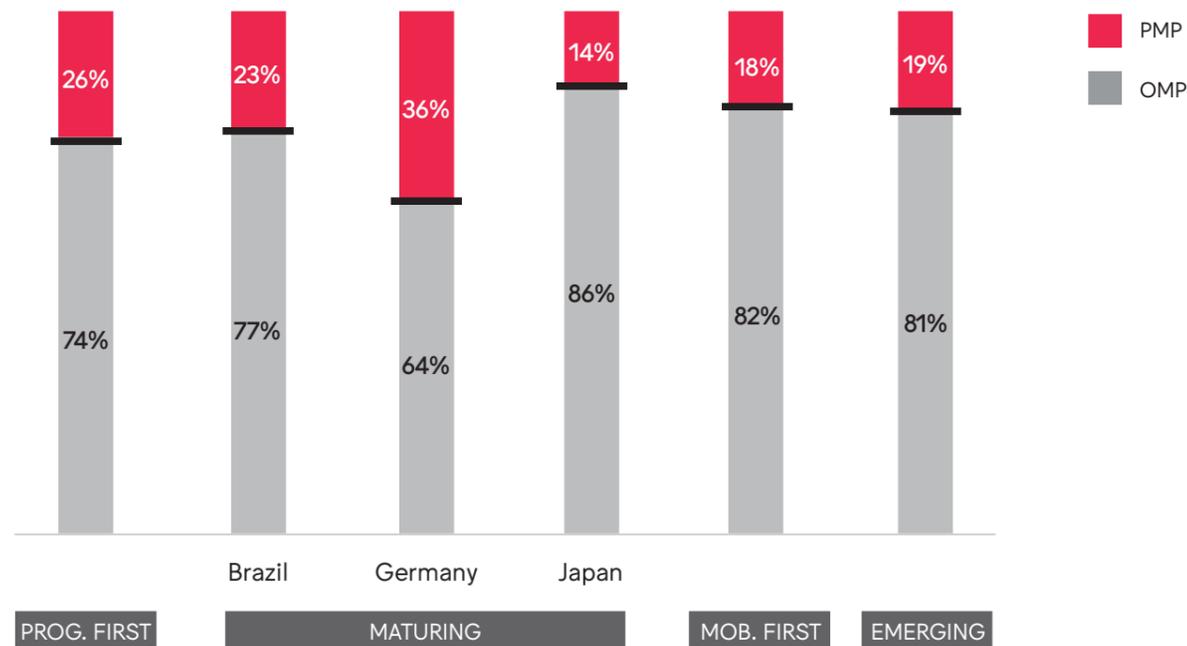


Figure 5 - PMP and OMP inventory percentages for Maturing Markets

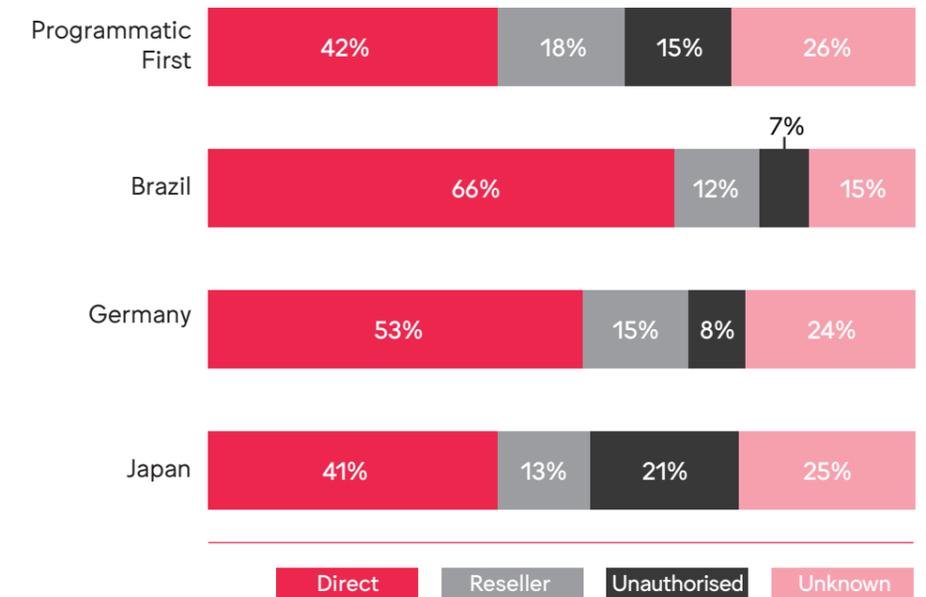


Figure 6 - ads.txt inventory split in Maturing versus Programmatic First Markets.

3 / Market Categorisation

Interestingly, inventory availability on app devices is lower in the Maturing category than the global average (see Figure 7). Advertisers will need to downgrade the prominence of app campaigns in these markets in comparison with the Programmatic First Markets, and especially the Mobile First Markets.

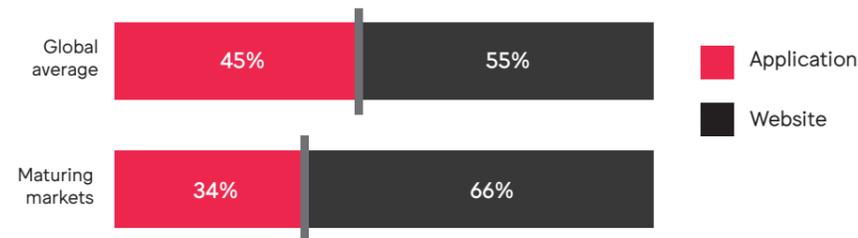


Figure 7 - Split of mobile app and web inventory in Maturing Markets versus the global average

03 / Mobile First Markets



As more of the media landscape moves to mobile, it could be argued that most markets will end up in this bracket. But as more local businesses and media companies began in app environments in these markets, they need to be considered distinct from other countries included in this study. This is not a migration to mobile, but a continued evolution in the way the device has been used by consumers and advertisers. →

Mobile First Market approach:

- The mix of partners required by advertisers in the Mobile First ecosystem tends to be different to the Programmatic First category where brand safety partners, data providers and DSPs generally take a web first approach.
- As app usage is more far reaching than in other markets, a solid solution for capturing and reporting on device IDs is critical in the Mobile First category.
- Ads.txt doesn't apply to app so supply chain management is manual, relying more on analysis and experience.

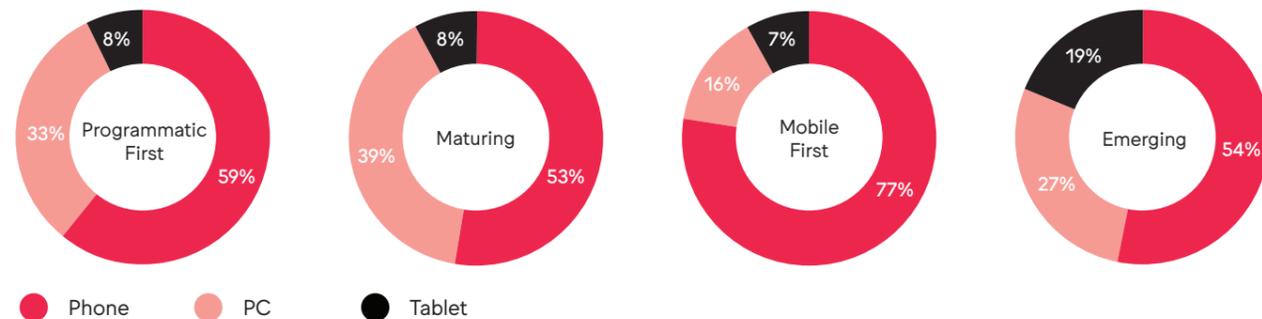


Figure 8 - Split of inventory device by market category

Predictably, mobile inventory availability is widescale among these markets (see Figure 8), meaning advertisers can comfortably run mobile exclusive campaigns. Much of the in-app inventory can be attributed to the popularity of a small number of apps that give the user a holistic experience across shopping, browsing, entertainment, etc. Among the relatively heterogeneous audiences in these markets, advertisers will need to look for an indicator of affluence, such as device or handset usage.

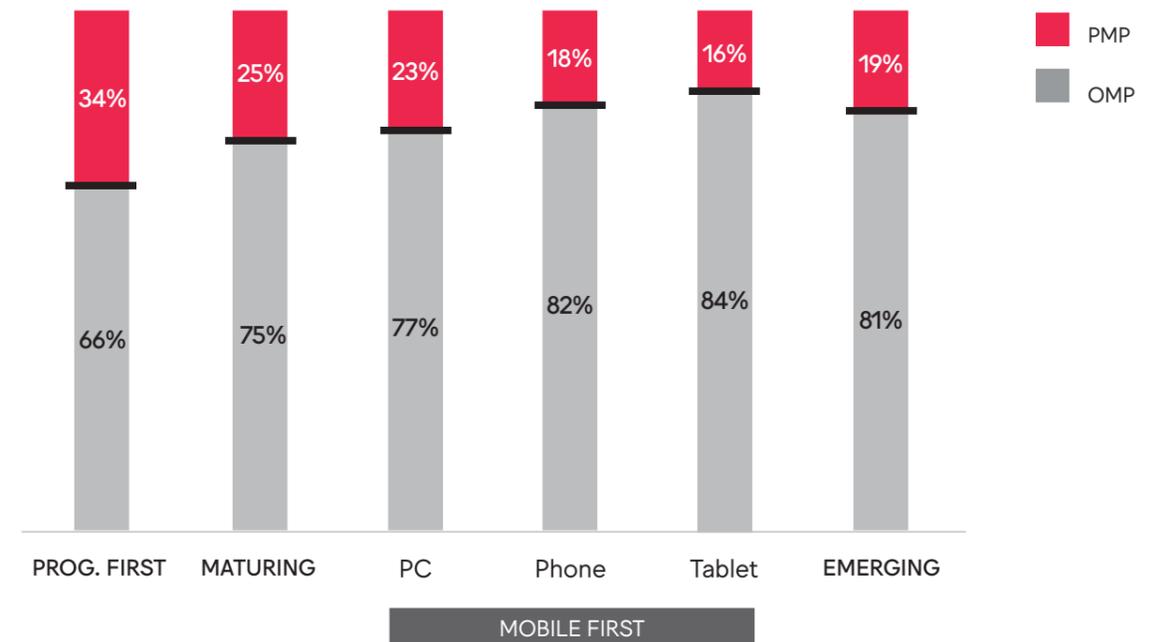


Figure 9 - PMP & OMP inventory by market category

PMPs account for a small amount of impression availability in Mobile First Markets (see Figure 9). Mobile apps make more data available via the OMP (e.g. location, age, gender, context), than desktop devices. As a consequence, there is less reason for buyers to trade via PMPs, and therefore, less incentive for publishers to set up sales teams to procure deals.

Mobile First tool kit:

Targeting

- Ensure you are capturing mobile advertising IDs for 1st party retargeting. Investigate working with mobile data specialists for 2nd and 3rd party targeting strategies.

Creative

- As attention spans are shorter and loading times are limited by data usage, reduced video length assets are necessary to maximise engagement on mobile devices.
- Focus on creating native assets and non-intrusive mobile display formats like inter-scrollers for mobile web. →

Measurement

- An in-app attribution partner is needed to measure both brand and performance campaigns.
- For bricks and mortar brands, speak to regional location experts who can help measure online-to-offline footfall.
- Consider working with app sources or partners that have implemented the Open Measurement SDK (OMSDK) to ensure consistency of measurement across your media buys.

Fraud

- In-app fraud is still very high in programmatic due to the prevalence of 3rd party supply and difficulties in measurement.
- Consider working with in-app fraud specialists and prioritise exchanges/networks that allow 3rd party fraud measurement.
- Pursue reimbursements for wasted media impressions on invalid traffic sources.

3 / Market Categorisation

04 / Emerging Markets



Emerging Programmatic Markets are not as digitised as others included in this report, however, the economic potential of large population sizes makes these markets a compelling advertising opportunity. The universe of internet users in Russia, for example, is almost 80% larger than the UK (a Programmatic First Market), but programmatic spend per capita is a fraction of this market (see Figure 10).

Emerging Market approach:

- It's too early to tell which of the report categories these markets are destined to develop into, as they show characteristics of one or more.
- The suppliers in these markets are often entering programmatic from other channels or from traditional trading. This means programmatic can become a new way to execute existing rebate structure deals, meaning less transparency.
- Access to inventory types and data can vary based on the development of individual publishers and the sales structures in place within the market.

To be successful in Emerging Markets, advertisers need to aim for a rich understanding of the nuances of each market, with a view to tailoring strategies accordingly. However, learnings from the development of more familiar markets can be used to inform the approach.

For example, parallels can be drawn between Russia and the more advanced market of China. China has grown in isolation of the global ad tech giants, such as Google and Facebook, and it is conceivable that Russia will develop along a similar path.

For advertisers to uncover opportunities within Emerging Markets, inventory sources such as messaging apps, search engines and ad networks should be investigated alongside programmatic. US messaging apps are often not available in Emerging Markets, so marketers need to look for the most used local or regional messaging apps that feature advertising.

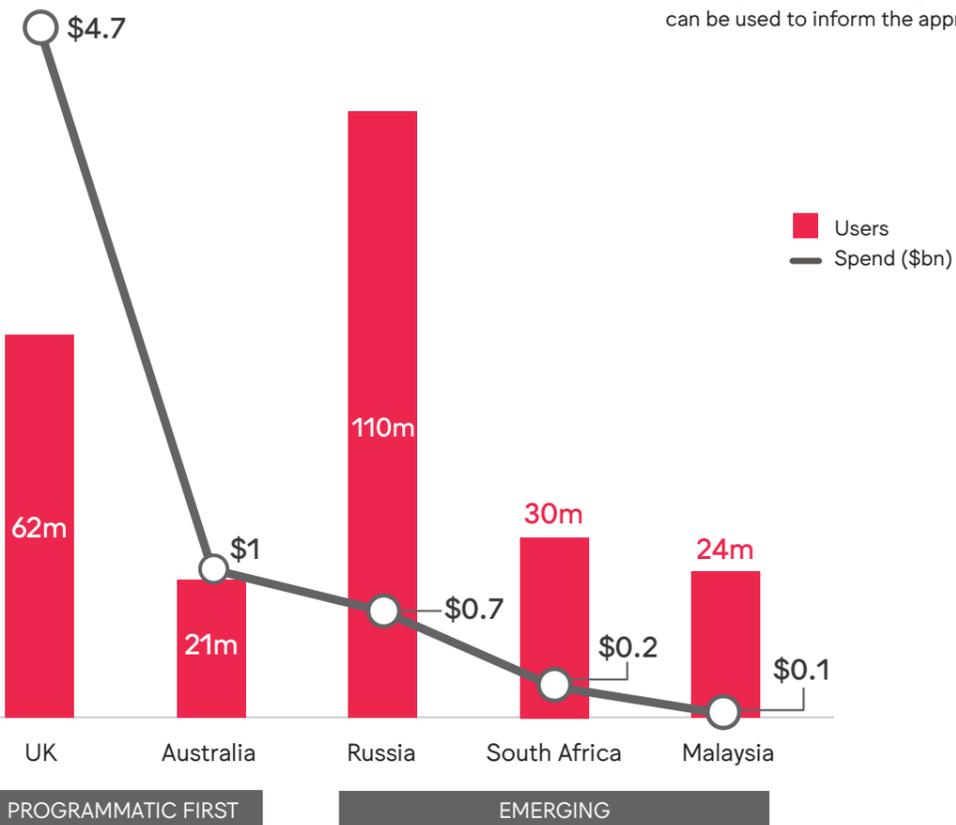


Figure 10 - Number of users per market & programmatic spend



Figure 11 - ads.txt inventory split by market category

A lower share of domains in the Emerging Markets have implemented an ads.txt file on their site than those of the Programmatic First and Maturing Markets. Also, a lower percentage of publishers are working directly with SSPs (see Figure 11). →

To help with scale in Emerging Markets, advertisers should consider working with trusted 3rd party networks or resellers, giving preference to larger reputable market specialists who have headquarters in the region. Advertiser strategy in these markets should be to start with smaller budgets, test what performs, and build up gradually.

4 / Individual Market Analysis

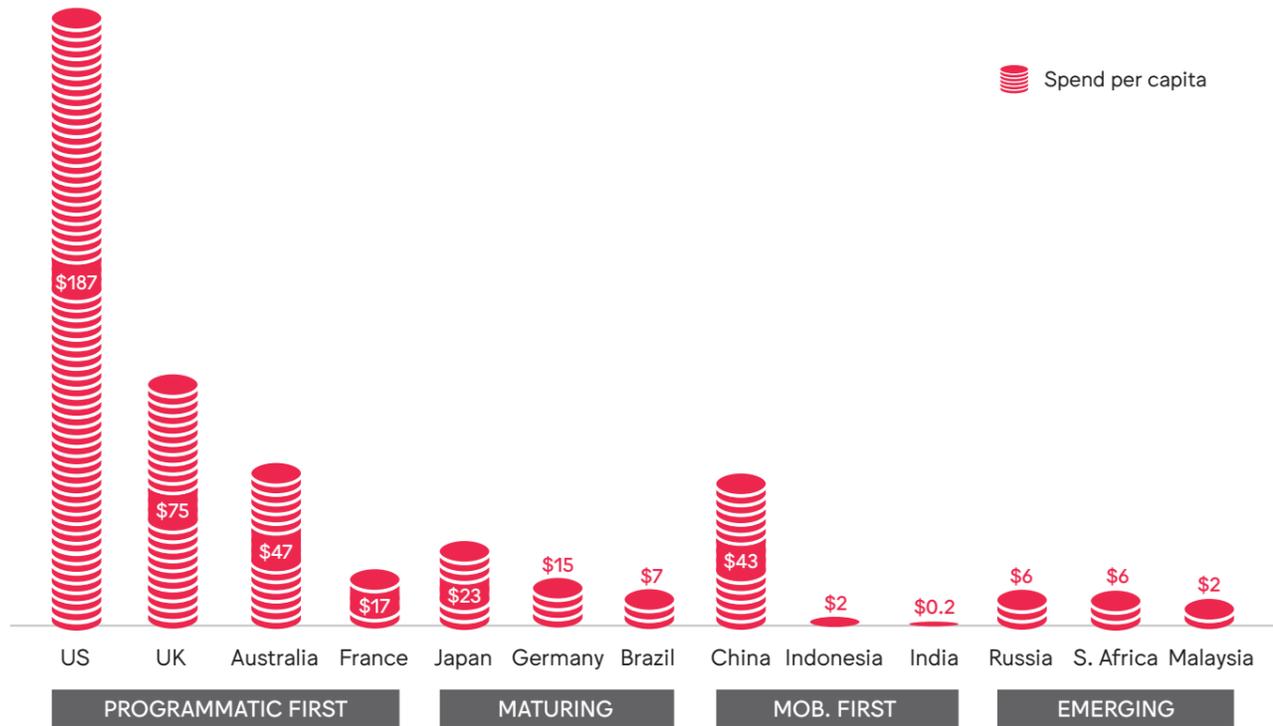


Figure 12 - Spend per capita of all markets analysed

In the majority of markets, spend per capita aligns with programmatic maturity making it a useful measure of an advertiser's ability to trade programmatically. Even with this measure showing a more balanced view of investment, the US still dwarfs the rest of the world (see Figure 12). However there are factors at play on the supply side that complicate this. →

So even when investment may be at a healthy level, an advertiser may still be impeded in launching a successful campaign. Something that we unpack at length in the rest of the report.

01 / Programmatic First Markets



USA

The US is the most advanced market within the Programmatic First category due to its size and amount of available inventory. This means important industry and product development is likely to be led from this market.

This said, as a relatively unified cultural and geographic market, by extension, programmatic campaign implementation is relatively straight-forward. More diverse regions with lower spends, such as Western Europe, tend to require programmatic technology to work harder to succeed, perhaps leading to the development of more innovative, sophisticated approaches.

Market Highlight - Video

Video makes up a very substantial 41% of inventory in the US, a critical indicator of maturity (see Figure 13). Advertising supported Video-On-Demand (AVOD) inventory and Outstream is likely to account for a significant proportion of this scale. Publishers hosting this inventory are especially relevant for advertisers planning programmatic brand campaigns.

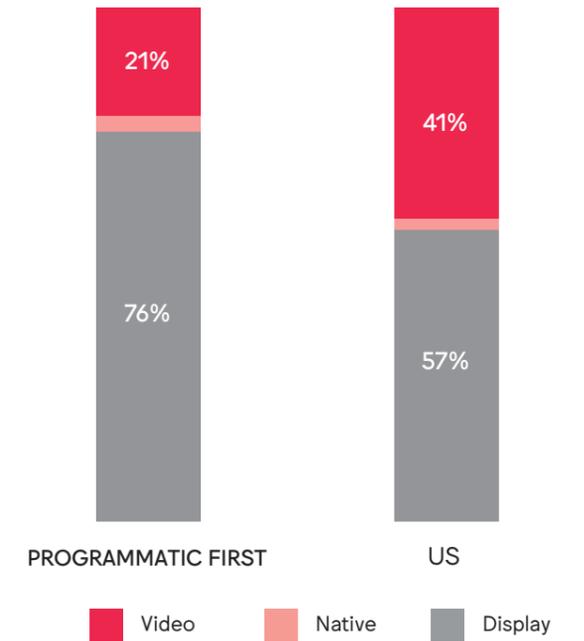


Figure 13 - US inventory ad format type compared to Programmatic First category

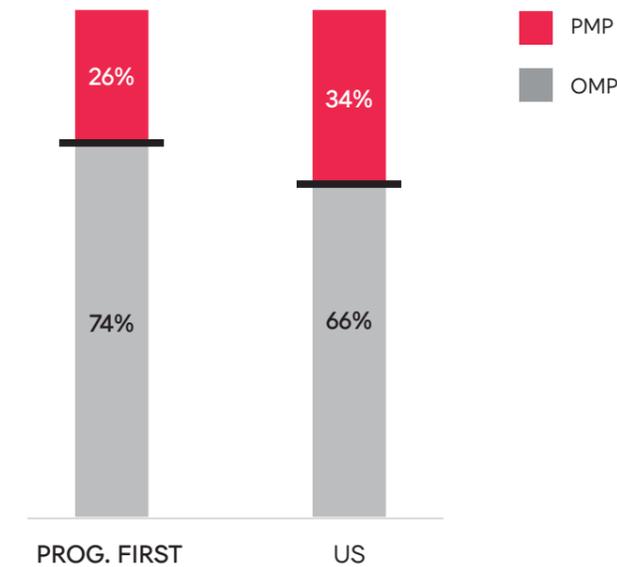


Figure 14 - US video inventory traded via OMP & PMP versus Programmatic First category

However, Figure 14 shows the majority (66%) of US video is traded via OMP. With video being the highest value publisher asset, this could be a warning to advertisers. It is possible this indicates publishers increasing supply by making lower value video inventory, such as In Banner Video (IBV), available in the exchanges.

That being said, this same reasoning could be applied to the other Programmatic First markets, as they show an even greater amount of video traded on the OMP. So, even with far higher volumes, US video appears to have more PMP deals with specific publishers giving it a better quality of supply than its peers.

4 / Individual Market Analysis



UK

Most publishers in the UK attribute a significant amount of resource and value to programmatic advertising and this is one of the lead markets in terms of global programmatic adoption. This is underlined by a large proportion of direct to SSP sellers plus a high proportion of PMP inventory. The main reason the UK lacks maturity is the relative scarcity of video inventory availability.

The third largest market in terms of spend and second largest in terms of available impressions, UK programmatic market maturity is almost on a par with the US. With per capita programmatic spend expected to hit \$75.10 per person this year, the UK is one of the few markets where digital spend surpasses TV. However, the comparative size of the UK to the US is a factor, leading to limitations in premium inventory when compared to the total programmatic budgets available.

Market Highlight - Ads.txt

Most UK publishers are monetising directly with SSPs, indicating high maturity (see Figure 15). This means a larger proportion of advertiser investment in this market will go towards 'working media', which in turn should generate more value. An additional benefit to advertisers of a direct monetisation approach is data access. Publishers selling →

directly through SSPs usually have more immediate access to audience data in comparison to resellers, something which is certainly true of the UK. This 2nd party data has become core to the PMP sales strategy for many publishers in the automotive, retail and real estate verticals.

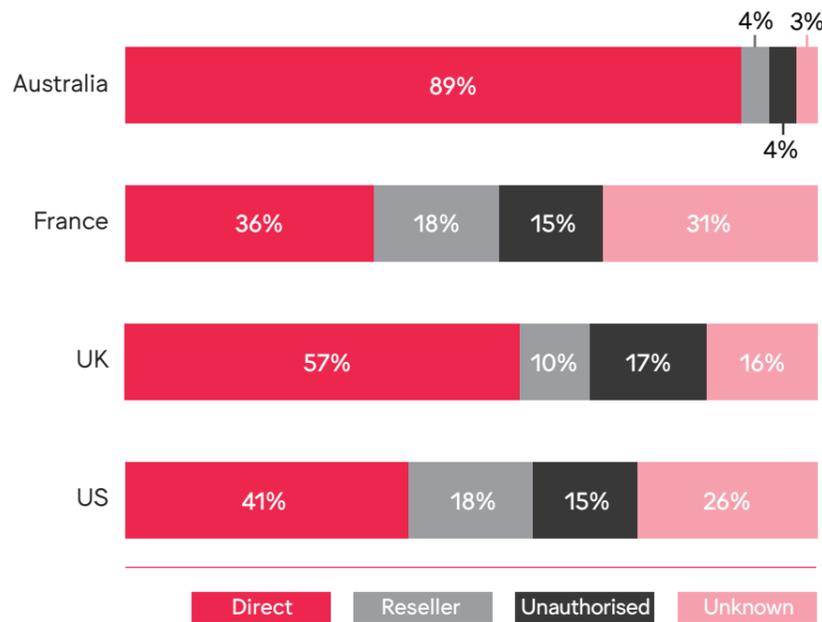


Figure 15 - ads.txt inventory split in Programmatic First Markets

Unauthorised seller inventory does, however, form a slightly higher proportion in the UK than other Programmatic First Markets - a consequence of bad actors in the supply chain. Advertisers should consider cutting out the unauthorised →

sellers with ads.txt targeting, to limit investment in businesses that are not adding value. This is true of all markets but makes particular sense in the UK.



France

The French market developed in a different mould than the US or UK. Here the supply side quickly adopted programmatic and drove buyside uptake by making premium supply available through publisher cooperatives. Even with a smaller spend level than the UK, most formats and devices are available to target programmatically in France.

France can also be considered a leader in Programmatic TV, as IPTV penetration (41%) is much higher than in comparable markets (Germany 6%, UK 9%).

One area where France lags behind other mature markets is the lack of publisher 2nd party data available to advertisers. This can be attributed to the relative prominence of resellers (France 18%, UK 10%, see Figure 15), who inevitably put a barrier between the advertiser and the publisher.

With programmatic only sales houses leading the development of RTB in France, these resellers have aggregated the remnant supply of premium publishers and standardised access for advertisers. However, this is beginning to change, as data savvy publishers see the benefit of monetising data through direct to SSP relationships, with reliance on resellers beginning to decline.

Market highlight - Video

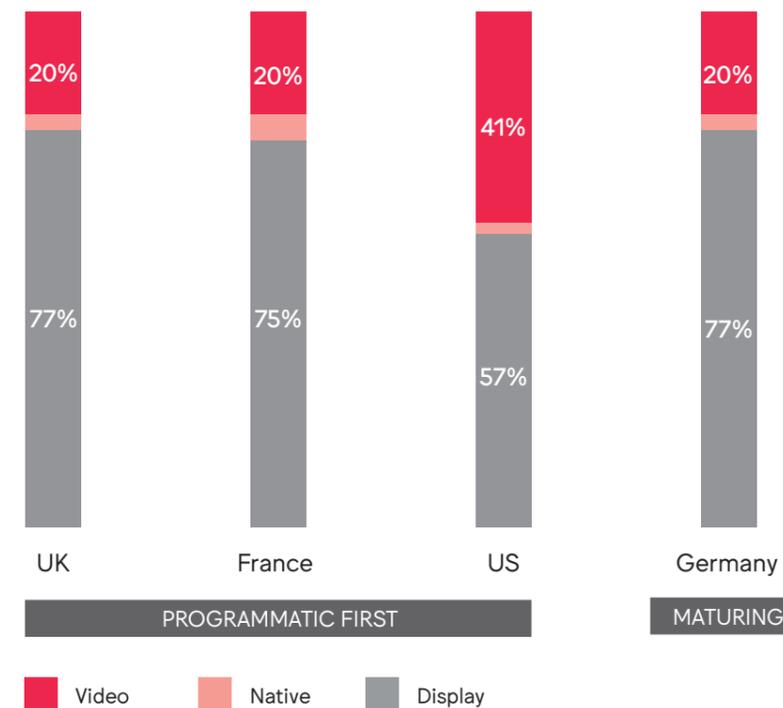


Figure 16 - French inventory content type compared to UK, US and Germany

A casual assessment of the French programmatic video market might suggest the perfect advertising opportunity. It has homegrown video SSPs promoting adoption, DSPs are able to access the leading French broadcasters, and the penetration of IPTV provides the infrastructure to create →

scalable programmatic TV. However, video only represents 20% of available inventory, which while on a par with Germany (20%) and the UK (20%), is far below that of the US (41%) (see Figure 16).

4 / Individual Market Analysis



Australia

There is much to suggest Australia is one of the most mature markets globally. It has a far greater proportion of ads.txt approved supply than the US, considerably higher proportion of video supply than the UK, and its PMP adoption is on a par with France. However, budgets and scale are considerably lower than in the US, which translates to a higher cost of running campaigns.

Australia's small population and relatively large digital budgets means a substantial programmatic spend per capita level (see Figure 17). At \$47, this is the third highest of all markets analysed in this report. Being small, digitally savvy and affluent, comparisons can be drawn to Scandinavian markets.

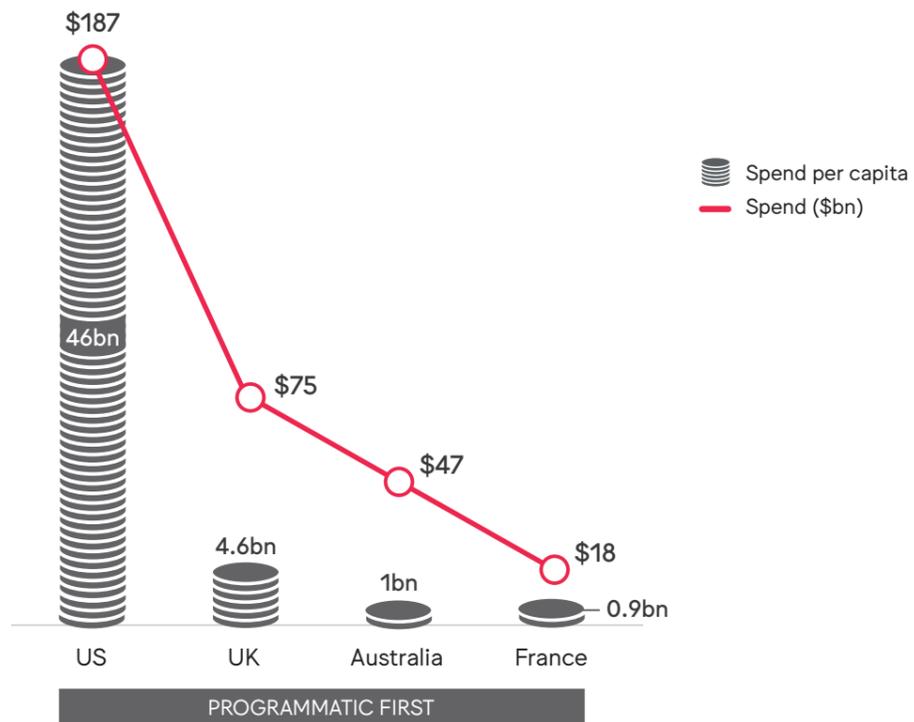


Figure 17 - Programmatic spend and spend per capita of each Programmatic First

Market Highlight - Ads.txt

At 89%, Australia boasts a higher share of direct to SSP sellers than any other market in this study (see Figure 15). This suggests there's a relative scarcity of programmatic supply in comparison with demand. For advertisers, there is no need to work with any inventory sources other than ads.txt Direct here. →

Direct to SSP sellers commonly use 1st party data to enhance the appeal of their PMP offering so this environment can benefit advertisers hugely. The level of competition in the market and the proportion of Direct inventory leads to an expectation of a rise in new deal types, such as Programmatic Guaranteed, which are fixed deals for premium inventory, transacted in real time.

02 / Maturing Markets



Germany

Germany has the infrastructure to become an advanced market in terms of technology footprint and penetration, but factors such as the prevalence of sales houses are restricting overall maturity. This contrasts with programmatic TV, one area where Germany, alongside France, is taking the lead. The most influential broadcasters in Germany have set up long term partnerships with video first SSPs, and the largest broadcasting group has invested in multiple supply side video platforms.

Absolute programmatic spend in Germany is on a par with some Programmatic First Markets (e.g. \$1.1bn vs \$0.9bn in France, see Figure 18). However, as Germany also has the largest population in Europe, its spend per capita (\$15) is lower than that of France (\$18), with a comparatively small 34% of German digital ad budgets traded programmatically.

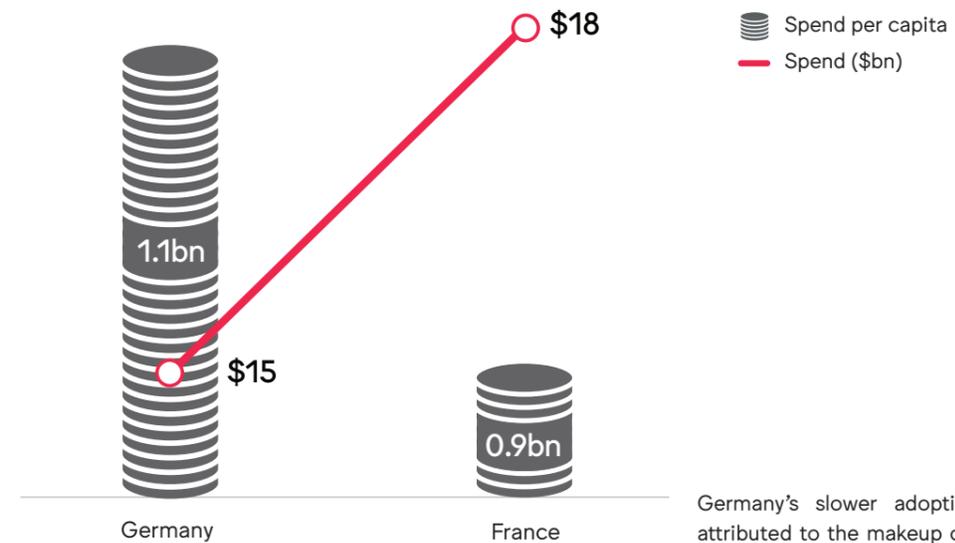


Figure 18 - Programmatic spend and spend per capita in Germany versus France

Germany's slower adoption of programmatic can be attributed to the makeup of the local media market. With a few powerful sales houses managing supply, the dynamic pricing structure common to programmatic looks to have been seen as a threat to the high CPMs achievable through direct selling. Increased price control is retained when trading programmatically through a high proportion of PMPs and more traditional trading deals.

4 / Individual Market Analysis

Market Highlight - Video

Free to view TV is omnipresent in the German market and most broadcasters are supported via digital advertising. The effect of this can be seen in terms of Germany matching the UK on proportion of video inventory (20%), as seen in Figure 19. German broadcast publishers have taken more of an interest in ad tech in comparison to their peers in other markets. Some have gone as far as to acquire ad tech companies to centralise and consolidate sales of their digital assets across Europe.

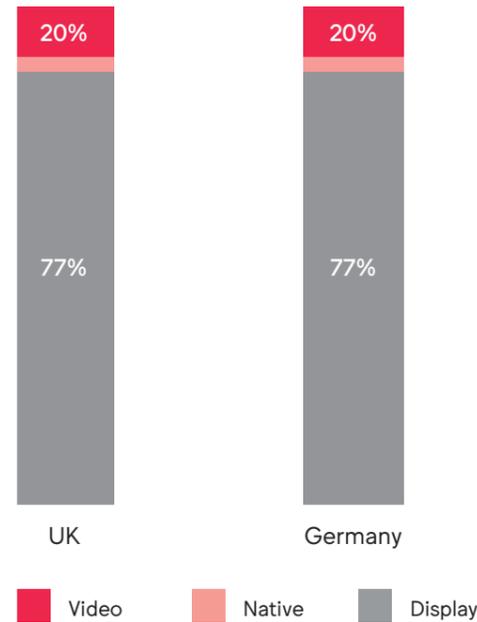


Figure 19 - German inventory content type compared to UK

Japan

From a slow start, programmatic in Japan has grown at one of the highest rates globally. Investment in mobile programmatic alone is predicted to be \$2.54bn by 2020.

Japan has a relatively high proportion of desktop inventory. The device split is similar to the average western market, perhaps unsurprising as both have prominent professional industries. Although this is unremarkable from a global perspective, Japan is an outlier in the South East and East Asian regions, as seen in Figure 20.

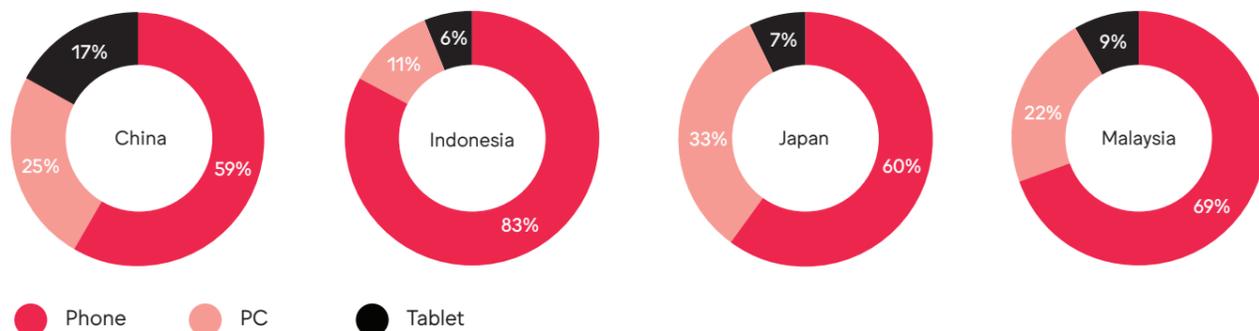


Figure 20 - Split of inventory device across South East and East Asian markets

Of the 60% of inventory that is available on mobile in Japan, 64% is driven by mobile web visits (See Figure 21). This is contrary to trends seen elsewhere, with Japan the only market in this study where website traffic accounts for the majority of mobile inventory. →

However, unique messaging apps and platforms (such as Line Corp) command large audiences in this market (over 50 million active monthly users). Their advertising sits within walled gardens and not in open RTB exchanges, meaning that they lie outside the scope of this research.

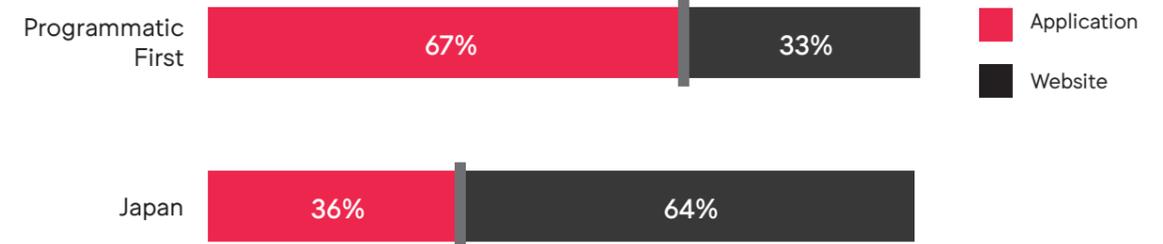


Figure 21 - Split of mobile app & web inventory in Japan versus Programmatic First Markets

Market Highlight - Ads.txt

As growth figures and forecasts show, Japan is a programmatic market in its ascendancy. Out of all Programmatic First and Maturing Markets, Japan has the highest proportion of inventory that is non-approved when looking at ads.txt data (see Figure 6). Unauthorised sellers account for 21% of that inventory and Unknown accounts for a further 25%. →

However, with some of the largest publishers in the market yet to add an ads.txt file, it is too early for advertisers to solely rely on the targeting of this data. A testing programme of the direct to SSP supply should be considered, combined with the extensive use of fraud detection software and more manual methods to vet other suppliers in the market.

Brazil

With a high population and comparatively low programmatic spend, Brazil accounts for the lowest spend per capita of all the Maturing Markets. Brazil is the 8th highest spender but 5th largest population, resulting in a relatively low spend per capita of \$7, as seen in Figure 22.

Spend data suggests Brazil is an immature programmatic market, however this is contradicted by other signals, such as a high proportion of inventory sold via PMPs, which indicate more maturity.

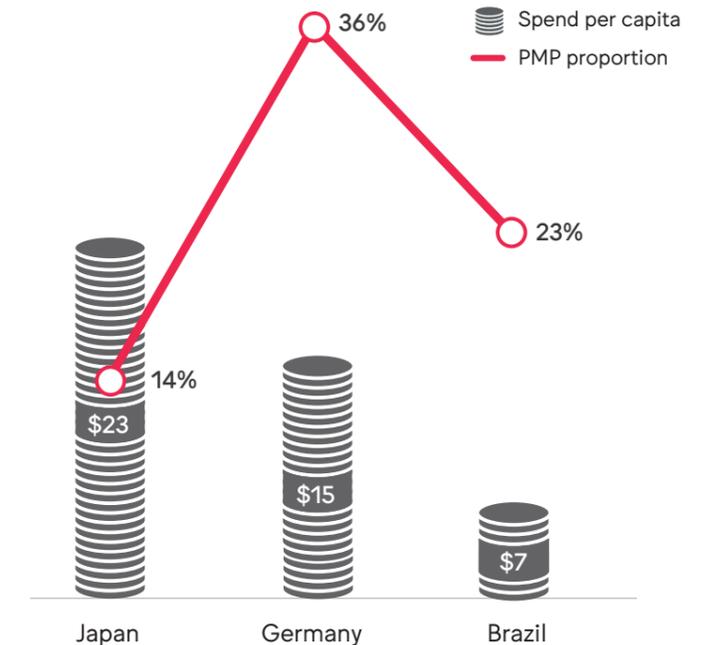


Figure 22 - Programmatic spend and spend per capita across Maturing Markets versus the group average

4 / Individual Market Analysis

Brazil breaks from the other Maturing Markets in its distribution of mobile inventory. The vast majority (74%) of its mobile is in app environments, as opposed to mobile web (see Figure 23). So, advertisers will need to take an app first approach to this market.

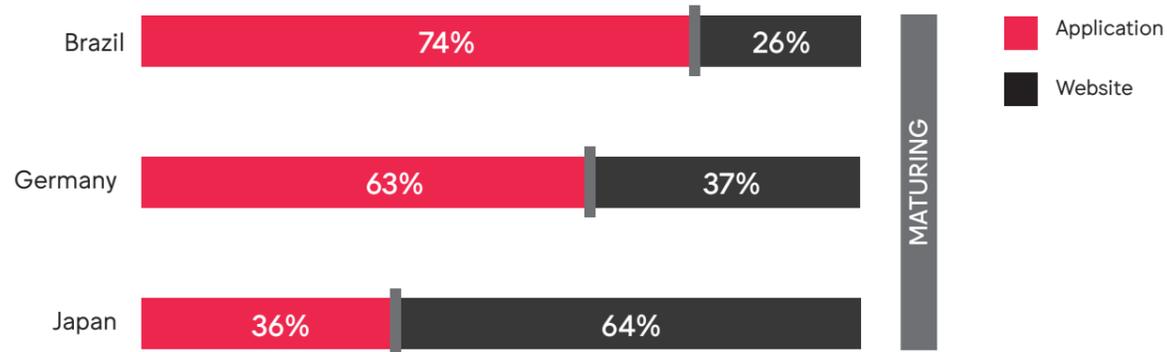


Figure 23 - Split of mobile app & web inventory across Maturing Markets

Market Highlight - Ads.txt

A positive indication for advertisers is that Brazil has the highest proportion of inventory (66%) available from direct to SSP sellers (see Figure 24). Only Australia boasts a higher proportion within Programmatic First and Maturing Markets. →

Another positive signal is the low level of Unauthorised (7%) inventory in this market. That being said, ads.txt is a good measure of sellers in web environments, but does not apply to app. So, this should only be taken as an indicator of a short supply chain in this market, but not fully conclusive.

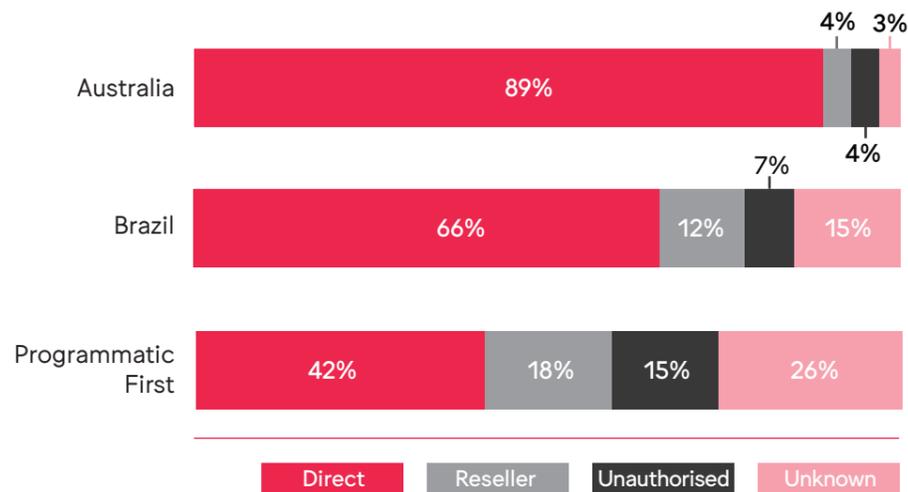


Figure 24 - ads.txt inventory split of Brazil versus Australia and Programmatic First category

03 / Mobile First Markets



China

China is a unique market when it comes to programmatic advertising, and this needs to be reflected in the technology an advertiser adopts when entering the market.

Walled gardens in China - Baidu, Alibaba and Tencent (BAT) - account for 64% of all programmatic spend, while the data analysed in this report accounts for the remaining 36%. Inclusive of the spend on walled gardens China is the second largest programmatic market.

Walled gardens developed out of the US are almost wholly supported by advertising revenue, however, their Chinese equivalents are far more diverse in revenue source and consumer usage. They have become established as everything from payment methods, to marketplaces and gaming arenas.

Outside of the BAT companies there's evidence to suggest the market is not particularly advanced. This can be seen in Figure 25, with proportion of PMP spend in China below the rest of the Mobile First category. This suggests the activity taking place on the western exchanges in China lags behind other markets, although, data may still be used in sophisticated ways elsewhere.

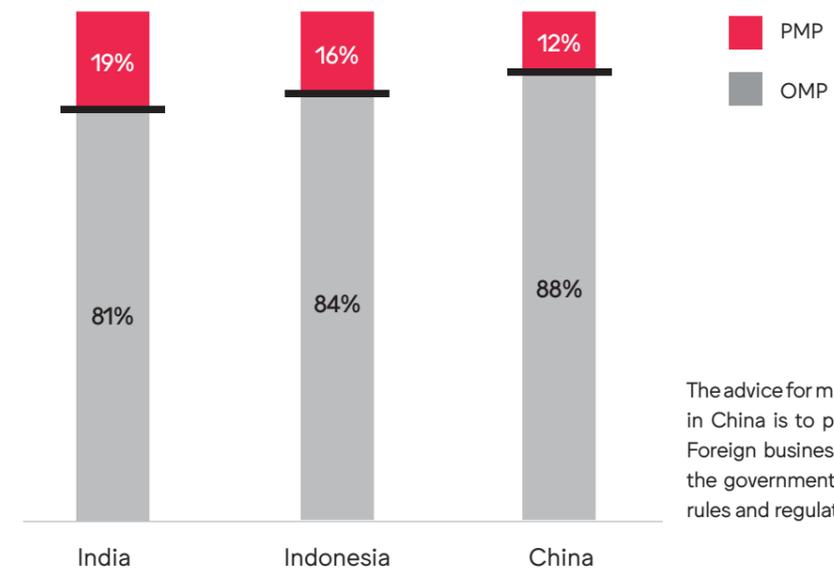


Figure 25 - Inventory traded via OMP & PMP across Mobile First Markets

The advice for marketers looking to advertise programmatically in China is to partner with companies native to the market. Foreign businesses need to earn a working relationship with the government to run campaigns, and even then restrictive rules and regulations are imposed.

4 / Individual Market Analysis

Highlight - Device & App

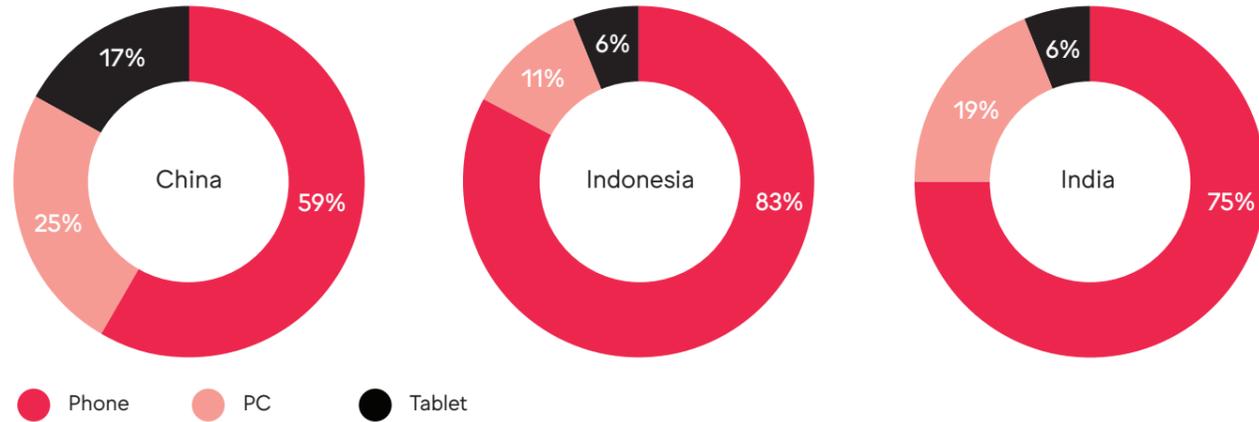


Figure 26 - Inventory content type across Mobile First Markets

Considering the lack of walled garden app data available to this study, the inventory on the open internet is still highly indicative of Chinese consumer device usage trends. Figure 26 shows, 59% of all impressions are on mobile devices, 17% on tablet, and the remaining 25% on desktop. This makes China the most desktop heavy market in the Mobile First category. →

Even though mobile inventory is less prevalent, app inventory makes up a higher proportion in China than in other Mobile First Markets. App inventory accounts for 86% of all mobile impressions, in comparison to 80% on average for the category (see Figure 27). Given the gaming and ecommerce features offered by the messaging apps, it is not surprising that Chinese users closely associate spending time on mobile with spending time on apps.

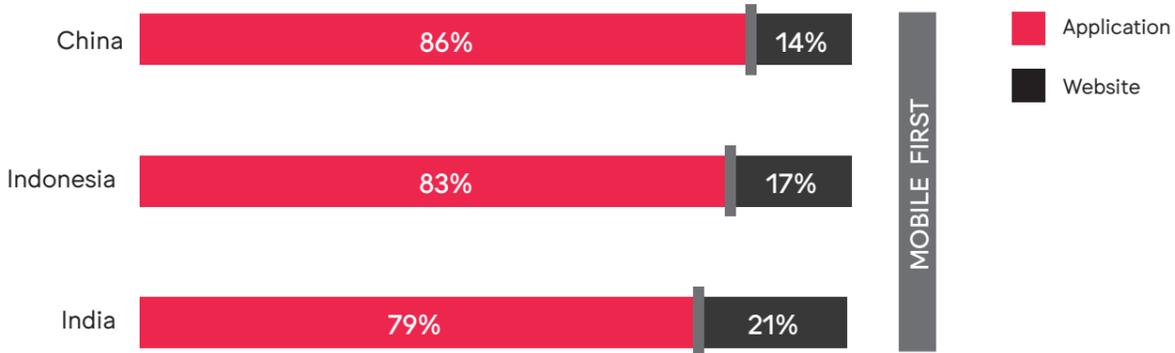


Figure 27 - Split of mobile app & web inventory across Mobile First category

The most obvious difference from the other Mobile First Markets comes from the relatively high amounts of tablet inventory available in China. Here China appears to be following the trend seen in affluent markets. →

However, in contrast to other markets surveyed the vast majority (91%) of tablet inventory is on apps rather than on websites. Further underlining the importance of apps in China.

Indonesia

The programmatic market in Indonesia is forecast to increase from \$40m in 2015 to \$244m by 2019, driven mostly by increasing inventory on mobile devices. Although programmatic is just beginning here, the size of the population and low internet penetration means there is a large potential for growth.

Indonesia has the highest proportion of mobile inventory of the countries covered in this analysis (see Figure 26). In addition, apps are more prevalent in Indonesia than in any other market, barring China and Russia. It remains to be seen if companies here follow China in building dominant, multi-purpose, walled garden apps.

Testing is recommended in Indonesia given the opportunities it presents, but advertisers should proceed with caution due to the high levels of fraud reported in the market.

Market Highlight - Ads.txt

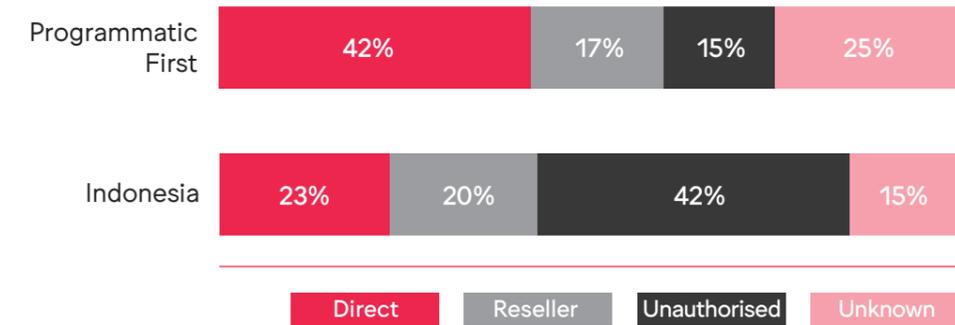


Figure 28 - ads.txt inventory split in Indonesia versus Programmatic First category

The ads.txt data shows Unauthorised sellers are vastly more prevalent in Indonesia than in other markets. In total, Unauthorised sellers accounted for nearly 50% of inventory that has uploaded an ads.txt file (see Figure 28). It's advised that advertisers take every precaution when transacting on the Indonesian OMP. →

As the ads.txt targeting and reporting solution for apps is still in development, there's no equivalent data set to assess the app sellers in the market. But, taking web as indicative of an overall trend, a similar level of fraud may be found in the app environment. An app first fraud detection and prevention system is strongly recommended to advertisers buying in Indonesia.

4 / Individual Market Analysis



India

The opportunity for advertisers in India is clear. Even though its internet penetration is only 34% of the population, it is second only to China in terms of number of online users. Although definitely a Mobile First market, India can be considered to be at the start of its programmatic journey.

Advertisers spent one of the smallest sums programmatically in India when compared to the other countries covered in this analysis. Its lack of programmatic adoption can be seen in Figure 29, which shows the low proportion of available inventory (20%) from PMPs. This level is similar to early stage programmatic markets such as Malaysia and Indonesia.

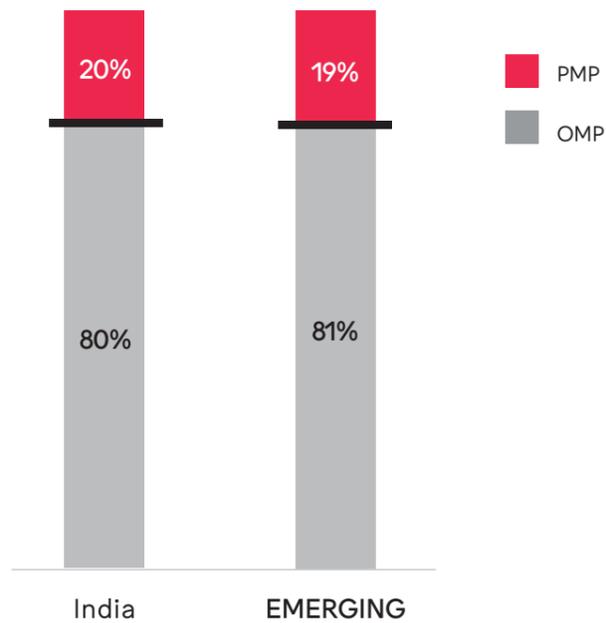


Figure 29 - Inventory traded via OMP & PMP in India versus Emerging Market category

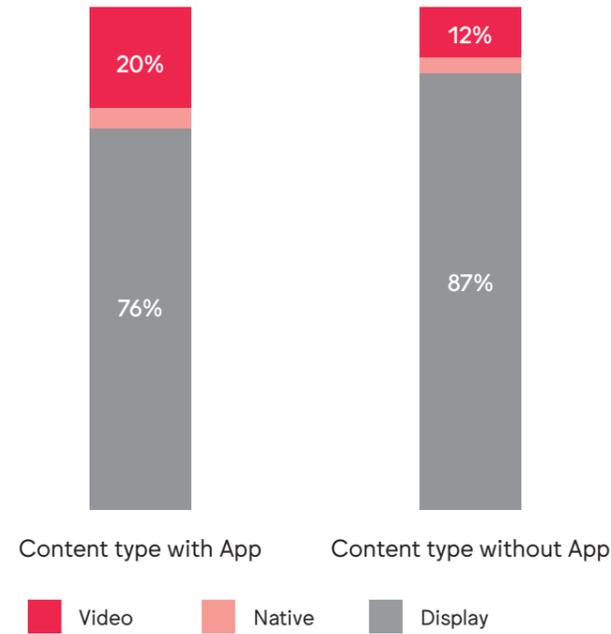


Figure 31 - Inventory content type in India inclusive of app inventory versus exclusive of app inventory

Market Highlight - Video

Video content makes up 20% of all inventory available in India (see Figure 31), but when in-app video is removed this falls to just 12%. Video is often the only type of inventory that app developers, and gaming app developers in particular, make available. Running these types of campaign in-app is recommended if advertisers want to reach the broader market.

The ads.txt data in Figure 30 suggests there is less investment in programmatic from local Indian businesses than other markets. India has more Unknown seller inventory (88%) than any other market included in this report. This would suggest that publishers are favouring non-automated forms of trading digital inventory. →

In-app video and display are the most effective channels for programmatic advertising in India. Where there is perhaps an underinvestment in the web market, apps in India are supported by international players that aggregate supply and demand.

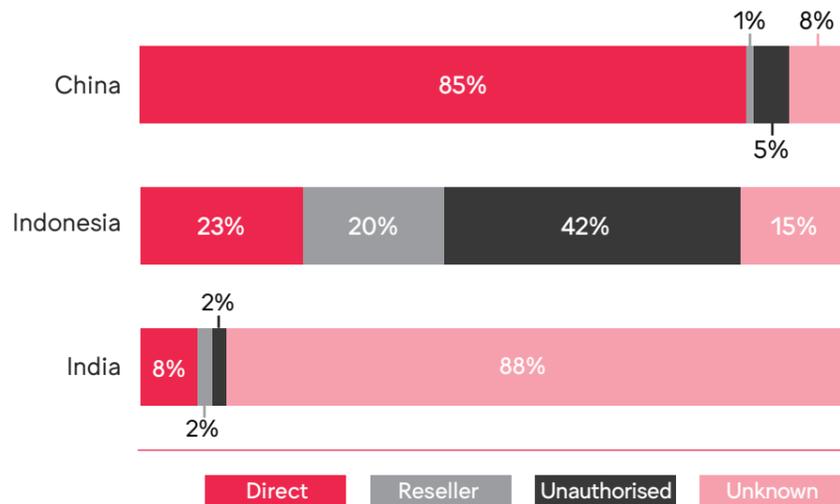


Figure 30 - ads.txt inventory split across Mobile First Markets

04 / Emerging Markets



Russia

Russia is another large market in terms of population, but a small one in terms of programmatic spend. It forms a good example of how progress is slower where markets are harder to integrate. Like China, Russia has its own system of walled gardens that lock up campaign data. But unlike China, the device and consumption patterns are similar to the European markets surveyed.

Russia tops off the lowest five programmatic spend per capita markets in this report (see Figure 32), with only Indonesia, India and Malaysia having significantly less investment per head. This suggests the majority of digital display advertising is still traded via traditional methods in Russia.

4 / Individual Market Analysis

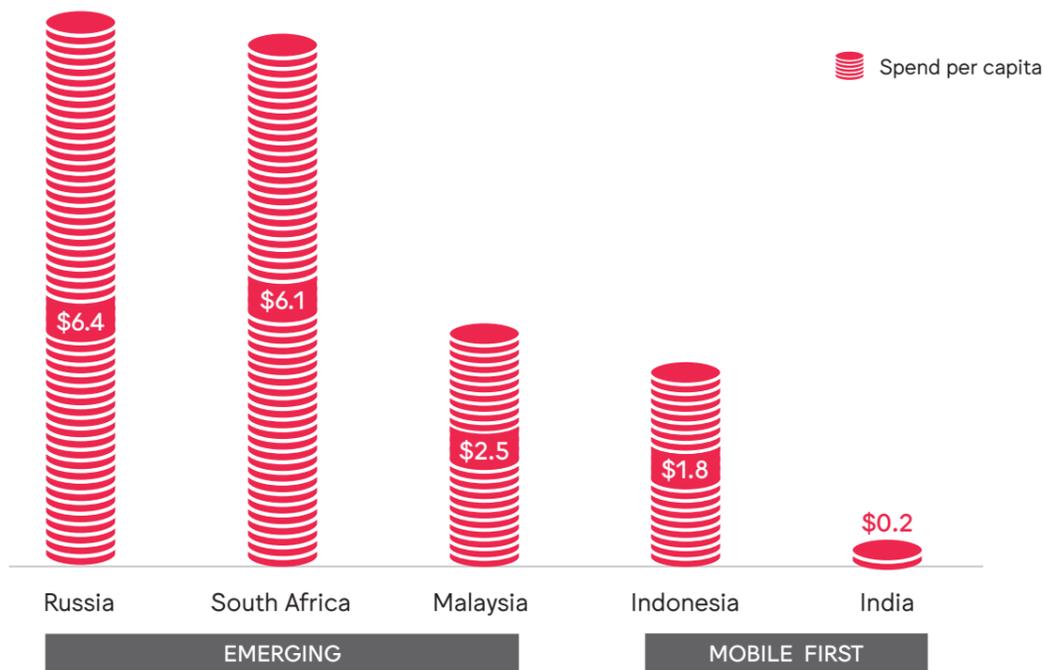


Figure 32 - Lowest five spending per capita markets

It's still to be seen what model of monetisation will come out on top for publishers in Russia. The early leaders are the search engines and mail services, who are creating their own walled gardens within the Russian speaking internet. Early signs may indicate a similar pattern to that of the US, where a couple of data giants dominate the market by monetising their own data and inventory.

In terms of device distribution there are no huge changes that need to be made from European strategies. The one adjustment is to accommodate the walled gardens, as they make up a large amount of the inventory.

Market Highlight - Device & App

Russia is similar to European markets in that mobile represents just under half of all impressions (49%), with desktop (28%) and tablet (24%) sharing the rest (see Figure 33). The fact that there is a higher proportion of tablet inventory, suggests it is the most affluent of the Emerging Programmatic Markets covered in this report.

Although mobile is a smaller proportion than other Emerging Markets, Russia has a higher proportion of app inventory. A trend that could be attributed to one of the largest walled gardens in the market having its own app store.

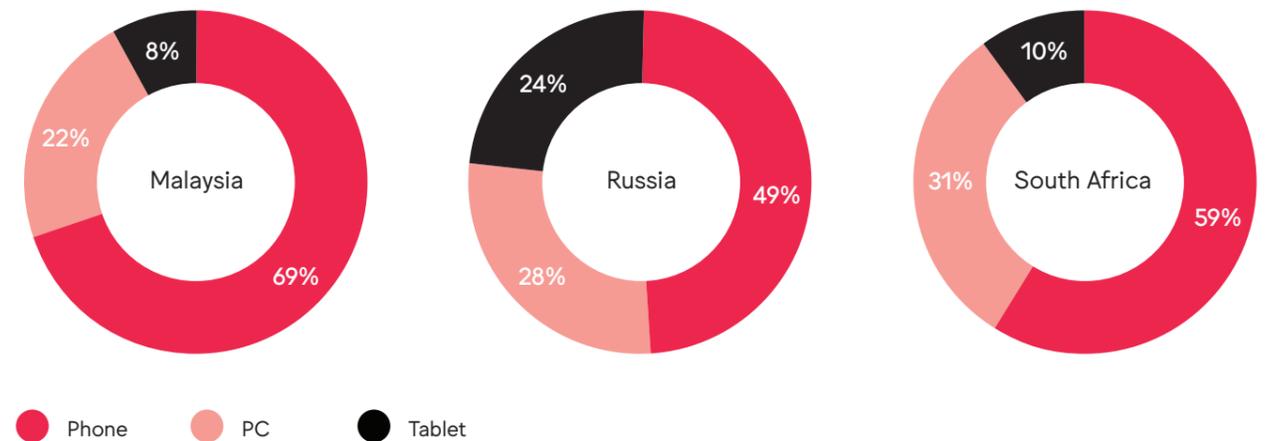


Figure 33 - Inventory content type across Emerging Markets



South Africa

Although the South African programmatic market shows signs of promise, its small absolute spend of \$0.19bn ranks it above only two other markets in this report: India and Malaysia.

However, its spend per capita (\$6.12) places South Africa at a similar stage of development to Russia (\$6.36). An encouraging sign, considering Russia is generally more digitally advanced with far higher internet penetration.

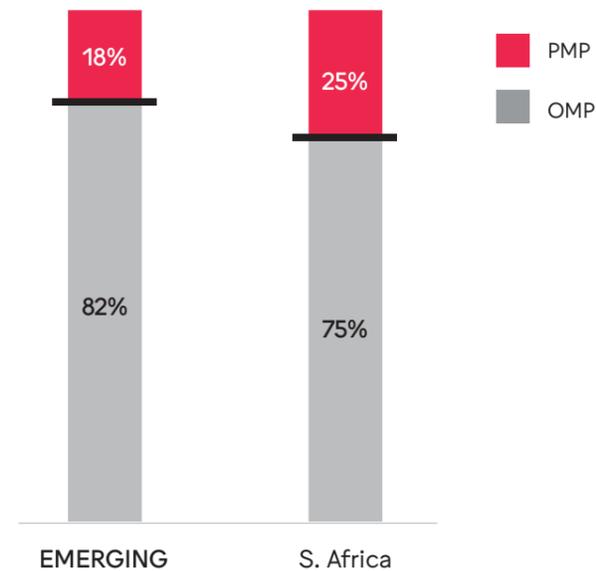


Figure 34 - Inventory traded via OMP & PMP in South Africa versus Emerging Market category

A key difference between South Africa and other Emerging Markets is the volume of inventory traded via PMPs. The Emerging Market group average of 18% is considerably below the 25% transacted via South African publishers (Figure 34).

This may be attributed to the success of publisher cooperatives in this region. These co-ops control advertiser access to aggregate inventory and favour trading via PMPs to achieve better CPMs. As with the way the French market developed, South African publishers have looked to co-ops as an introduction to programmatic.

4 / Individual Market Analysis

Market Highlight - Ads.txt

In similarity to France, Reseller inventory in South Africa makes up a larger than average proportion when compared to other Emerging Markets, as seen in Figure 35. The distinction between publisher co-ops in South Africa, and other European equivalents, is they aim to be the only form of programmatic monetisation for premium publishers.

With these singular market conditions, it would be advised that ads.txt is not used in South Africa in the same way as other markets. Advertisers should favour ads.txt Direct inventory, but judge ads.txt Reseller inventory on individual merits of transparency of trading model as well as access to media and data.

At 55%, South Africa has a far higher proportion of Reseller inventory than any other market in the study. This can be compared to the global average of 17%, and a Emerging market average of 25%. This may be attributed to a publisher willingness to work with co-ops to distribute their premium supply, in addition to using resellers in the traditional role of monetising remnant inventory. →

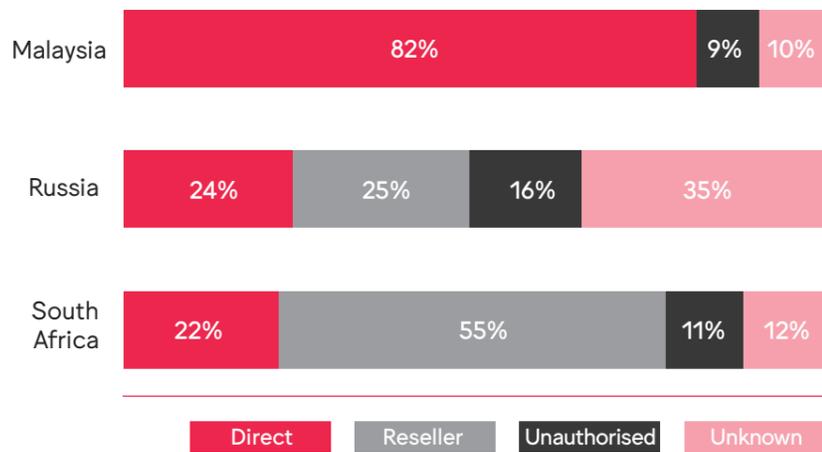


Figure 35 - ads.txt inventory split across Emerging Markets

Malaysia

Of the markets researched, Malaysia has the lowest programmatic spend as well as one of the lowest digital populations. Although, in terms of programmatic spend per capita it is on a par with Indonesia, suggesting programmatic has a growing importance.

However, like Indonesia the market is at an early stage. The proportion of inventory traded through PMPs (17%) is far lower than the global average (33%), as seen in Figure 36. However, it is in line with that of the Mobile First Markets, with the same caveats applying. Publisher data from PMPs becomes less necessary with other forms of data available for targeting in mobile.

Highlight - Device & App

Although not as heavily weighted toward mobile as Indonesia or India, Malaysia is a more mobile driven market than China (on open exchanges). As seen previously in Figure 33, 69% of Malaysian inventory is available via mobile devices, 22% on desktop devices and 8% on tablet devices.

As spend grows in the region, assuming the trend continues, Malaysia should grow into a Mobile First market. But where the larger population of Indonesia attracts global supply-side players, this attention is yet to focus on Malaysia.

Figure 37 shows, although just as mobile driven as China, app inventory represents a less overwhelming proportion. It is clear in markets such as Russia (85% app) and China (86% app) businesses have had greater resources to develop apps and services than in Malaysia. But with app at 76% of the mobile supply in Malaysia, it is still an important channel for advertisers.

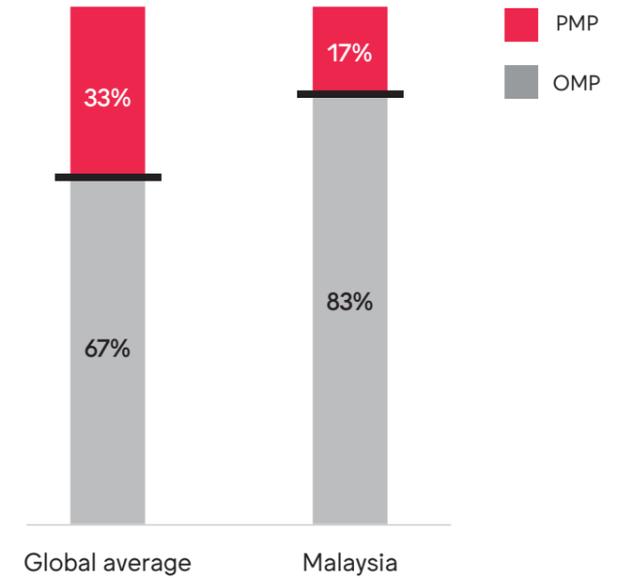


Figure 36 - Inventory traded via OMP & PMP in Malaysia versus the global average

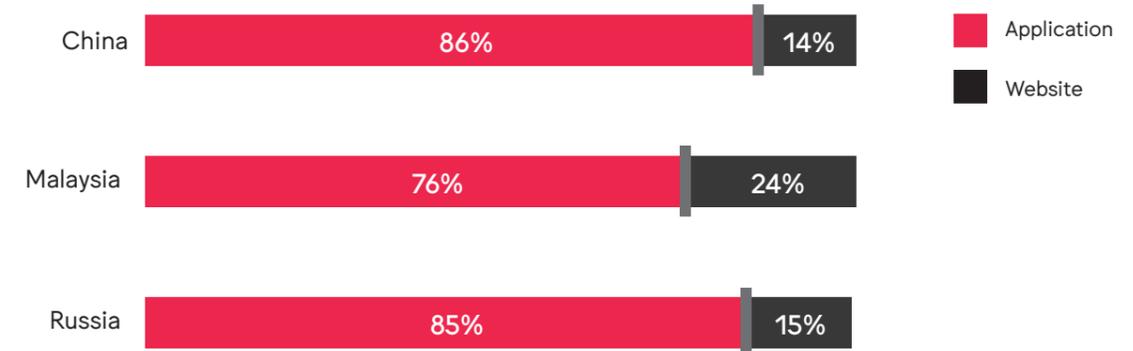


Figure 37 - Split of mobile app & web inventory across Emerging Markets

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6 / Acknowledgements

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We believe in the power of data to transform advertising.

We work with brands facing transformative digital media challenges to create a better approach to data-driven advertising. By linking media spend to business value, we empower brands to act responsibly to deliver a more relevant advertising experience.

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