The State Of The Open Internet

A data-driven perspective on the forces that will shape the ad-supported open internet in 2022

JOUNCE
MEDIA

About this research

Jounce Media is a programmatic advertising consultancy that partners with buyers and sellers to develop data-driven trading strategies.

Through our work, we have the opportunity to build a deep understanding of the ways in which buyers and sellers transact on the open internet – the websites, mobile apps, and CTV apps that accept demand from DSPs and ad networks. We maintain a daily-updating catalog of all authorized programmatic supply chains based on industry-standard ads.txt, app-ads.txt, and sellers.json disclosures. We additionally source media metrics from marketers that invested $600M in programmatically-traded open internet inventory in 2021. The combination of these data sets provides a rich, time-trended view of the total addressable market for each sub-sector of digital advertising, shifting marketer spend patterns, and technology platform consolidation.

This report provides a data-driven perspective on how marketers will deploy paid media investments in 2022 as well as the commercial and technical drivers of paid media share shift.

Summary Findings
2022 digital advertising outlook

The defining theme of the ad-supported open internet in 2022 is a blurring of lines between partners and competitors. This takes hold in three ways:

- **Walled Garden Coopetition**
  Walled gardens are both the biggest competitors to open internet media companies and the biggest sources of demand for open internet media companies. This coopetition has become increasingly problematic as walled gardens outpace open internet growth.

- **Supply Concentration**
  Scaled media companies are emerging as monetization engines for the rest of the open internet. Small and mid-sized publishers cannot match the yield sophistication, sales presence, and data richness of scaled rivals and are choosing to outsource yield management to these companies. But those partnerships make sub-scale publishers dependent on their scaled peers.
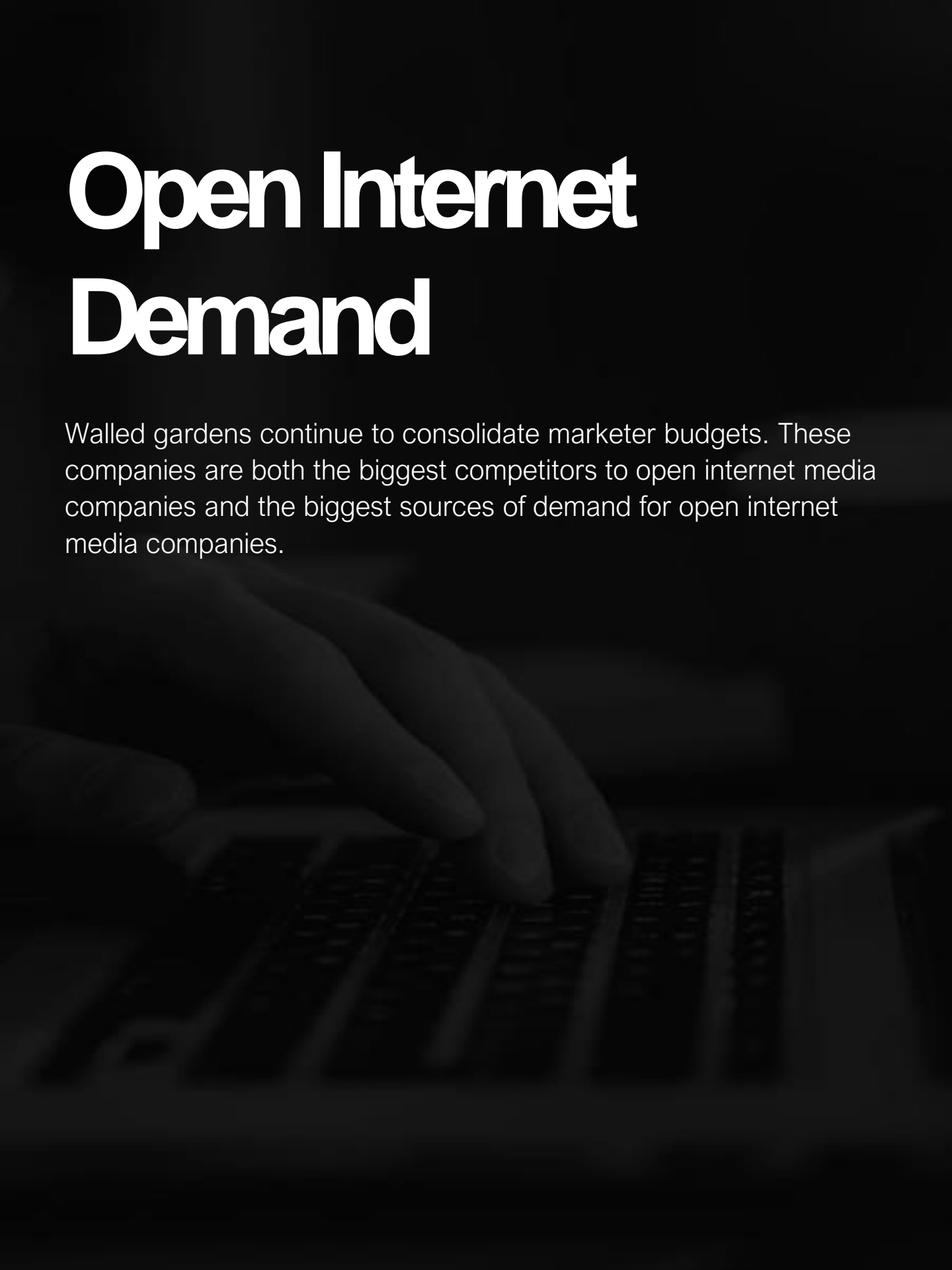
- **Supply Chain Compression**
  As fewer companies monetize more supply, DSPs and SSPs are evolving from partners to competitors. DSPs are challenging the value of SSPs by building publisher-direct integrations. And SSPs are marginalizing the role of DSPs by building buyer-direct partnerships.

Across all three vectors, the open internet is seeking a sweet spot of competition. Fragmented publishers and fragmented ad tech platforms have made quality control an evergreen problem on the open internet. But concentrated demand across Google, Amazon, and Meta has limited marketplace competition. There is a competitive sweet spot, and we see the industry moving toward this sweet spot in 2022.
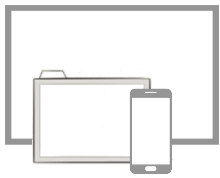
Open Internet Demand

Walled gardens continue to consolidate marketer budgets. These companies are both the biggest competitors to open internet media companies and the biggest sources of demand for open internet media companies.

Global Ad Spend
Major media channels

We track five categories of paid media:

Digital
All internet-delivered advertising across websites, mobile apps, and connected TV apps
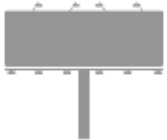
TV
Broadcast TV advertising

Print
Newspaper and magazine placements

Out Of Home
Outdoor signage, inclusive of both static posters and digital billboards

Radio
Terrestrial and satellite radio

This list notably excludes trade spend, influencer marketing, and experiential marketing. We have anecdotal information that suggests these are large pools of investment, and we additionally believe these budgets are both contributing to and pulling from the marketing categories that we do track.

As one example, a significant driver of Amazon's advertising growth is likely reallocation of trade spend from in-store promotions (e.g., retail aisle endcaps) to digital promotions (e.g., Amazon app sponsored listings).

Global Ad Spend
Digital advertising sectors

Within digital advertising, there are four sub-sectors:
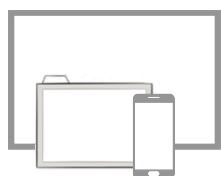
Search	Paid placement in search engine results pages
Walled Gardens	Auction-based ad environments that require marketers to use bidding systems operated by the media company
Open Programmatic	Auction-based ad environments that allow marketers to use third party bidding systems (DSPs and ad networks)
Reservations	Pre-sold campaigns that carry volume commitments and negotiated (i.e., non-auction) pricing

What is display advertising?

We call all non-search digital advertising (walled gardens + open programmatic + reservations) "display" advertising. Display is broader than banner ads. It includes banner, video, audio, and native formats delivered on desktop computers, mobile devices, and connected TVs.
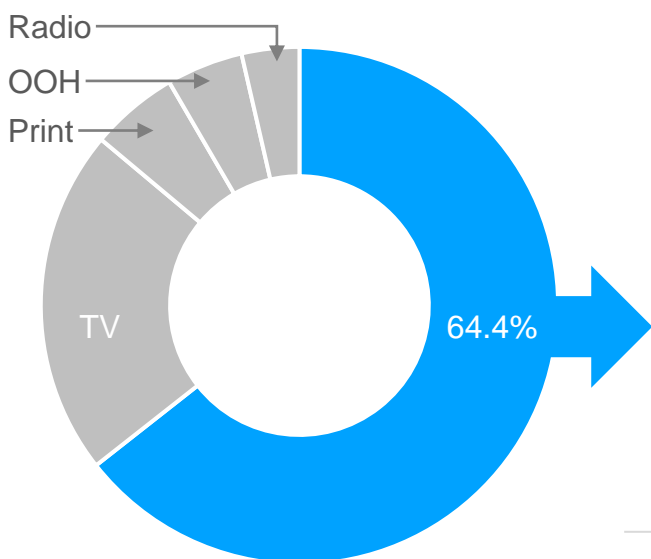
What is the open internet?

The open internet includes all display advertising, excluding walled gardens. The open internet represents the addressable market for DSPs, SSPs, and ad networks.

Global Ad Spend
2022 projections

Each year, we cross-reference industry ad spend forecasts with a bottom-up build of the known size of the largest media companies. We then project growth rates for the year ahead:

Share of Global Ad Spend

Radio
OOH
Print
TV
64.4%

2022 Global Digital Ad Spend ($B)

$257.4
$163.2
The Open Internet
$87.9
$3.6

Search | Walled Gardens | Open Programmatic | Reservations
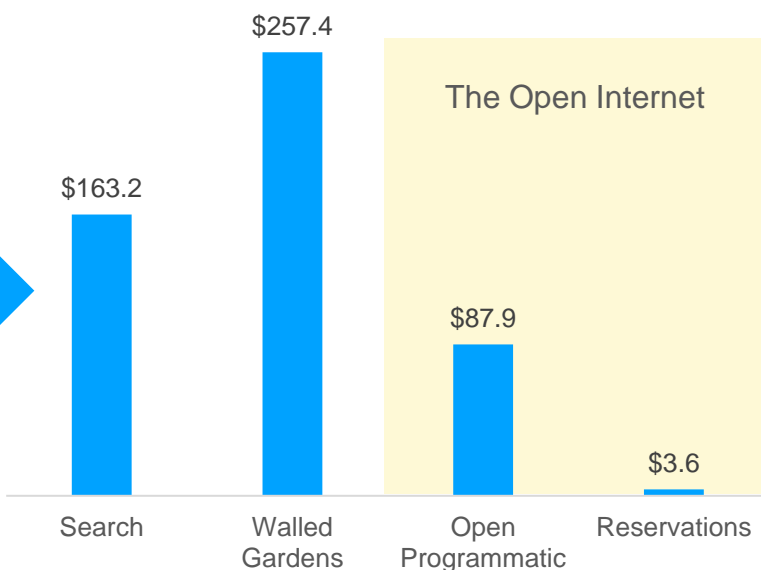
In 2022, we project that the open internet will be a $91.6B category that spans web, mobile app, and connected TV inventory. After years of stagnation, the open internet grew 13% in 2021. This growth lags the growth of walled gardens but reflects a post-COVID rebalancing of advertising investments toward digital channels. We expect the open internet will continue to grow in 2022, though at a slower pace than walled gardens.

A complete breakdown of 2017-2022 global ad spend figures for each media sub-sector is available in the appendix of this report.

Walled Gardens
2022 projections

There are nine walled gardens that each capture at least $1B of annual ad spend with no dependence on third party demand from DSPs or ad networks.

Media Company	Walled Garden Inventory	Forecasted 2022 Ad Spend
Meta	Facebook, Instagram, and other Meta owned-and-operated properties	$144.2B
Google	YouTube, Google Maps, Gmail, and other Google owned-and-operated properties (excluding Google Search)	$37.9B
amazon	Amazon website, app, and select Amazon Fire TV inventory	$39.4B
TikTok	TikTok mobile app	$7.6B
Snap Inc.	Snapchat mobile app	$6.8B
twitter	Twitter website and app	$5.0B
LinkedIn	LinkedIn website and app	$5.0B
Pinterest	Pinterest website and app	$3.9B
Walmart	Walmart website and app	$3.8B

Walled Gardens
2022 projections

Marketers that want to advertise on YouTube or Instagram or any of the other O&O properties listed on the prior page need to transact directly with the media company and use ad buying tools that are controlled by the media company. Transacting in seller-controlled environment is strategically unattractive to media buyers, but the most scaled media companies have leverage to dictate these requirements to marketers.

Additionally, highly specialized media properties – even at modest scale – also have leverage to operate as walled gardens. In particular, many commerce platforms are launching new walled garden advertising businesses:

We estimate that each of these companies operates a sub-$1B media business. But collectively, we estimate these companies will capture nearly $4B of global ad spend in 2022.
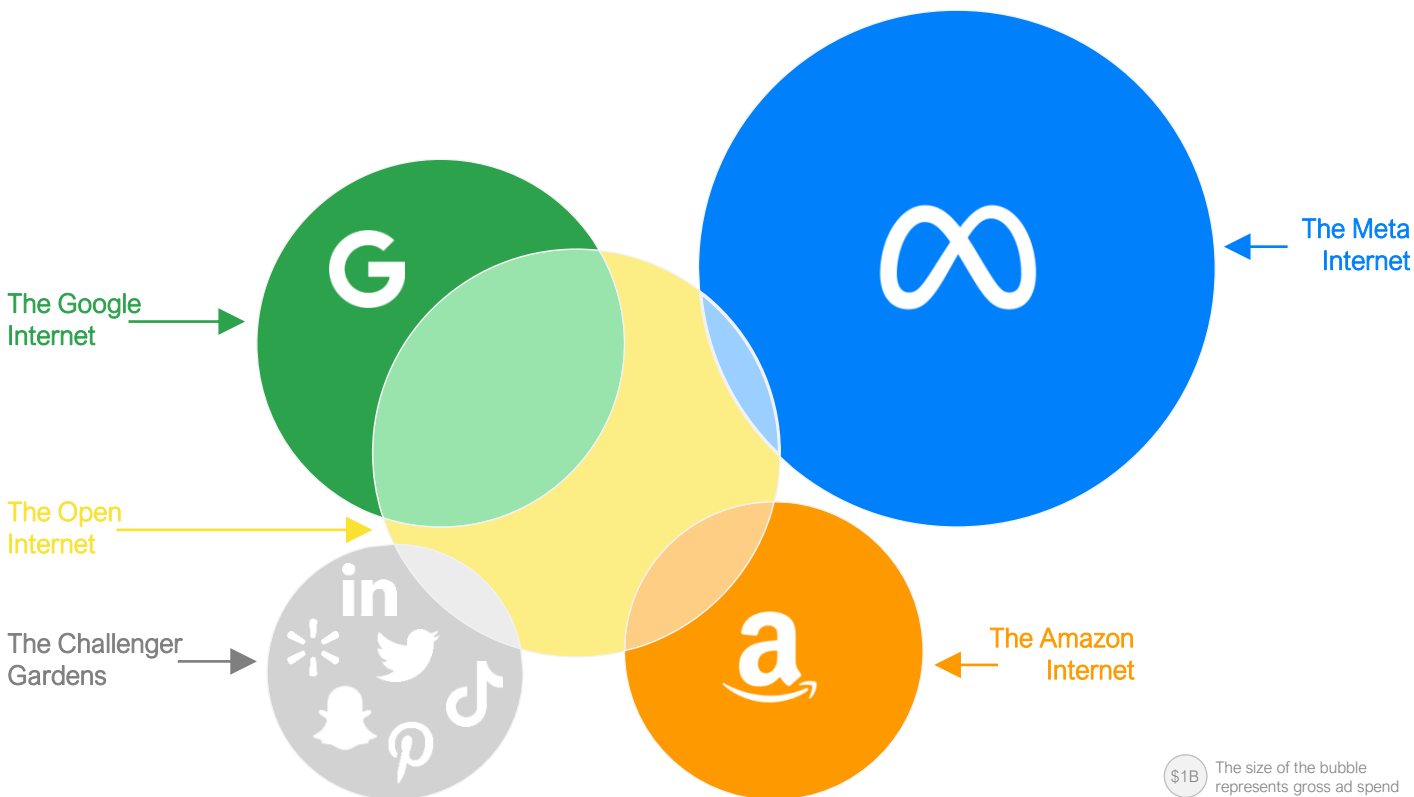
Combining these companies with Amazon and Walmart creates a $47B commerce media category that is almost entirely transacted via walled garden auctions. (Target, Ebay, and handful of other commerce platforms are uniquely choosing to monetize their inventory via open programmatic auctions.)

Walled Gardens
2022 projections

All-in we project marketers will invest $257B with walled gardens in 2022, and that spending power makes walled gardens uniquely positioned to bring demand to open internet media companies. While priority #1 for the walled gardens is monetizing their O&O inventory, the open internet is a highly attractive incremental monetization opportunity.

Said differently, these walled gardens are not sellers on the open internet, but they are the largest buyers. The highly interconnected nature of walled gardens and the open internet results in a market map that looks like this:

The Google Internet

The Meta Internet

The Open Internet

The Challenger Gardens

The Amazon Internet

$1B — The size of the bubble represents gross ad spend

In 2022, marketers will invest $92B buying web, mobile app, and CTV inventory on the open internet. And more than half of that spend will be powered by walled garden buying systems.

Open Internet Demand
2022 projections

Google, Amazon, and Meta all have multi-billion dollar off-property advertising businesses that point their proprietary demand at third party websites and apps.

Buying Platform	Open Internet Inventory	Forecasted 2022 Ad Spend
Google Ads / **Display & Video 360**	~1,300,000 websites and apps that integrate with Google AdSense and AdMob (sometimes called Google Display Network) + any property that transacts via any RTB exchange	$36.7B *($26.0B Google Ads + $10.7B DV360)*
amazon Demand Side Platform	~250,000 websites and apps that integrate with Amazon Publisher Services + any property that transacts via any RTB exchange	$9.7B
audience network	~75,000 apps that integrate with Meta Audience Network	$2.8B

LinkedIn, Twitter, Walmart, and many of the smaller commerce media platforms also power off-site advertising businesses that we estimate contribute another $2-3B of annual open internet demand.
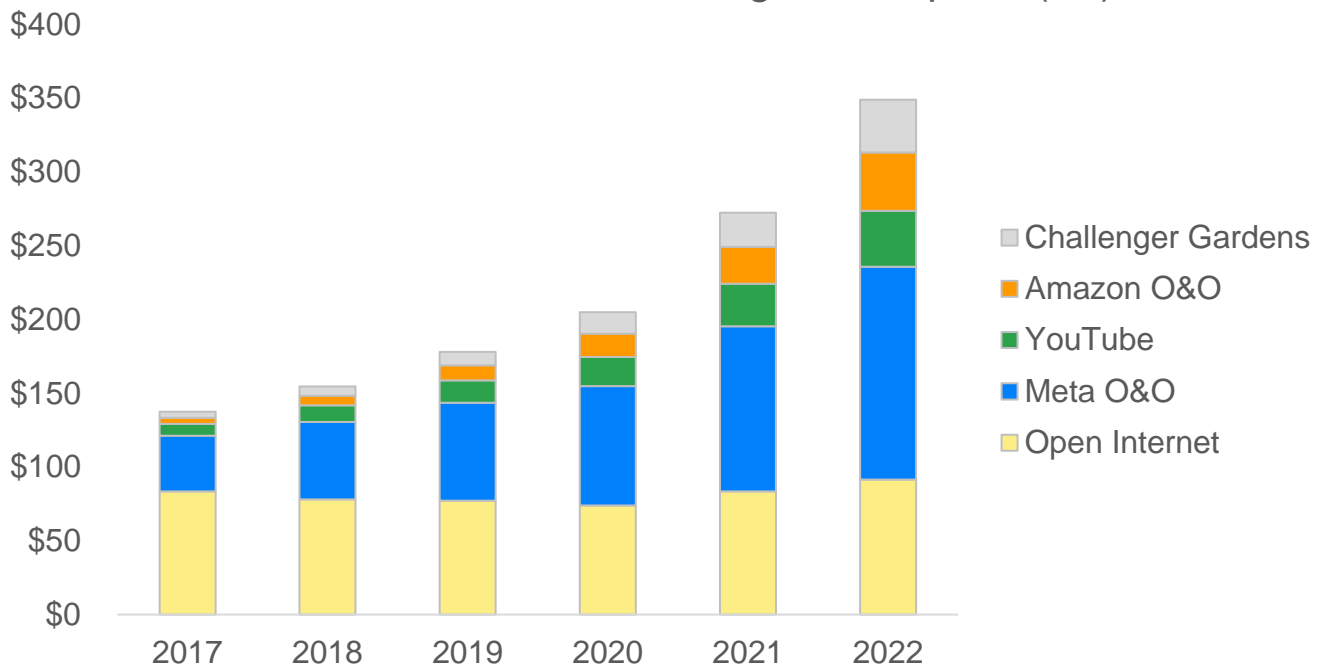
Open Internet Demand
2022 projections

The average open internet media company now generates half of its revenue from its three largest rivals – Google, Amazon, and Meta. And that dependence is particularly problematic because these three companies (along with a growing roster of challenger gardens) are capturing nearly all of the industry's growth.

Non-search digital advertising has seen net inflows of more than $211B since 2017, and the walled gardens have captured 96% of this growth.

2022 Global Non-Search Digital Ad Spend ($B)

Legend:
- Challenger Gardens
- Amazon O&O
- YouTube
- Meta O&O
- Open Internet

During this period, the open internet has stagnated at $70-80B per year. Growing an open internet media company requires either extracting more spend from walled gardens (deepening a strategically problematic dependence) or sourcing demand from new buyers.

Open Internet Demand
2022 projections

To date, those new demand sources have failed to materialize in a meaningful way. In 2017, Google, Amazon, and Meta represented less than a quarter of all open internet demand. In 2022, those three companies will represent more than half of all open internet demand.

Share Of Open Internet Demand
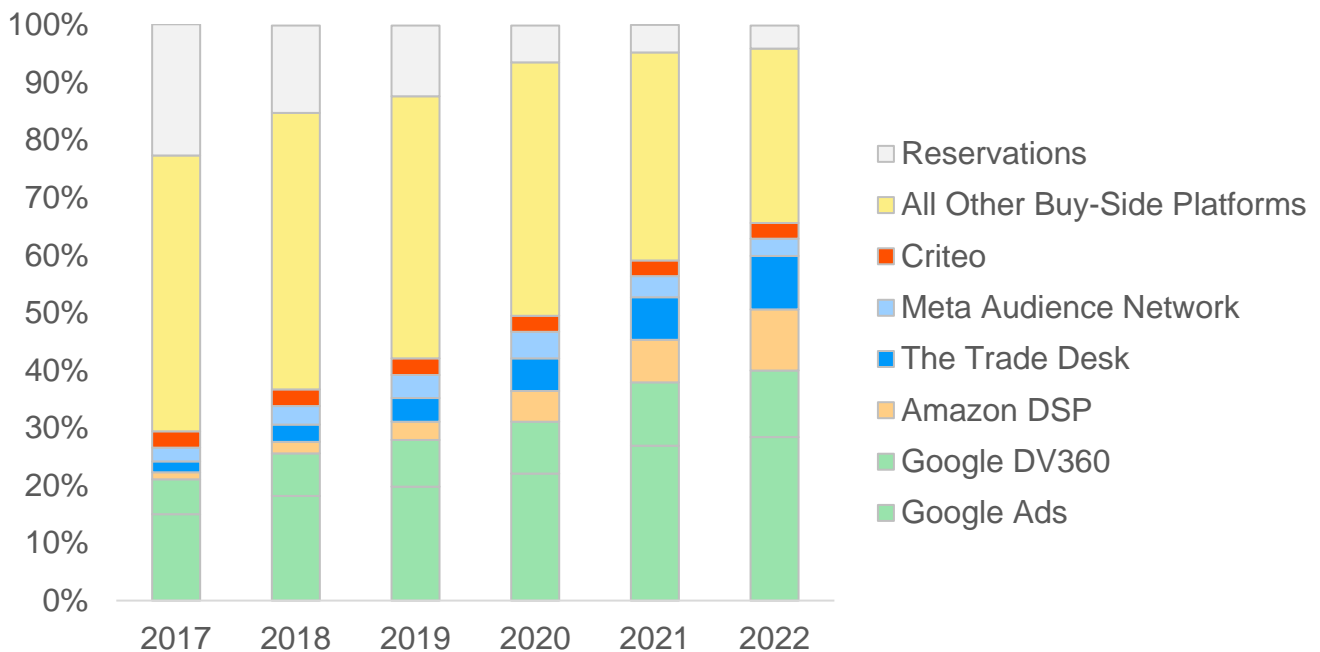
The Trade Desk is emerging as a celebrated source of non-walled garden demand for the open internet, and TTD's buying power will grow from $1.6B in 2017 to $8.5B in 2022. But TTD's growth will need to continue compounding for another 3-4 years to match the scale of walled garden demand.

Most critically, the growth of today's leaders (walled gardens and TTD) has largely been at the expense of sub-scale buying platforms (yellow region above) and hand-sold reservations (gray region above), which have seen steep declines since 2017.

Open Internet Demand
2022 projections

We track 36 independent DSPs and ad networks that will collectively bring $27.7B of demand to the open internet in 2022:

2022 Open Programmatic Ad Spend by Platform ($B)
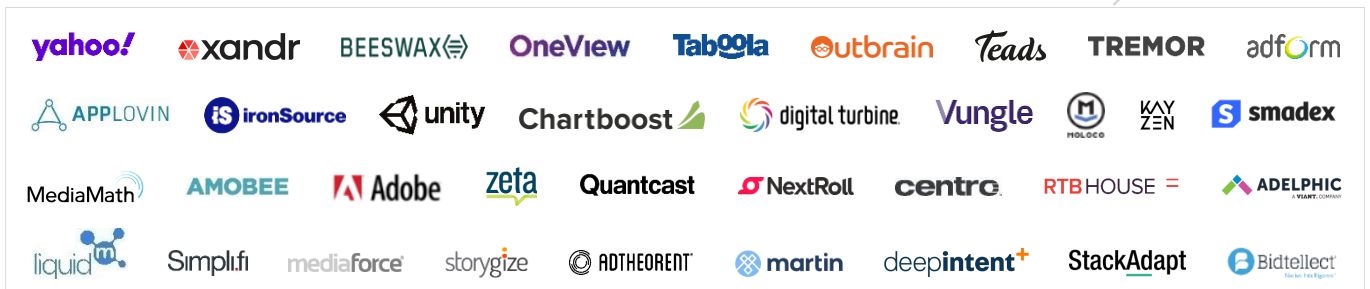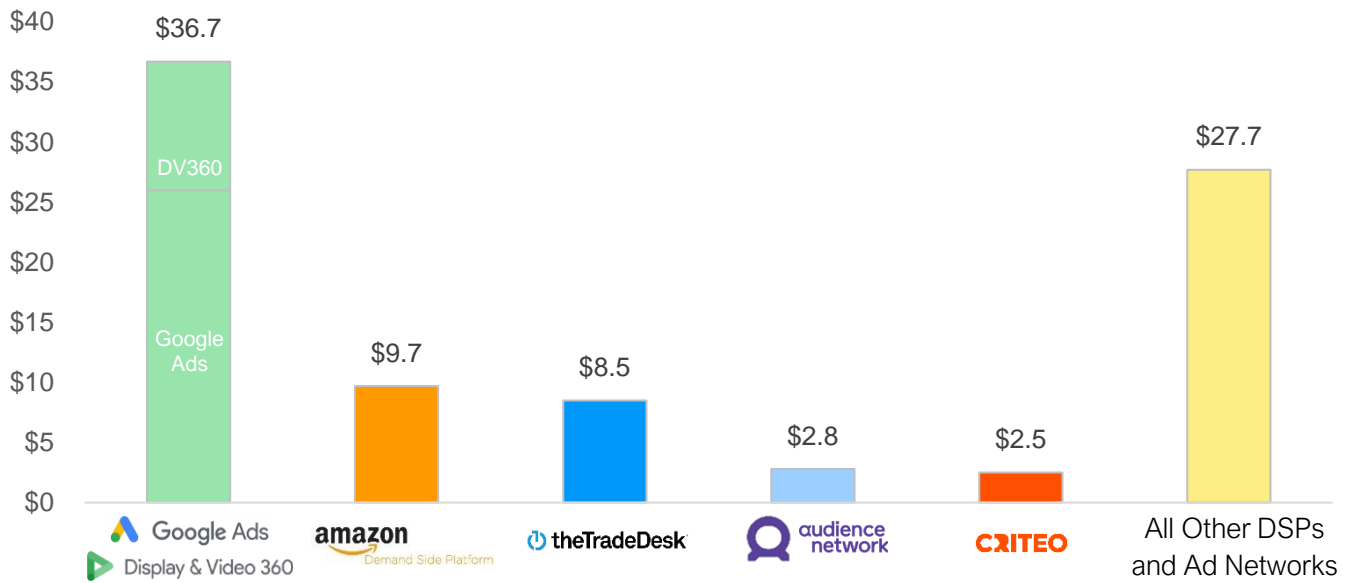
While it is true that this category has declined in the last 5 years, much of that decline was driven by now-defunct ad networks whose business models failed to meet buyer and seller price efficiency expectations. The remaining independents have built platforms that are trusted by programmatic buyers and sellers and that have weathered competition from Google, Amazon, and others. Further, the foundational rules of the open internet are changing in a way that destabilizes today's incumbents.

Open Internet Demand
2022 projections

Apple (who has near-zero financial interest in ad-supported media) continues to advance initiatives that restrict cross-site and cross-app user tracking. Under competitive pressure, Google is reluctantly following, and it's likely that connected TV operating systems like Roku and Amazon will at some point follow as well. Further, regulators in many geographies bolster technical initiatives by imposing commercial limitations on cross-company data sharing.

These changes require a ground-up rethinking of programmatic advertising. And while Google, Amazon, and Meta all have unmatched ability to invest in next-generation advertising technology, it's not clear those investments will be a strategic priority.

Google

Google is too conflicted to innovate quickly. Google operates the largest publisher yield management system, the largest advertising buying system, the most widely adopted web browser, and the most widely adopted mobile operating system. This multi-tentacled business positions Google to protect the status quo but limits Google's ability to deploy disruptive, next-generation advertising technology. Faced with conflicting demands from publishers, marketers, consumers, and regulators, Google continues to slow roll its Privacy Sandbox initiatives, and we see no reason to believe Google can accelerate progress in 2022.

amazon

Amazon has too much opportunity cost to be singularly focused on open internet innovation. Amazon's walled garden is the best positioned advertising business for a privacy-restricted internet. By owning the consumer experience from product discovery through checkout, Amazon has unrivaled audience data to inform targeting

15

Open Internet Demand
2022 projections

and attribution. And Amazon's control of the Fire TV operating system protects against the risk of signal loss for some of the most valuable open internet inventory. Amazon certainly has the resources to also invest in next generation targeting and attribution for web and mobile app inventory, but the opportunity cost is diverting focus from the company's most promising growth drivers.

∞ Meta

Meta has already deprioritized the open internet. As Meta's advertising business faces both consumer headwinds (stalled user growth) and technical headwinds (Apple ATT), the company is right to prioritize investments in its O&O apps. Meta has guided investors to expect a $10B revenue penalty in 2022 caused by Apple ATT. This pain is likely lopsided toward the off-property Audience Network, which we expect will decline in 2022. More generally, we expect the Audience Network will continue to suffer from under-investment relative to Meta's focus on overcoming signal loss for O&O apps.

To be clear, there is no question that walled gardens will remain the largest buyers of open internet inventory in 2022. But there is reason to question whether the open internet is a long term priority for Google, Amazon, and Meta, leaving two potential long term demand scenarios for open internet media companies:

- **Scenario 1:** Walled gardens continue to consolidate market share, creating a revenue concentration problem for open internet media companies.

- **Scenario 2:** Walled gardens refocus their advertising businesses on O&O inventory, leaving a demand gap for open internet media companies.

In either outcome, open internet media companies need to diversify their revenue and secure dedicated budgets from brands and agencies. And that's a much more achievable strategy for the most scaled publishers.

Open Internet Supply

Sub-scale open internet media companies cannot match the technical sophistication, sales presence, and data richness of scaled peers. This monetization advantage creates opportunities for sales houses and scaled publishers to provide monetization services to sub-scale properties, making a small number of companies gatekeepers for open internet supply.

Monetization Engines
Open internet supply concentration

Buyers have been taught to think of the open internet as a vast expanse of fragmented supply. It is true that there are hundreds of thousands of websites, mobile apps, and CTV apps available to programmatic buyers – our buy-side clients purchase inventory on 1.5 million different properties. But that property-oriented lens misses the more important point that a relatively small number of media companies control the properties that matter. Companies like Disney, NBC Universal, and Warner Media operate diverse multi-channel portfolios that concentrate open internet supply. Consider the following chart, which plots the distribution of programmatic web, mobile app, and CTV spend by publisher:

Cumulative Share Of Spend By Publisher
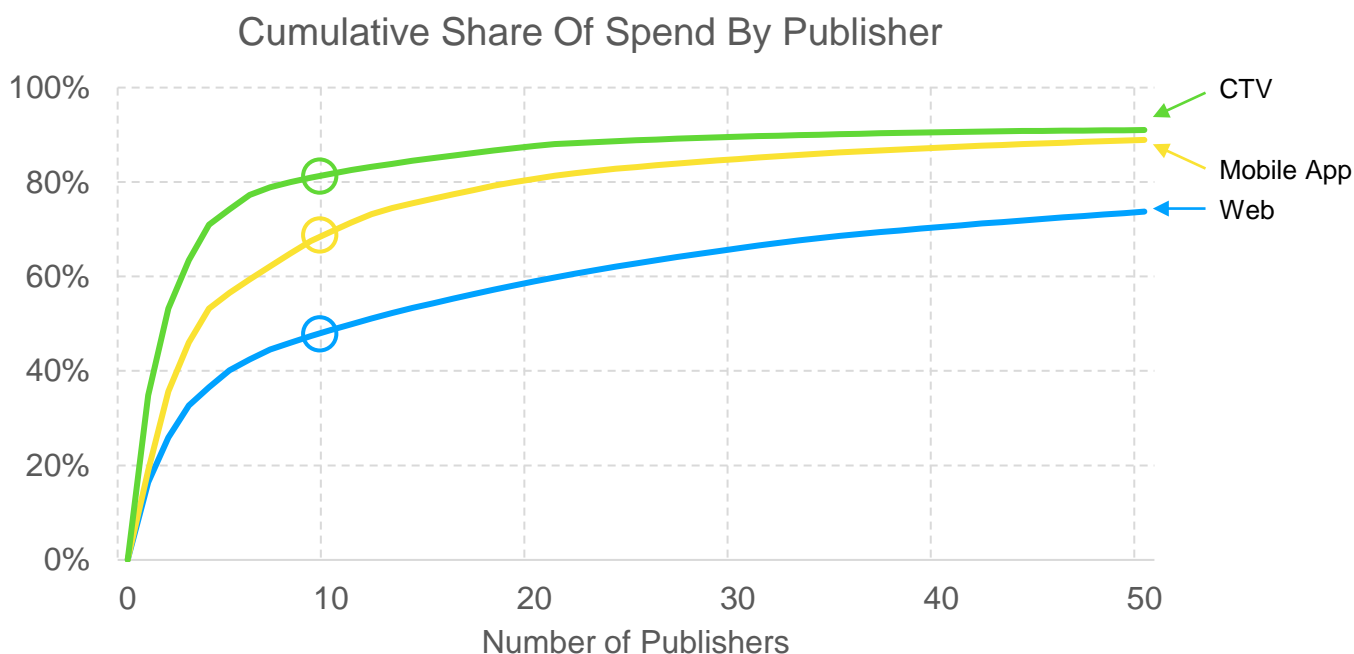
The 10 largest web publishers capture 49% of programmatic web spend. The 10 largest mobile app developers capture 70% of programmatic mobile app spend. And then 10 largest CTV app developers capture 82% of programmatic CTV spend.

Monetization Engines
Open internet supply concentration

These 100 companies collectively capture more than 80% of all programmatic demand across web, mobile app, and CTV environments:

42 Media Group	ACTIVISION BLIZZARD	ADVANCELOCAL	American Media, LLC	ATHENA STUDIO	ATMOSPHERE
axel springer	BuzzFeed	café media	Chegg	CONDÉ NAST	CORTEX ADS
COX ENTERPRISES	crunchmind	Dictionary.com	digital turbine	Discovery	Disney
dmg::media	Dotdash	Easybrain	ebay	Electronic Arts	Exorigos
ezoic	Factinate	Fandom	MUSI	Forbes	FOX
FREESTAR	fubo TV	FUN CORP	FUSIONMEDIA	FUTURE	GO MEDIA
GANNETT	HEARST	HIVE MEDIA	IAC	IBM	Kueez
leaf GROUP	Learnings	LG	LOVE TO KNOW MEDIA	Media Tradecraft	medialab
MEDIAVINE	meredith	Microsoft	minute media	mobilityware	NBCUniversal
News Corp	NEWSY	NoveltyMedia	overwolf	pandora	PMC
peoplefun	philo	playwire	pluto tv	PROPER	Publishers Clearing House PCH
Quizlet	Reach	recurrent	RED VENTURES	ReigNN.	RoughMaps
SAMSUNG	SHINEZ	sling	snigel	SPINE MEDIA	Spotify
SYSTEM1	TEGNA	THE ARENA Group	tripledot	tubi	TUNE IN
Twist Digital	VALNET	VERAXEN	VIACOMCBS	VIZIO	VOXMEDIA
WARNERMEDIA	The Washington Post	wazimo	WeatherBug	FLOW	XUMO
yahoo!	ZergNet	Ziff Davis	zynga		

Monetization Engines
Open internet supply concentration

Many of these publishers produce low quality content and poor user experiences (more on that in the coming pages), but they do all operate at scale. And scaled media companies benefit from four structural advantages vs. sub-scale peers:

Technical Sophistication	The most scaled media companies can invest in proprietary technical capabilities to maximize programmatic yield.
Sales Presence	These scaled media companies can also invest in distributed sales teams that secure dedicated budget from brands and agencies.
Negotiating Leverage	Scale allows media companies to negotiate attractive take rates and elevated service levels from ad tech vendors.
Data Richness	Scale also positions media companies to build rich audience profiles based on either authentication events or anonymous 1st party identifiers.

Most obviously, the benefits of scale strengthen the business case for corporate mergers, and we saw many examples of media mergers in 2021:

Monetization Engines
Open internet supply concentration

In all of these cases, previously mid-size publishers combine to form scaled media businesses that benefit from cross-selling opportunities, superior yield management capabilities, and hard-to-replicate audience data. We expect this business case will support more media mergers in 2022.

But media companies are also unlocking scale benefits in less obvious ways. Consider five examples that illustrate the range of possibilities:

THE
ARENA
Group

The Arena Group has pursued a roll-up strategy that now brings 135 previously fragmented web domains under a single publisher. Arena's portfolio includes anchor tenants like Sports Illustrated and long tail properties like yachtsinternational.com. And critically, those long tail properties publish highly endemic content that provides rich signals about user intent.

As cross-site tracking faces mounting headwinds, audience targeting decisions will move from the buy side to the sell side. A growing share of ad impressions will not carry user identifiers that are recognizable to advertisers. But these users will be recognizable to publishers (particularly if Chrome and other browsers choose to support first party cookie sets.) Arena's high signal long tail sites create data richness that Arena can activate across its entire footprint – allowing, for example, a boat manufacturer to reach a yachtsinternational.com visitor on a future visit to si.com.

Arena is now publicly traded on the New York Stock Exchange, and we expect Arena's access to capital markets will support ongoing inorganic growth. Other top-100 publishers pursuing a similar rollup strategy include Recurrent Ventures and Red Ventures.

Monetization Engines
Open internet supply concentration

zynga.

Zynga acquired Chartboost, a scaled mobile app ad network, in 2021. Faced with cross-app tracking headwinds (specifically Apple's ATT initiative), Zynga's ownership of an ad tech platform enables sophisticated cross-promotion of apps within the Zynga portfolio.

In addition to bringing technical sophistication to monetizing Zynga's owned-and-operated (O&O) apps, Chartboost positions Zynga as a one stop shop for all mobile app advertising. Zynga's sales team can now package its O&O apps with apps developed by Tripledot, MobilityWare, Etermax, and others. In this way, Zynga becomes a monetization engine for its sub-scale peers.

Other top-100 publishers that are taking a media + tech strategy include:

- Athena Studio and PeopleFun (partially or fully acquired by AppLovin)

- Digital Turbine (acquired AdColony, Fyber, and Appreciate)

- Yahoo (owns yahoo.com and aol.com along with Yahoo DSP and Yahoo Exchange)

cafe media

CafeMedia does not own any media properties. Instead, the company has secured exclusive sales rights for over 5,000 small and mid-size websites. These websites are typically operated by independent content creators in the lifestyle category – sites like savvysavingcouple.net, diaryofafitmommy.com, and offbeatbride.com. CafeMedia brings sophisticated yield management and a scaled sales team to these content creators and shares in the revenue upside.

Monetization Engines
Open internet supply concentration

But mid-size publishers are also now choosing to outsource yield management to sales houses like CafeMedia. In late 2021, for example, Britannica (the publisher of merriam-webster.com and britannica.com) outsourced its yield management to CafeMedia. We take this as a sign that the scale threshold for a go-it-alone monetization strategy continues to rise, and we expect to see more mid-size media companies engage with sales houses in 2022.

Other pure play sale houses in our top-100 publisher list include Ezoic, Freestar, Mediavine, Media Tradecraft, and Snigel.

The Washington Post
ZEUS

Publishers that invest in proprietary yield management capabilities carry a fixed development cost. Those costs then pay back in proportion to the volume of inventory the technology helps monetize. Framed this way, it's obvious that publishers like The Washington Post are eying opportunities to license yield management technology to small and mid-size publishers.

Dozens of news properties owned by McClatchy, MediaNews Group, Tribune Publishing and others license WaPo's Zeus monetization platform to access yield sophistication that would be uneconomical to develop internally.

In late 2021, The Washington Post extended the Zeus offering from technology to sales with the launch of the Zeus Prime ad network – allowing Zeus licensees to also benefit from WaPo's scaled sales presence.

Other top-100 publishers that offer third party monetization services include Hearst, Minute Media, Penske Media Corporation, Playwire, and Proper.

Monetization Engines
Open internet supply concentration

VIZIO

Vizio is a leading manufacturer of Smart TVs and pre-loads those TVs with the Vizio WatchFree app – a program guide that includes content from traditional content owners like A&E and emerging content creators like Newsy. The WatchFree app unlocks a new high margin advertising opportunity for Vizio that offsets its low margin hardware business. In August 2021, Vizio [announced](#) it had secured over $100M in 2022 ad spend commitments.

But Vizio's advertising business is bigger than the WatchFree app. Through an ad network called Vizio Amplify, Vizio brings its demand to third party CTV apps. Because Vizio controls the operating system, it is well positioned to enable superior targeting and attribution for third party app developers. Additionally, Vizio's brand recognition and scaled sales presence allows Vizio to acess demand that sub-scale CTV app developers cannot.

We estimate that Amplify (i.e., Vizio selling inventory on third party apps) contributes 30-40% of Vizio's overall advertising revenue. Amazon, LG, Roku, and Samsung are taking similar strategies in the CTV category. Gannett's USA Today Sports Media network follows a comparable playbook for web inventory.

Monetization Engines
Open internet supply concentration

These examples paint an optimistic picture of the future of the open internet in which a small number of scaled, trusted sellers become supply gatekeepers. But these examples miss a critical consideration about the current state of the open internet. The 100 logos on page 19 of this report include many scaled publishers that are likely unfamiliar to the average media buyer. We estimate that 15-20% of programmatic spend in 2022 will be deployed to low quality "made for advertising" (MFA) publishers that thrive on the opacity of the programmatic supply chain.

Made For Advertising

The MFA business model is built on an arbitrage opportunity – buy cheap traffic and then aggressively monetize the resulting page views. Readers of this report will likely be familiar with clickbait advertising like this:

These types of clickbait ads run on content recommendations networks like Taboola and Outbrain, social platforms like Facebook and Twitter, and search engines like Google. The MFA publisher pays these companies on a per-click basis to drive paid traffic and then monetizes the resulting page views through programmatic auctions. Overcoming this traffic acquisition cost requires the MFA publisher to sell lots of ads, and that requirement results in user-hostile ad experiences that look like this:

Monetization Engines
Open internet supply concentration

While this ad experience fails most reasonable marketers' judgment for quality, it meets or exceeds all automated quality checks:

- The content is brand safe

- The ads are viewable

- The videos play to completion

- And as a bonus, the auction clearing prices are low

In our conversations with premium publishers, we consistently hear a readiness to compete with walled gardens and other premium publishers. But it's not clear how premium publishers can compete with MFA publishers that offer lower prices and achieve superior media KPIs.

Monetization Engines
Open internet supply concentration

And so we observe premium publishers selling sub-premium inventory that also harvests irrational programmatic demand. Web publishers in particular commonly delegate control of select placements (typically their lowest quality placements) to a third party. Consider the comments section of a premium web property:
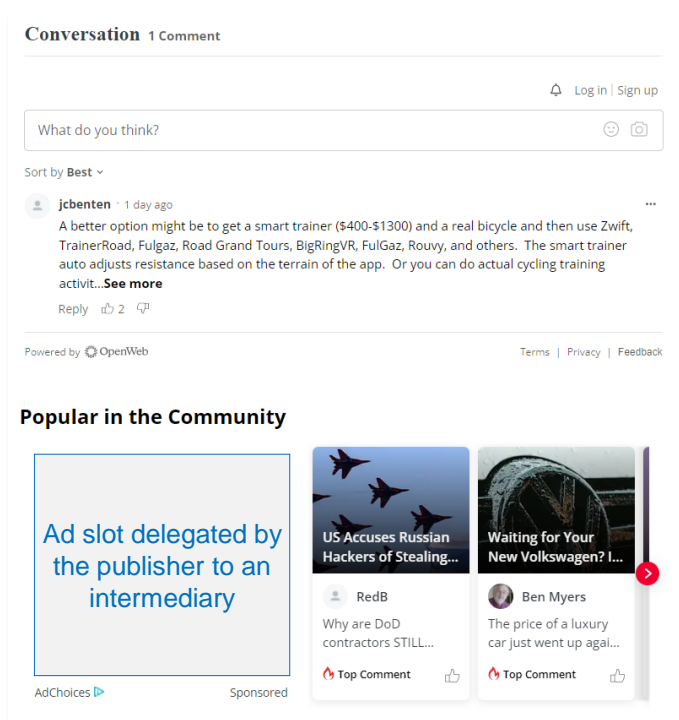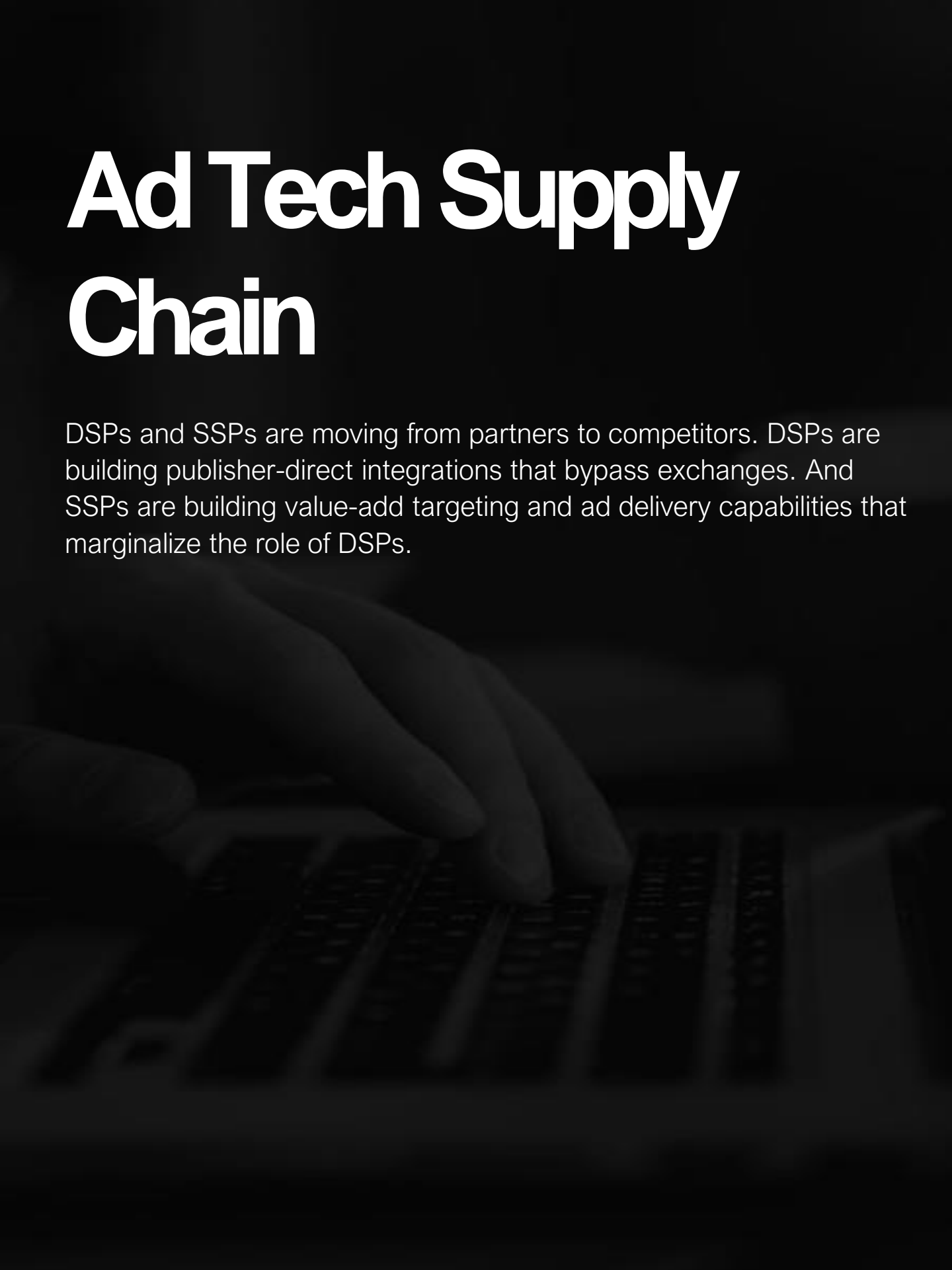
As of March 2022, the overall viewability of this website is 25%, well below industry benchmarks. But this overall viewability is a weighted average of inventory monetized by the publisher (65% viewability) and inventory monetized by the comments section provider (1% viewability).

Marketers who transact directly with this publisher get the quality they expect. But automated buying systems that chase low cost inventory buy non-viewable impressions that are sold by a supply chain intermediary. In our view, this dysfunction is a major driver of the open internet's slow growth. Programmatic advertising campaigns that drift into low quality supply fail to demonstrate real world outcomes for marketers.

Ad Tech Supply Chain

DSPs and SSPs are moving from partners to competitors. DSPs are building publisher-direct integrations that bypass exchanges. And SSPs are building value-add targeting and ad delivery capabilities that marginalize the role of DSPs.

Supply Chain Evolution
Publisher-direct DSP integrations

For the last decade, programmatic buying systems (DSPs and ad networks) have bid into a patchwork of auctions operated by SSPs (which we prefer to call exchanges). And programmatic buyers have designed their campaigns to target specific audiences across the full breadth of programmatic supply. This demand behavior rewards publishers that produce high volumes of auctions for high value audiences.

One approach for publisher growth is of course to develop content that attracts high value audiences. But a less obvious and far easier approach is to create auction duplication. A publisher that issues just a single bid request for each available impression captures less programmatic demand than a publisher that issues multiple duplicative bid requests for each available impression. And that creates a supply chain that looks like this:
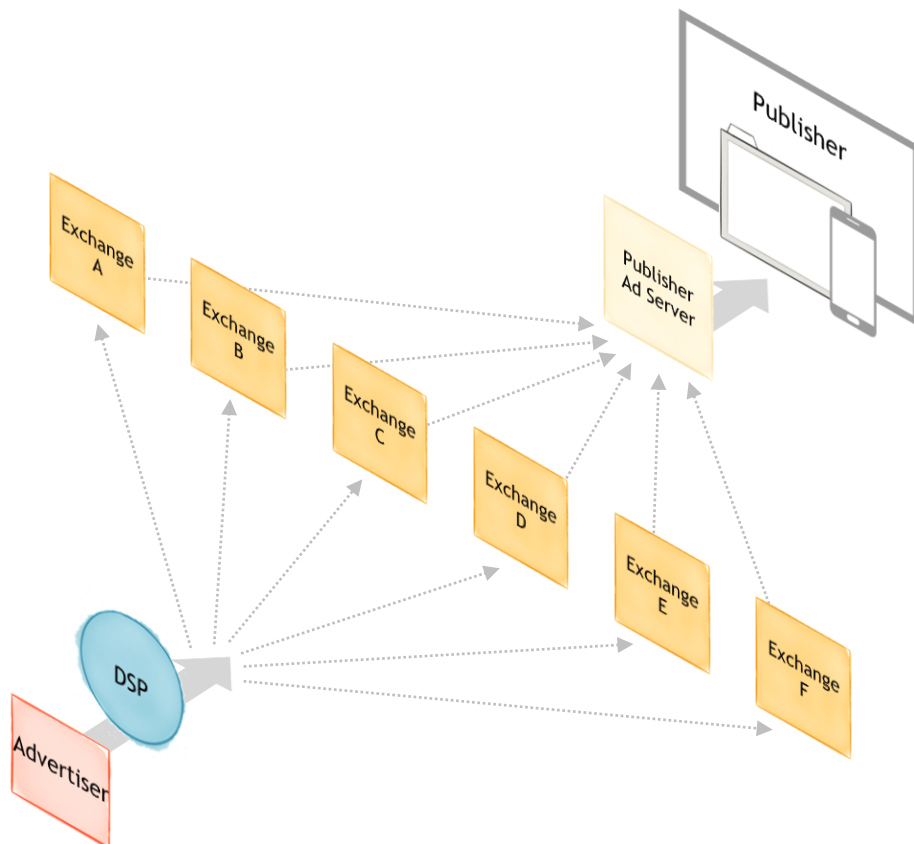
Supply Chain Evolution
Publisher-direct DSP integrations

Further, each of a publisher's exchange partners can multiply bid request volume through reselling relationships with other exchanges. In the illustration below, Exchange A issues two bid requests to DSPs for each available impression:

- One auction in which the chain of payment is DSP > Exchange A > Publisher (blue path below)

- And another auction in which the chain of payment is DSP > Exchange A > Exchange C > Publisher (green path below)
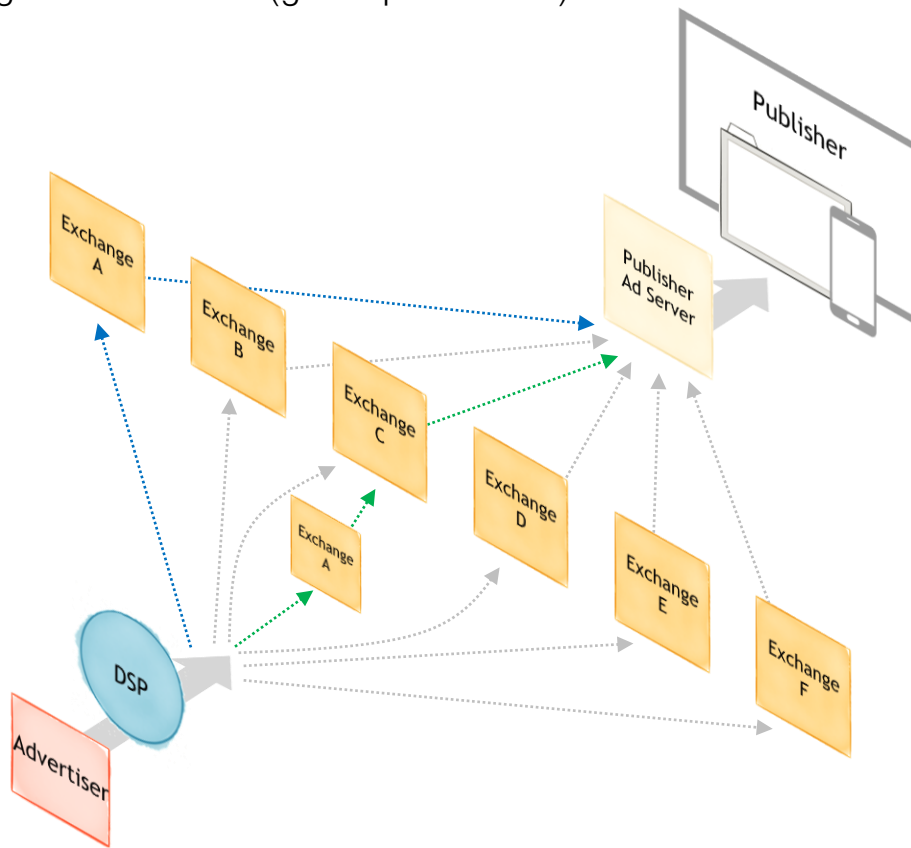
The average open internet property now monetizes its inventory through 16 exchanges and authorizes 7 of those exchanges to initiate resold auctions – a significantly more complicated configuration than these illustrations suggest.

Supply Chain Evolution
Publisher-direct DSP integrations

This complexity means that the huge majority of bidstream activity is unproductive for buyers, burdening DSPs with unnecessary systems infrastructure costs that squeeze operating margins. And so DSPs are looking for opportunities to de-duplicate the bidstream. This might mean disabling participation in resold auctions. It might mean cutting ties with tier 2 exchanges and aligning with a short list of scaled supply partners. But the most obvious solution to bidstream de-duplication is for DSPs to integrate directly with the most scaled publishers:
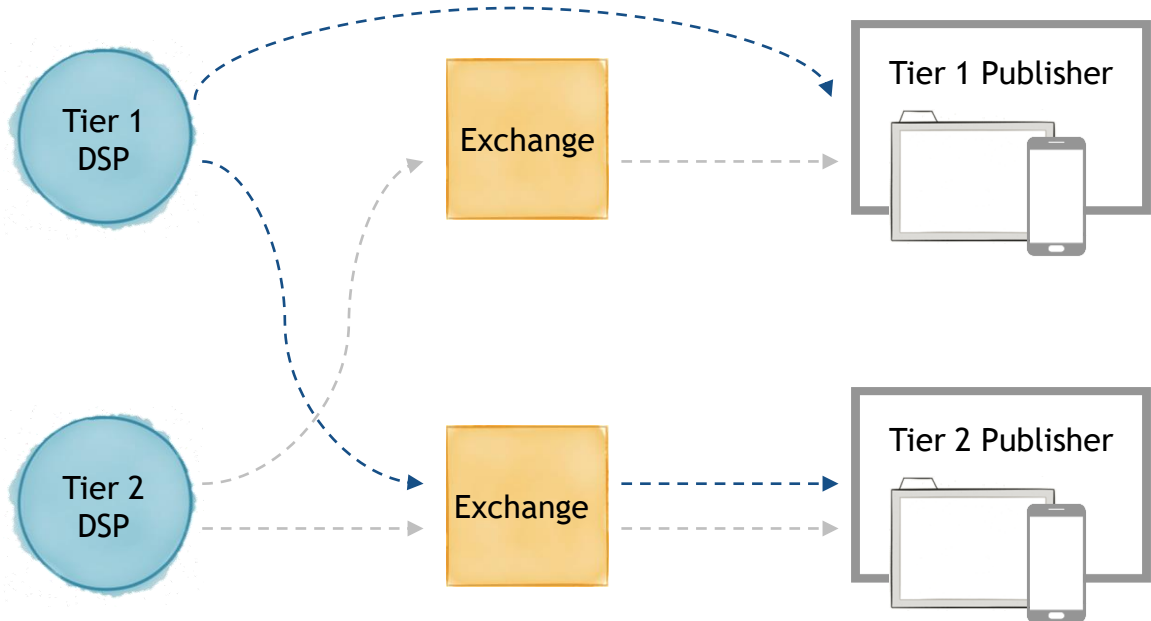
And when only 100 publishers control the great majority of supply, a publisher-direct supply strategy is achievable. With a few dozen publisher-direct integrations, DSPs can:

- Create a more direct and more transparent supply chain for marketers

- Increase the share of the marketer's gross spend that is paid to publishers

- Reduce the QPS burden of processing the bidstream from multiple duplicative exchanges

Supply Chain Evolution
Publisher-direct DSP integrations

DSPs might still rely on third party exchanges to facilitate access to sub-scale publishers and intermediaries. But the job of the exchange is diminished to providing access to the least valuable and least strategically important supply.

Every DSP that manages at least $1B of annual ad spend now has publisher-direct integrations:

Buy-Side Platform	Publisher-Direct Integrations
Google Ads Display & Video 360	Google Ad Manager
amazon Demand Side Platform	amazon publisher services
theTradeDesk	OPENPATH
CRITEO	Criteo "Direct Bidder"

The Trade Desk's OpenPath initiative, announced in February 2022, was a major milestone in the programmatic supply chain that signaled a future where DSPs and exchanges evolve from partners to competitors. But it's worth recognizing that The Trade Desk was very late in this industry evolution. Google, Amazon, and Criteo have operated publisher-direct integrations for many years.

Supply Chain Evolution
Publisher-direct DSP integrations

And even below the $1B annual spend mark, there are many examples of bidding systems that have publisher-direct integrations:

| Company	Buy-Side Platform	Sell-Side Plaform
adform	AdForm DSP	AdForm SSP
FREEWHEEL A COMCAST COMPANY	Beeswax	FreeWheel
Roku	Roku OneView	Roku O&O
Teads	Teads Ad Manager	Teads Exchange
TREMOR INTERNATIONAL	Tremor DSP	Unruly Exchange
Vungle	Liftoff	Vungle
xandr	Xandr Invest	Xandr Monetize
yahoo!	Yahoo DSP	Yahoo Exchange

There are also of course ad networks whose business model requires direct integrations with advertisers and with publishers: Taboola, Outbrain, Meta Audience Network, AppLovin, ironSource, Chartboost, and many others.

Publisher-direct integrations are not a wholesale replacement of exchanges. Every DSP listed above and most of the ad networks listed above continue to bid into exchange auctions. But the long term strategy for these companies is to concentrate investments on direct integrations with premium publishers.

Supply Chain Evolution
Exchange-controlled demand

That long term strategy is a healthy dynamic for the industry, but it challenges the viability of independent exchanges that rely on DSP demand. The addressable market for pure play DSPs (i.e., DSPs that have no publisher-direct integrations) is small. We have identified 21 DSPs that meet this profile, and we estimate their collective spending power is at most $5B per year:
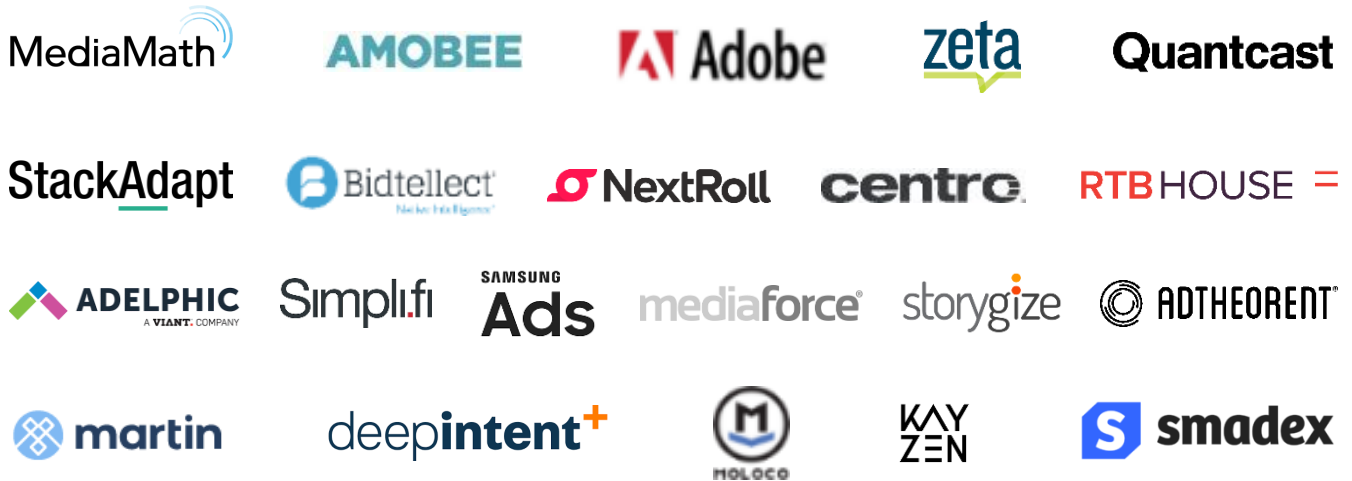
In this market context, pure play exchanges have three strategies for growth:

- Build a buy-side business

- Acquire a buy-side business

- Marginalize buy-side businesses

Certainly there will be continued moves by exchanges to build or acquire buy-side businesses. But it's hard to see how this approach leads to long term buying power that can challenge current DSP leaders. And it's easy to see how this approach strains exchange partnerships with the most scaled DSPs, eroding short term demand.

Instead, exchanges are taking steps to marginalize the role of DSPs.

Supply Chain Evolution
Exchange-controlled demand

There is a long running industry narrative that ad exchanges are just "dumb pipes" that connect DSP demand with publisher supply. Exchanges are now attempting to flip this script, moving value-added capabilities into the exchange layer and casting DSPs as dumb pipes that simply execute basic campaign workflow tasks. We see this taking hold in three ways:

Audience Targeting	As cross-site and cross-app tracking capabilities erode, exchanges are well positioned to manage publisher-provided audience data.
Creative Enrichment	Against a backdrop of banner blindness, exchanges are building non-standard creative execution capabilities.
Inventory Curation	Across all screens, but especially CTV, exchanges are curating publisher content to match marketer targeting requirements.

To illustrate, consider three examples:

Magnite

Magnite's acquisitions of Nth Party Data and Carbon reflect a broader industry trend to move audience data management into the exchange layer. As Apple and Google implement restrictions on collecting user-level data and as regulators impose restrictions on distributing user-level data, DSP buyers will see fewer ad opportunities that contain a user identifier. Instead, DSP buyers will see ad opportunities that contain aggregate audience information – an auction that previously declared a user-specific identifier will instead declare attributes of that user like demographics and purchase intent.

This evolution requires sell-side technology platforms like Magnite to enable publishers to enrich ad auctions with publisher-provided audience information.

Supply Chain Evolution
Exchange-controlled demand

That requirement also happens to be strategically attractive to these sell-side technology companies. As exchanges like Magnite become the trusted custodian of publisher data, value shifts from buy-side technology to sell-side technology. In this future state, DSPs are demoted to simple campaign workflow tools.

Many of Magnites peers are following a similar audience data strategy. Other notable examples of exchange-managed audiences include OpenX Open Audience, PubMatic Audience Encore, and Xandr Curate.

triplelift

TripleLift transacts non-standard native formats that dynamically assemble creative components into an ad unit that is designed to match a publisher's organic content. That sell-side ad assembly creates two points of defensibility for TripleLift's marketplace:

- Native ad execution requires media buyers to hand over creative control to a third party, and TripleLift is trusted by media buyers.

- DSPs are unlikely to attempt to replicate TripleLift's native rendering capabilities, preferring instead to delegate creative execution responsibility to a specialist.

TripleLift does transact standard banner and video ad units, and this part of the business remains vulnerable to publisher-direct DSP integrations. But TripleLift's foothold on native executions makes the company more insulated than its peers from DSP publisher-direct integrations.

Other examples of exchange-managed creative enrichment include Connatix, GumGum, Kargo, Nativo, Sharethrough, Teads, and Yieldmo.

Supply Chain Evolution
Exchange-controlled demand

FREEWHEEL
A COMCAST COMPANY

FreeWheel is Comcast's ad tech division, which includes a publisher ad server (the original FreeWheel product), an ad exchange (FreeWheel Programmatic Module), and a DSP (Beeswax). This end-to-end stack is a leader in the connected TV category and enables buyers and sellers to transact through a single platform. But FreeWheel remains highly dependent on third party demand from the largest CTV bidding systems like The Trade Desk and Google DV360.

Because connected TV is a supply-constrained market, there is very little open auction bidding. Instead, buyers and sellers establish commercial agreements that are transacted through private marketplaces. And the enforcement of those commercial agreements happens at the exchange layer. This can include geographic targeting, frequency management, and other targeting constraints. But the most strategically-important exchange capability is content curation.

CTV buyers care very much about content adjacency, particularly in a charged political environment. But CTV sellers have financial incentives, and sometimes contractual requirements, to bundle content into a single campaign. The solution is for the exchange to manage inventory curation – providing DSPs the option to bid only on marketer-approve content without disclosing the specific content associated with each available impression. This curation role also positions the exchange – not the DSP – as the best source of campaign delivery reports.

Exchange-managed inventory curation creates a strategic control point for FreeWheel, and more generally for CTV-enabled ad exchanges. Buyers can execute CTV campaigns through their DSP of choice, but the most valuable media buying capabilities are controlled by the exchange.

The Open Internet In 2022

To recap our view of the open internet in 2022:

- Walled gardens continue to consolidate marketer budgets. These companies are both the biggest competitors to open internet media companies and the biggest sources of demand for open internet media companies.

- Sub-scale open internet media companies cannot match the technical sophistication, sales presence, and data richness of scaled peers. This monetization advantage creates opportunities for sales houses and scaled publishers to provide monetization services to sub-scale properties, making a small number of companies gatekeepers for open internet supply.

- DSPs and exchanges are moving from partners to competitors. DSPs are building publisher-direct integrations that bypass exchanges. And exchanges are building value-add targeting and ad delivery capabilities that marginalize the role of DSPs.

These trends are part of a broader industry evolution from fragmented supply and demand to scaled buy-side and sell-side businesses.

Appendix: Market Sizing Data
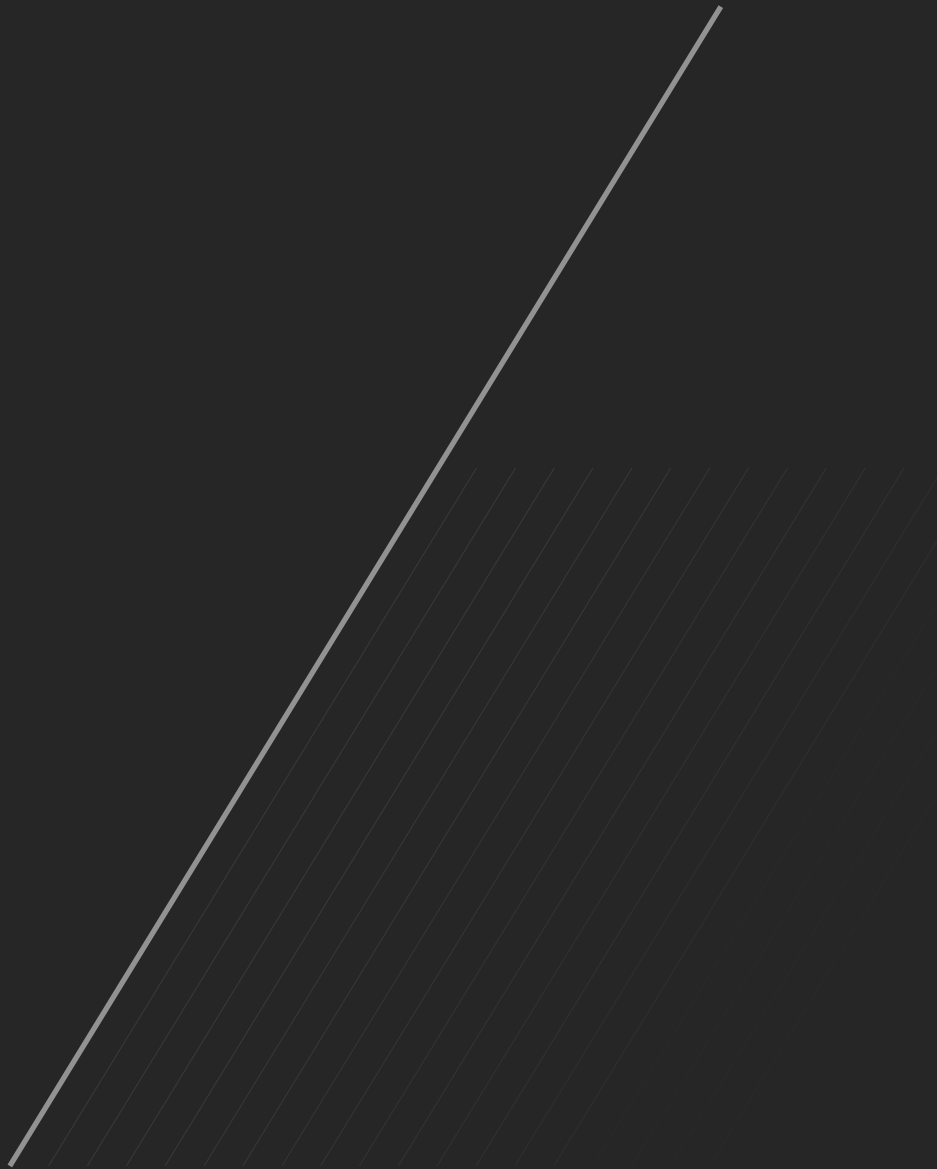
Market Sizing Data

Total Global Paid Media

	Gross Ad Spend ($B)						
	2017	2018	2019	2020	2021	2022	CAGR
Digital	$218.1	$244.4	$278.2	$321.0	$413.6	$512.2	18.6%
TV	$175.8	$177.1	$174.5	$160.4	$169.3	$172.3	-0.4%
Print	$79.8	$73.0	$66.7	$50.4	$46.6	$44.0	-11.2%
OOH	$38.4	$40.0	$41.3	$30.0	$34.3	$37.9	-0.3%
Radio	$33.5	$34.0	$34.1	$26.3	$27.9	$28.9	-3.0%
Total	$545.6	$568.4	$594.7	$588.0	$691.6	$795.2	7.8%

	Share Of Total					
	2017	2018	2019	2020	2021	2022
Digital	40.0%	43.0%	46.8%	54.6%	59.8%	64.4%
TV	32.2%	31.2%	29.3%	27.3%	24.5%	21.7%
Print	14.6%	12.8%	11.2%	8.6%	6.7%	5.5%
OOH	7.0%	7.0%	6.9%	5.1%	5.0%	4.8%
Radio	6.1%	6.0%	5.7%	4.5%	4.0%	3.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Digital Marketing Categories

	Gross Ad Spend ($B)						
	2017	2018	2019	2020	2021	2022	CAGR
Search	$80.5	$90.1	$100.6	$118.1	$144.8	$163.2	15.2%
Walled Gardens	$54.1	$76.0	$100.4	$128.8	$185.2	$257.4	36.6%
Open Programmatic	$64.6	$66.4	$67.7	$69.4	$79.6	$87.9	6.4%
Reservations	$19.0	$11.9	$9.5	$4.8	$4.0	$3.6	-28.1%
Total	$218.1	$244.4	$278.2	$321.0	$413.6	$512.2	18.6%

	Share Of Total					
	2017	2018	2019	2020	2021	2022
Search	36.9%	36.9%	36.1%	36.8%	35.0%	31.9%
Walled Gardens	24.8%	31.1%	36.1%	40.1%	44.8%	50.3%
Open Programmatic	29.6%	27.2%	24.4%	21.6%	19.2%	17.2%
Reservations	8.7%	4.9%	3.4%	1.5%	1.0%	0.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Market Sizing Data

Walled Garden Spending

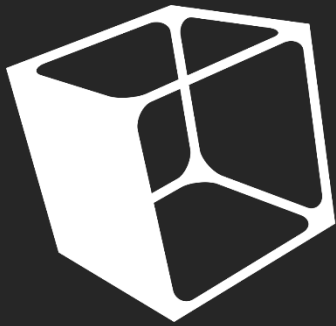|	Gross Ad Spend ($B)						
	2017	2018	2019	2020	2021	2022	CAGR
Meta	$37.9	$52.5	$66.5	$80.7	$111.8	$144.2	30.6%
Google	$7.9	$11.2	$15.1	$19.8	$28.8	$37.9	36.8%
Amazon	$4.1	$6.5	$10.1	$15.9	$25.0	$39.4	57.0%
TikTok	$0.0	$0.1	$0.2	$1.3	$3.1	$7.6	181.5%
Snap	$0.8	$1.2	$1.7	$2.5	$4.1	$6.8	52.3%
Twitter	$2.1	$2.6	$3.0	$3.2	$4.4	$5.0	19.0%
LinkedIn	$0.5	$0.9	$1.5	$2.4	$3.6	$5.0	59.4%
Pinterest	$0.5	$0.7	$1.1	$1.7	$2.6	$3.9	52.7%
Walmart	$0.0	$0.1	$0.4	$0.9	$2.1	$3.8	147.6%
Other Commerce Media	$0.1	$0.4	$0.8	$1.7	$2.7	$3.8	94.7%
Total	$54.1	$76.1	$100.6	$130.1	$188.3	$257.4	36.6%

	Share Of Total					
	2017	2018	2019	2020	2021	2022
Meta	70.1%	69.0%	66.1%	62.1%	59.4%	56.0%
Google	14.6%	14.7%	15.1%	15.2%	15.3%	14.7%
Amazon	7.6%	8.5%	10.1%	12.2%	13.3%	15.3%
TikTok	0.1%	0.1%	0.2%	1.0%	1.7%	3.0%
Snap	1.5%	1.6%	1.7%	1.9%	2.2%	2.6%
Twitter	3.9%	3.4%	3.0%	2.5%	2.3%	2.0%
LinkedIn	0.9%	1.2%	1.5%	1.8%	1.9%	2.0%
Pinterest	0.9%	0.9%	1.1%	1.3%	1.4%	1.5%
Walmart	0.1%	0.2%	0.4%	0.7%	1.1%	1.5%
Other Commerce Media	0.3%	0.5%	0.8%	1.3%	1.4%	1.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Market Sizing Data

Open Programmatic Spending By Platform

	Gross Ad Spend ($B)						
	2017	2018	2019	2020	2021	2022	CAGR
Google Ads	$12.5	$14.2	$15.3	$16.4	$22.5	$26.0	15.8%
Google DV360	$5.1	$5.8	$6.3	$6.7	$9.2	$10.7	15.8%
FB Audience Network	$2.0	$2.5	$3.1	$3.4	$3.1	$2.8	6.8%
Amazon DSP	$1.0	$1.6	$2.5	$3.9	$6.2	$9.7	57.0%
The Trade Desk	$1.6	$2.4	$3.1	$4.2	$6.2	$8.5	40.5%
Criteo	$2.3	$2.3	$2.3	$2.1	$2.3	$2.5	1.3%
Other Buy-Side Platforms	$40.1	$37.6	$35.2	$32.7	$30.2	$27.7	-7.1%
Reservations	$19.0	$11.9	$9.5	$4.8	$4.0	$3.6	-28.1%
Total	$83.6	$78.3	$77.3	$74.2	$83.7	$91.6	1.8%

	Share Of Total					
	2017	2018	2019	2020	2021	2022
Google Ads	14.9%	18.1%	19.8%	22.1%	26.9%	28.4%
Google DV360	6.1%	7.4%	8.1%	9.0%	11.0%	11.6%
FB Audience Network	2.4%	3.2%	4.0%	4.6%	3.7%	3.0%
Amazon DSP	1.2%	2.0%	3.2%	5.3%	7.4%	10.6%
The Trade Desk	1.9%	3.0%	4.0%	5.7%	7.4%	9.3%
Criteo	2.7%	2.9%	2.9%	2.8%	2.7%	2.7%
Other Buy-Side Platforms	48.0%	48.1%	45.5%	44.1%	36.1%	30.3%
Reservations	22.7%	15.2%	12.3%	6.4%	4.8%	4.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

JOUNCE
MEDIA