

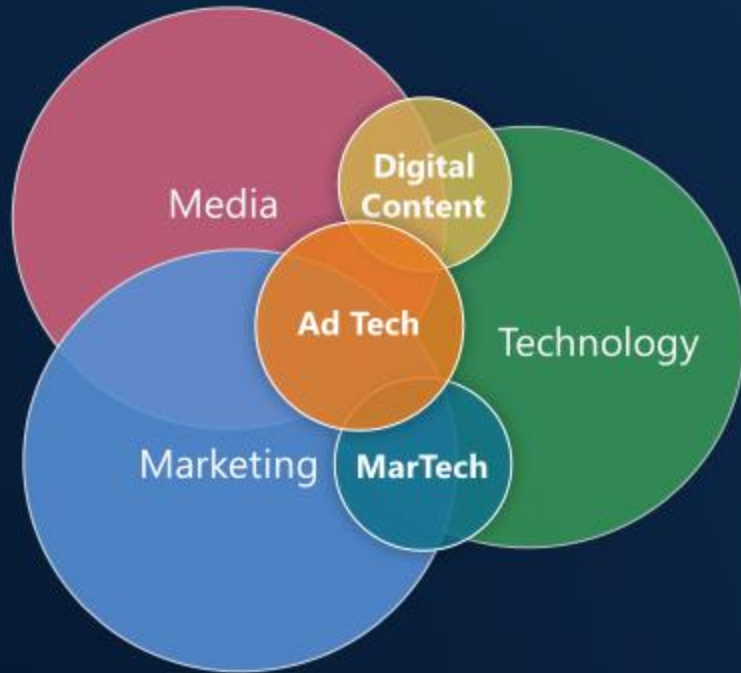
STATE of DIGITAL MARKETING 2022



We are pleased to present our State of Digital 2022, as presented at our Digital Marketing Summit on November 16, 2022.



LUMA's Singular Focus on Media & Marketing Tech



- LUMA's expertise is at the intersection of Media, Marketing and Technology
- At this intersection exists:
 - **Ad Tech**
 - **MarTech**
 - **Digital Content**
- These companies employ a variety of business models including services, media, data, commerce and software



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11.15.22 | Menlo Park



LUMA Deals Since Our Last DMS

<p>November 2021</p> <p>yahoo!</p> <p>has agreed to a partnership with</p> <p>Taboola</p> <p>The underlying asset is an exclusive financial advisor to Yahoo!</p> <p>LUMA</p>	<p>September 2021</p> <p>martin</p> <p>has agreed to be acquired by</p> <p>PubMatic</p> <p>The underlying asset is an exclusive financial advisor to Martin.</p> <p>LUMA</p>	<p>July 2021</p> <p>VERVE GROUP a subsidiary of Media and Games Invest Group</p> <p>has acquired</p> <p>DATASEAT</p> <p>The underlying asset is an exclusive financial advisor to Verve Group.</p> <p>LUMA</p>	<p>April 2021</p> <p>DREAMSCAPE a CTC's portfolio company</p> <p>has made a strategic investment in</p> <p>Standard Media Index</p> <p>The underlying asset is an exclusive financial advisor to Dreamscape.</p> <p>LUMA</p>	<p>April 2021</p> <p>iSpot.tv</p> <p>has received a \$20 million investment from</p> <p>Goldman Sachs</p> <p>The underlying asset is an exclusive financial advisor to iSpot.tv.</p> <p>LUMA</p>	<p>April 2021</p> <p>DREAMSCAPE a CTC's portfolio company</p> <p>has acquired</p> <p>SQAD</p> <p>The underlying asset is an exclusive financial advisor to Dreamscape LLC.</p> <p>LUMA</p>	<p>February 2021</p> <p>tvSquared</p> <p>has agreed to be acquired by</p> <p>INNOVD</p> <p>The underlying asset is an exclusive financial advisor to tvSquared Limited.</p> <p>LUMA</p>	<p>January 2021</p> <p>APPROVIN</p> <p>has acquired</p> <p>mopub</p> <p>a wholly owned subsidiary of</p> <p>Twitter</p> <p>The underlying asset is an exclusive financial advisor to Approvin.</p> <p>LUMA</p>	<p>September 2021</p> <p>PK Reflektion</p> <p>has been acquired by</p> <p>SITECORE</p> <p>The underlying asset is an exclusive financial advisor to Reflektion, Inc.</p> <p>LUMA</p>	<p>August 2021</p> <p>Chartboost</p> <p>has been acquired by</p> <p>zynga</p> <p>The underlying asset is an exclusive financial advisor to Chartboost, Inc.</p> <p>LUMA</p>
<p>August 2021</p> <p>publica</p> <p>has been acquired by</p> <p>IAS Integral Ad Science</p> <p>The underlying asset is an exclusive financial advisor to Publica Ltd.</p> <p>LUMA</p>	<p>July 2021</p> <p>Outbrain</p> <p>has received a majority investment from</p> <p>Blackstone</p> <p>LUMA Securities is a wholly owned subsidiary of the underlying asset's underwriting co-manager to Outbrain, Inc.</p> <p>LUMA</p>	<p>June 2021</p> <p>Simplifi</p> <p>has agreed to sell an equity interest to</p> <p>Blackstone</p> <p>The underlying asset is an exclusive financial advisor to Simplifi Holdings, Inc.</p> <p>LUMA</p>	<p>June 2021</p> <p>JetFuel</p> <p>has been acquired by</p> <p>Vungle</p> <p>The underlying asset is an exclusive financial advisor to JetFuel, Inc.</p> <p>LUMA</p>	<p>April 2021</p> <p>APPROVIN</p> <p>has received Public Offering</p> <p>\$20,000,000</p> <p>LUMA Securities is a wholly owned subsidiary of the underlying asset's underwriting co-manager to Approvin, Inc.</p> <p>LUMA</p>	<p>December 2020</p> <p>Blackstone</p> <p>has agreed to acquire a majority interest in</p> <p>LIFTOFF</p> <p>The underlying asset is an exclusive financial advisor to Blackstone.</p> <p>LUMA</p>	<p>February 2021</p> <p>Vungle</p> <p>has agreed to acquire</p> <p>GameRefinery</p> <p>The underlying asset is an exclusive financial advisor to Vungle, Inc.</p> <p>LUMA</p>	<p>February 2021</p> <p>ADCOLONY a wholly owned subsidiary of OHLO</p> <p>has agreed to be acquired by</p> <p>digital turbine</p> <p>The underlying asset is an exclusive financial advisor to AdColony LLC.</p> <p>LUMA</p>	<p>February 2021</p> <p>Magnite</p> <p>has agreed to acquire</p> <p>SPOTX</p> <p>The underlying asset is an exclusive financial advisor to Magnite, Inc.</p> <p>LUMA</p>	<p>February 2021</p> <p>PARSE.LY</p> <p>has agreed to be acquired by</p> <p>AUTOMATTIC</p> <p>The underlying asset is an exclusive financial advisor to Parse.ly, Inc.</p> <p>LUMA</p>
<p>January 2021</p> <p>BEE SWAX</p> <p>has been acquired by</p> <p>COMCAST</p> <p>The underlying asset is an exclusive financial advisor to Beeswax, Inc.</p> <p>LUMA</p>	<p>January 2021</p> <p>alphonso</p> <p>has received a majority investment by</p> <p>LG</p> <p>The underlying asset is an exclusive financial advisor to Alphonso, Inc.</p> <p>LUMA</p>	<p>November 2020</p> <p>TAPAD a direct company of</p> <p>telnor</p> <p>has been acquired by</p> <p>experian</p> <p>The underlying asset is an exclusive financial advisor to Telnor ADP.</p> <p>LUMA</p>	<p>October 2020</p> <p>TRUOPTIK</p> <p>has agreed to be acquired by</p> <p>TransUnion</p> <p>The underlying asset is an exclusive financial advisor to True Optik Corp.</p> <p>LUMA</p>	<p>April 2020</p> <p>rubicon advertising</p> <p>has merged with</p> <p>telaria advertising</p> <p>The underlying asset is an exclusive financial advisor to Rubicon Project, Inc.</p> <p>LUMA</p>	<p>April 2020</p> <p>factual</p> <p>has agreed to merge with</p> <p>FOURSQUARE</p> <p>The underlying asset is an exclusive financial advisor to Factual, Inc.</p> <p>LUMA</p>	<p>February 2020</p> <p>evergage</p> <p>has been acquired by</p> <p>salesforce</p> <p>The underlying asset is an exclusive financial advisor to Evergage, Inc.</p> <p>LUMA</p>	<p>January 2020</p> <p>AI Factory</p> <p>has been acquired by</p> <p>Snap Inc.</p> <p>The underlying asset is an exclusive financial advisor to AI Factory, Inc.</p> <p>LUMA</p>	<p>November 2019</p> <p>nanigans advertising solutions</p> <p>has been acquired by</p> <p>sprinklr</p> <p>The underlying asset is an exclusive financial advisor to Nanigans, Inc.</p> <p>LUMA</p>	<p>October 2019</p> <p>clypd</p> <p>has been acquired by</p> <p>AT&T</p> <p>The underlying asset is an exclusive financial advisor to Clypd, Inc.</p> <p>LUMA</p>



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Meet the Senior LUMA Team



Terence Kawaja

FOUNDER & CEO



Brian Andersen

*CO-FOUNDER & HEAD OF
DIGITAL MARKETING INVESTMENT BANKING*



Mark Greenbaum

*PARTNER & HEAD OF
MERGERS AND ACQUISITIONS*



Dick Filippini

*PARTNER & HEAD OF
MOBILE INVESTMENT BANKING*



Conor McKenna

DIRECTOR



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AGENDA



PREAMBLE



MARKETS



MARTECH TRENDS



COMMERCE MEDIA



MOBILE APP



Terence Kawaja, Founder & CEO

My partners and I are going to cover

- *Markets,*
- *MarTech Trends*
- *Commerce Media*
- *Mobile App*

But first...a Preamble!



LUMA

Change is Accelerating

CHANGE

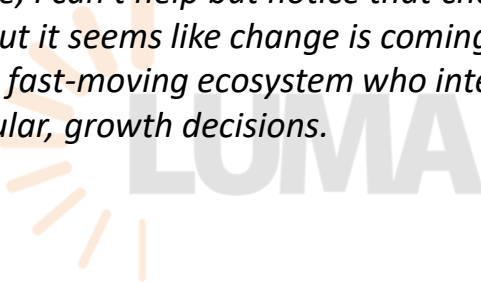
CHANGE

CHANGE

CHANGE



So, by way of preamble, I can't help but notice that change is accelerating. We discussed this phenomenon before but it seems like change is coming faster and faster, and the reason why that's important to folks in a fast-moving ecosystem who intermediate deals is because it very much drives strategy and in particular, growth decisions.



Change Drives Strategy Growth Decisions

BUILD

BUY



Corporations always have a choice... build or buy. But in an environment where change is accelerating, corporates tend to default towards a buy.



Change Drives Strategy Growth Decisions

BUILD

BUY



That probably explains the significant activity since the pandemic started of completing deals.



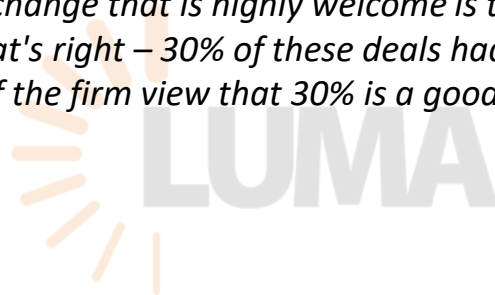
Change Drives Strategy Growth Decisions

BUILD

BUY



By the way, another change that is highly welcome is that it's the gender of the suite of the people doing the buying. That's right – 30% of these deals had a woman in the C-suite of either the buyer or the seller, and I am of the firm view that 30% is a good start. Let's keep it going.



Contradictory Impacts to Deal Activity

MACRO UNCERTAINTIES

- INFLATION
- RECESSION
- WAR
- SUPPLY CHAIN
- PANDEMIC

STRUCTURAL TAILWINDS

- PE TRANSACTION FLYWHEEL
- 50 PUBLIC COMPANIES AT DISCOUNT

TECH SECTOR SELL-OFF

- CORRECTION OVERDUE
- BUYER vs. SELLER MISMATCH
- SEASONING MITIGATES

SECTORAL TAILWINDS

- SCALE
- GROWTH
- COMPLEXITY
- DYNAMICS

Like I said, a lot of change. We're in this mixed time period where we've got some negatives impacting the ecosystem and the deal marketplace. There are macro uncertainties, and usually uncertainty is the enemy of deal-making. If you have an environment where you're not sure what the future is, that tends to pause deals. And we seem to have every possible macro uncertainty. There's inflation, recession, war, supply chain, pandemic... you name it.



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...And then we had this massive tech sector selloff. Probably overdue, right? Because, as Mark will talk about, the valuations in 2021 got to some pretty heady and indefensible levels. And generally speaking, what happens is when you get this kind of a rapid selloff – you get a dispersion in perspective. So buyers tend to reorient their thinking on valuation immediately. They just look at public stock prices, mostly their own and see that drop 50, 60, 70, 80, 90% and go, "Oh, well their valuation is down." ...



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...Sellers on the other hand take some time to adjust. They have to go through the five stages of denial, bargaining, anger, depression, and then finally acceptance, and that generally takes two to three quarters, at least that's the pattern recognition. And here we are. We have noticed since Labor Day, couple quarters after the tech selloff hit its inflection, people starting to talk deals again, so hopefully, that will come back...



Contradictory Impacts to Deal Activity

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...And let's not forget we've got these massive tailwinds. We've got sectoral tailwinds. Remember, digital advertising's growing at over 20% a year for the last 20 years. And there's lots of disruption, high growth in some sub-sectors like commerce media, mobile apps, and CTV, and that changes accelerating....



Contradictory Impacts to Deal Activity

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...And then we've got some structural tailwinds as well. Private equity is the largest buyer in this sector. That is an about face from where we were five, even three years ago. And understand that private equities are in the business of fundraising, so not only do they have to deploy that capital, they also have to return that capital. So by definition, unlike strategic M&A, where it's one and done on a deal, private equity means, at a minimum, two transactions: getting in and getting out. So that creates a flywheel effect....



Contradictory Impacts to Deal Activity

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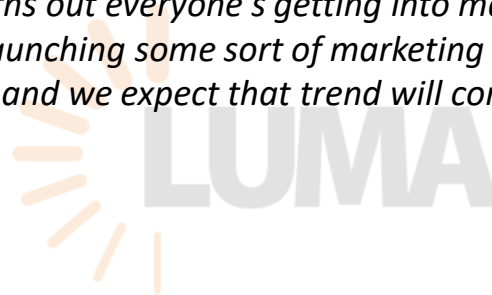
...And then, as Mark will highlight, there are now 50 public companies in AdTech and MarTech, and the good news is they're all trading at a discount. So we'll see next year, when the 52-week high starts coming down, whether we'll see some activity amongst the public companies.



Everyone's Getting Into Marketing



And by the way, it turns out everyone's getting into marketing. Every company with large consumer data touchpoints is launching some sort of marketing or advertising or media capability, companies across the spectrum, and we expect that trend will continue.



Big Turmoil in Big Tech



3 Themes:

1. Major Business Model Changes

- New businesses
- Pivots

2. Rising Competition

- Overlap in media, cloud, data
- New entrants

3. Increasing Government Scrutiny

- Privacy
- Antitrust

The other thing to note is that there's big turmoil in big tech.

There's some interesting things going on with this cohort, and notably three themes. Number one, major business model changes. Think about Amazon getting into advertising, Microsoft revamping their initiatives in advertising, and a massive foray into gaming. Meta is trying to do a complete pivot. Twitter, of course, is going through lots of changes....



Big Turmoil in Big Tech



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...Second is, it seems like these companies were operating historically in a monopsony, which is monopolies in different silos. They seem to be running into one another of late. Whether it's media, cloud, or data, the Venn diagrams seem to be overlapping, and, believe me, that will make for some interesting spectator sports to watch what unfolds. Just witness situations like Apple and Facebook...



Big Turmoil in Big Tech



3 Themes:

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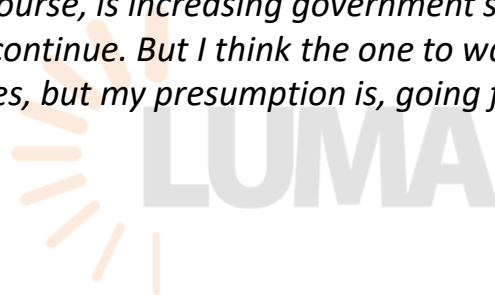
2. Rising Competition

- Overlap in media, cloud, data
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3. Increasing Government Scrutiny

- Privacy
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...And then third, of course, is increasing government scrutiny. We've seen privacy legislation and those initiatives will continue. But I think the one to watch is antitrust. Historically the US has had fairly toothless policies, but my presumption is, going forward, that they're going to get a lot more teeth.



A Realistic Web3 Glossary

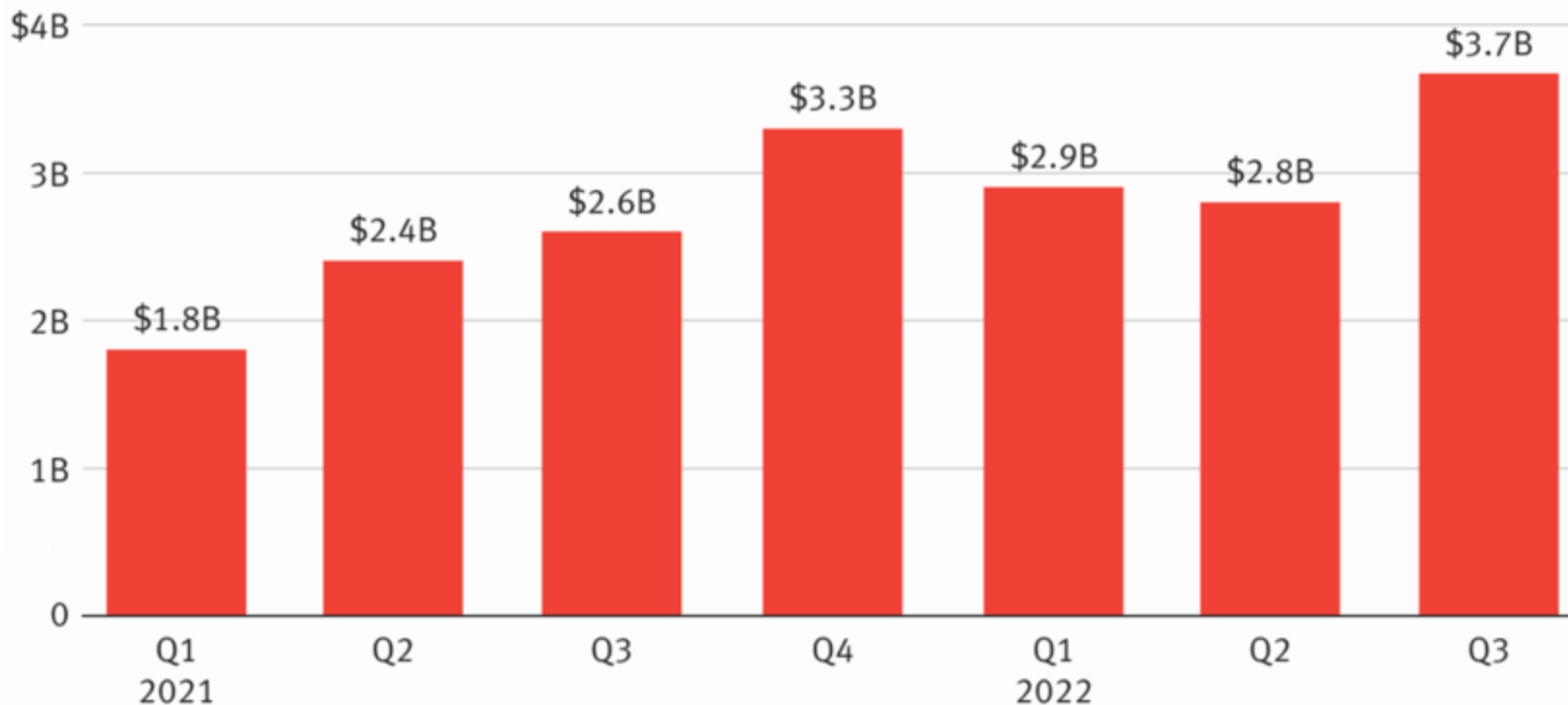
- Web3** A made up name VCs use to distract from the scams and massive losses in crypto. It fancifully promises decentralization but looks more like recentralization under new ownership (so more like Web2.1).
- Crypto** A decentralized technology solution for speculation and illicit money transfer; awaiting a legitimate use case. Still waiting.
- Blockchain** Real technology for distributed files best suited for static and high value commodities (money, contracts) and not low value, massive volume, real time transactions (digital advertising) for which latency and cost make it a non-starter.
- NFT** A jpeg with provenance.
- Metaverse** A silly name Facebook (re)invented to distract investors with a massive bet-the-company pivot. It doesn't exist but expect proponents to take credit for advancements in VR and AR (which are real).
- Zero** The total return of all marketing investments made in the above areas.

Speaking of... I posted this earlier. I call it a realistic Web3 glossary. All you really have to do is look at the bottom line, "The total return of all marketing investments in the metaverse will be zero."

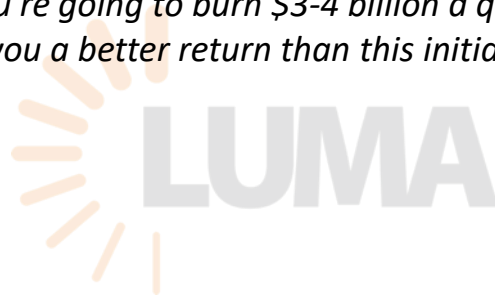


Reality Checking the Web3 Narrative

Meta's Metaverse Investment Losses



And by the way, if you're going to burn \$3-4 billion a quarter, come on Meta, I got a few ideas for you that would give you a better return than this initiative.



Elon Musk's Twitter Drama: Can't Look Away



And of course, you can't look away from the Elon Musk Twitter drama. I made a fun little video about that, which we'll be showing at the end of the day, so stick around for some fun. All right. And now I'd like to invite up my partner, Mark Greenbaum, to talk about the markets.

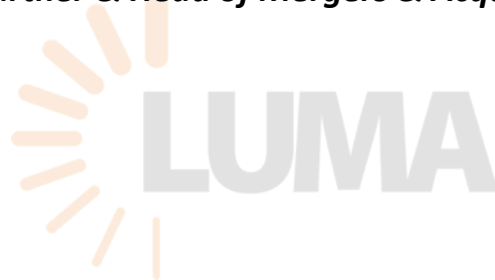
You can watch the parody here: [\(More Than\) A Few Good Brands](#)



MARKETS



Mark Greenbaum, Partner & Head of Mergers & Acquisitions



All Sectors Are Down, But...

Last 12 Months Market Performance of Ad Tech, MarTech & Top TMT Sub-Sectors



Note: Market Data as of 11/11/2022. % figures denote performance from Nov 11th, 2021 – Present



Let's look at the public markets here. Terry foreshadowed this a bit, but looking at last year – what a year it's been! Down and down big. The great tech selloff is evident in the numbers. Every sub-sector down big which feels consistent with the general narrative you hear: doom and gloom / “end of the world.” Nasdaq was off 28%. Content, Clouds and the Digital Giants were all down 30%+. And the two sub-sectors on which LUMA primarily focuses: AdTech, MarTech? Both down at the bottom of that list, off 56%, 60%. So overall, not a good year in the public markets for these stocks, but let's put a little bit of historical context around that . . .

...Some Historical Context

Jan 2020 – Present Market Performance of Ad Tech, MarTech & Top TMT Sub-Sectors



Note: % figures denote performance from Jan 1st, 2021 – 11/11/22



So if we look back to where we were pre-pandemic, from the beginning of 2020 thru the end of 2021, pretty much every sub-sector saw a significant rise in stock price and multiples - following the Covid accelerated conversion to digital. That proved to be, like many of these multiples, a little less sustainable than originally forecasted. So if you look at where we are now compared to pre-pandemic, every subsector with the exception of MarTech is up. The gains are not huge - perhaps it's not the best multi-year return - but it is disconnected from the doom and gloom narrative you hear out there in financial press.

Public Issuances Dwindle Following A Record Year in 2021

	2020 PubCos	2020 Issuances	2021 Issuances	2022 Issuances	2023+ Rumored
Ad Tech					
MarTech					
	24 companies	5 companies	+ 20 companies	+ 1 company	

26 companies going public since 2019

Denotes No Longer Publicly-Traded



And drilling down into AdTech and MarTech, if we look at the public company ecosystem. As Terry referenced, we've doubled the number of public companies in the last couple of years. Pretty much any company remotely close to being ready managed to get public in the last couple of years. We are currently experiencing an IPO drought the likes of which we haven't seen in about 20 years, but there remains a pretty robust pipeline of companies ready to come out as soon as that market reopens.

The LUMA Indices Universe at a Glance



# of Co's	48
Aggregate Market Cap	~\$200bn
Aggregate Revenue – CY22E	~\$36bn
Average YoY Revenue Growth – CY22E	18%



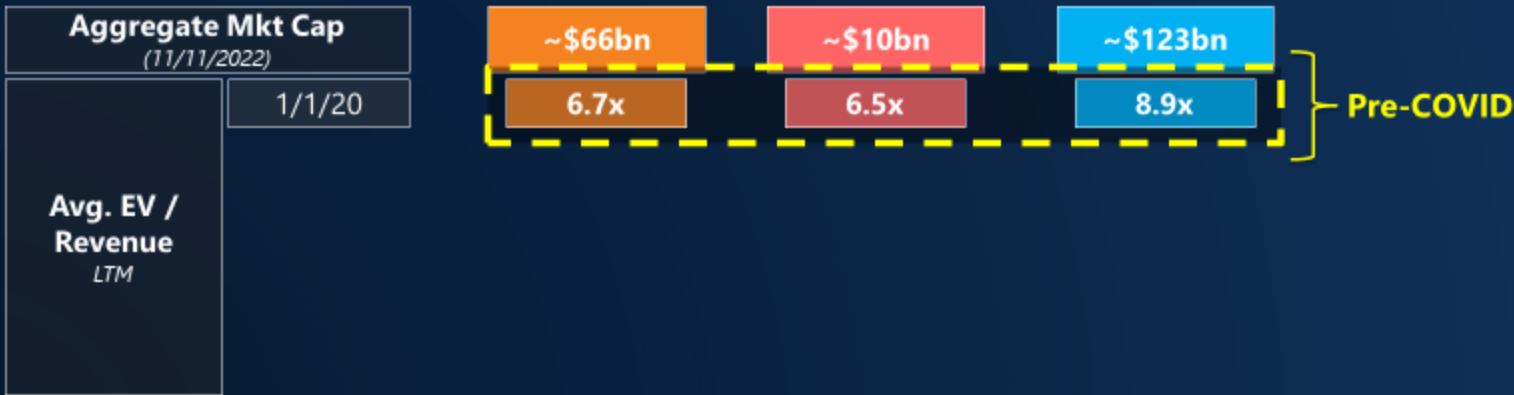
Source: LUMA Analysis, FactSet (market data as of 11/11/22)



A different look at the AdTech and MarTech public company universe. These are the two indices that LUMA tracks, LUMA.A for AdTech and LUMA.M for MarTech. There are almost 50 companies representing \$200 billion of market cap, 36 billion of revenue, and, importantly, growing at almost 20% annually. So, it's a pretty healthy ecosystem even after the massive tech selloff.



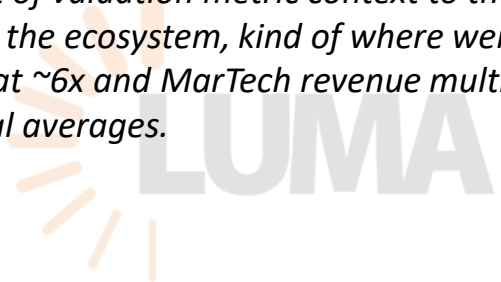
Ad Tech & MarTech Public Market Trends



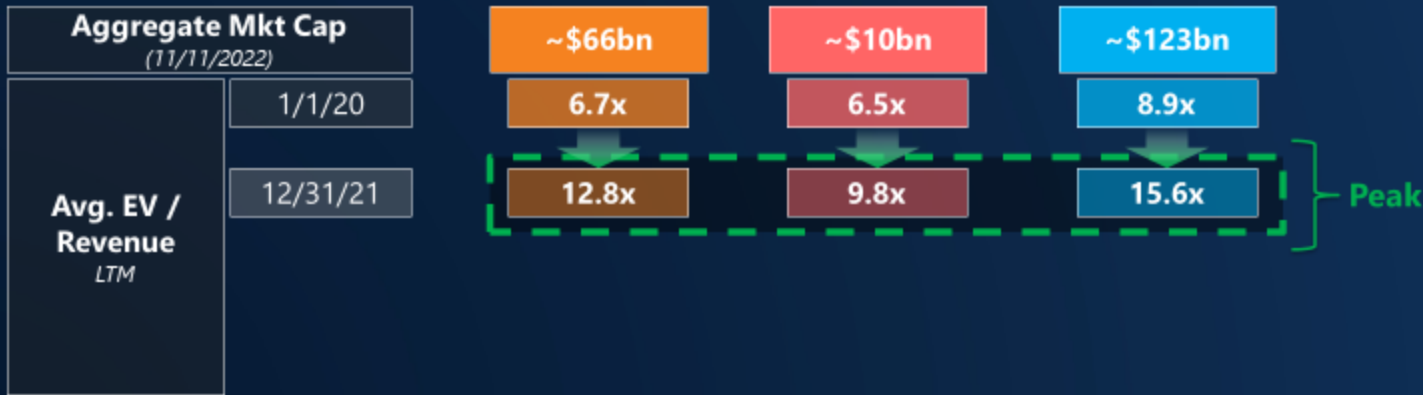
LUMA Source: LUMA Analysis, FactSet (market data as of 11/11/22)



Now, to put a little bit of valuation metric context to these stock prices. Again, you see how that 200 billion spreads across the ecosystem, kind of where we were pre-pandemic. We saw revenue multiples for AdTech at ~6x and MarTech revenue multiples at ~9x which are both a little high compared to historical averages.



Ad Tech & MarTech Public Market Trends



LUMA Source: LUMA Analysis, FactSet (market data as of 11/11/22)



Through the peak, those multiples pretty much doubled (some would say irrationally so) to double digit revenue multiples for both sectors.



Ad Tech & MarTech Public Market Trends



LUMA Source: LUMA Analysis, FactSet (market data as of 11/11/22)



After a fairly volatile few quarters, the multiples have leveled out at what we’re calling the “Return to Normal.”



Ad Tech & MarTech Public Market Trends

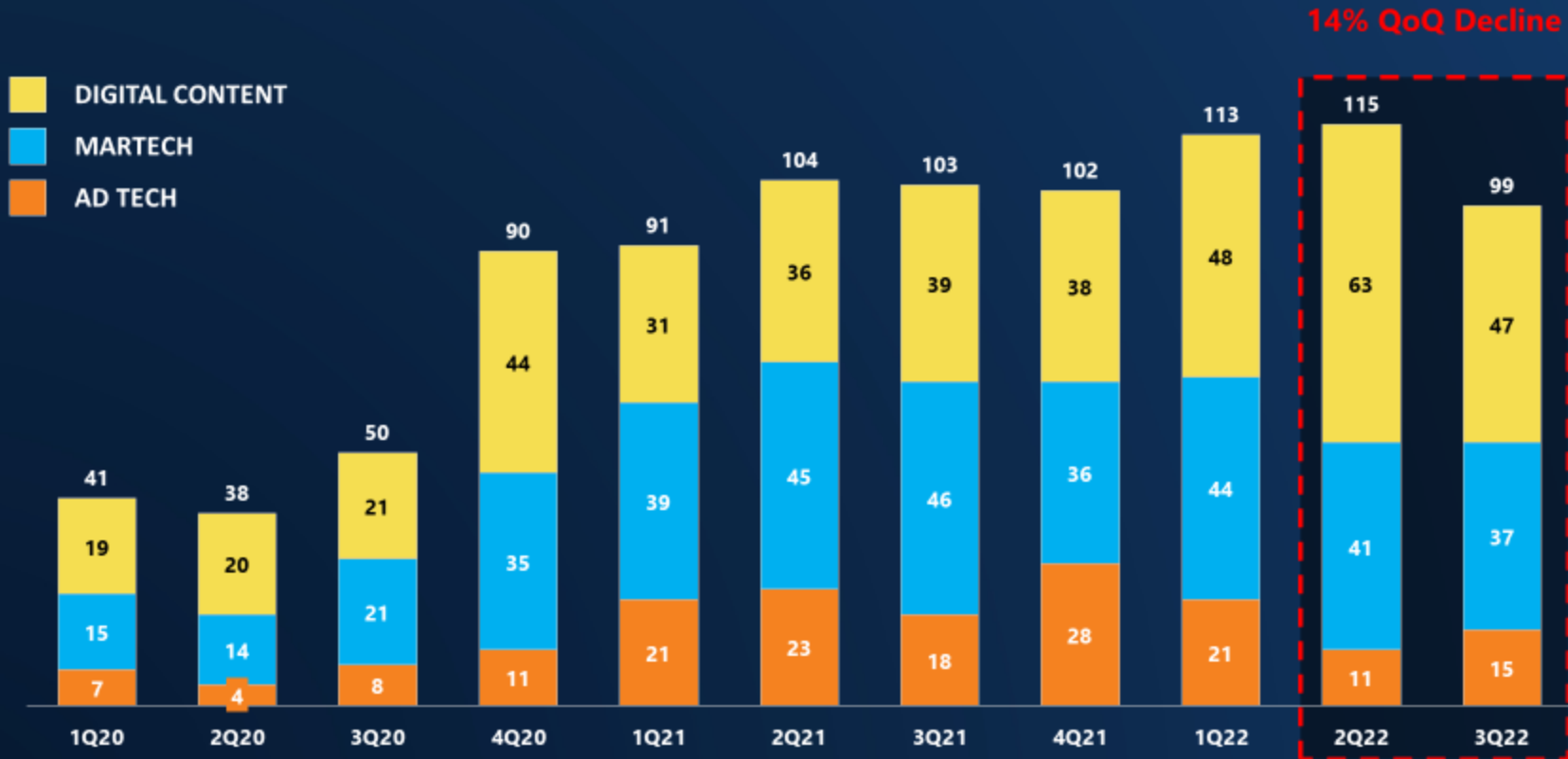


LUMA Source: LUMA Analysis, FactSet (market data as of 11/11/22)



And since then, as Terry referenced, we've come into some stability at levels that are pretty consistent with where multiples have been historically - in the ~4x for AdTech approaching ~6x for MarTech. And since that mid-year reset, we've seen some stability (last week was pretty good for AdTech resulting in a bit of a recent spike). But we're seeing "seasoning" at these multiple levels and it feels like buyers and sellers are starting to see the world similarly, which we think will be good for deal making.

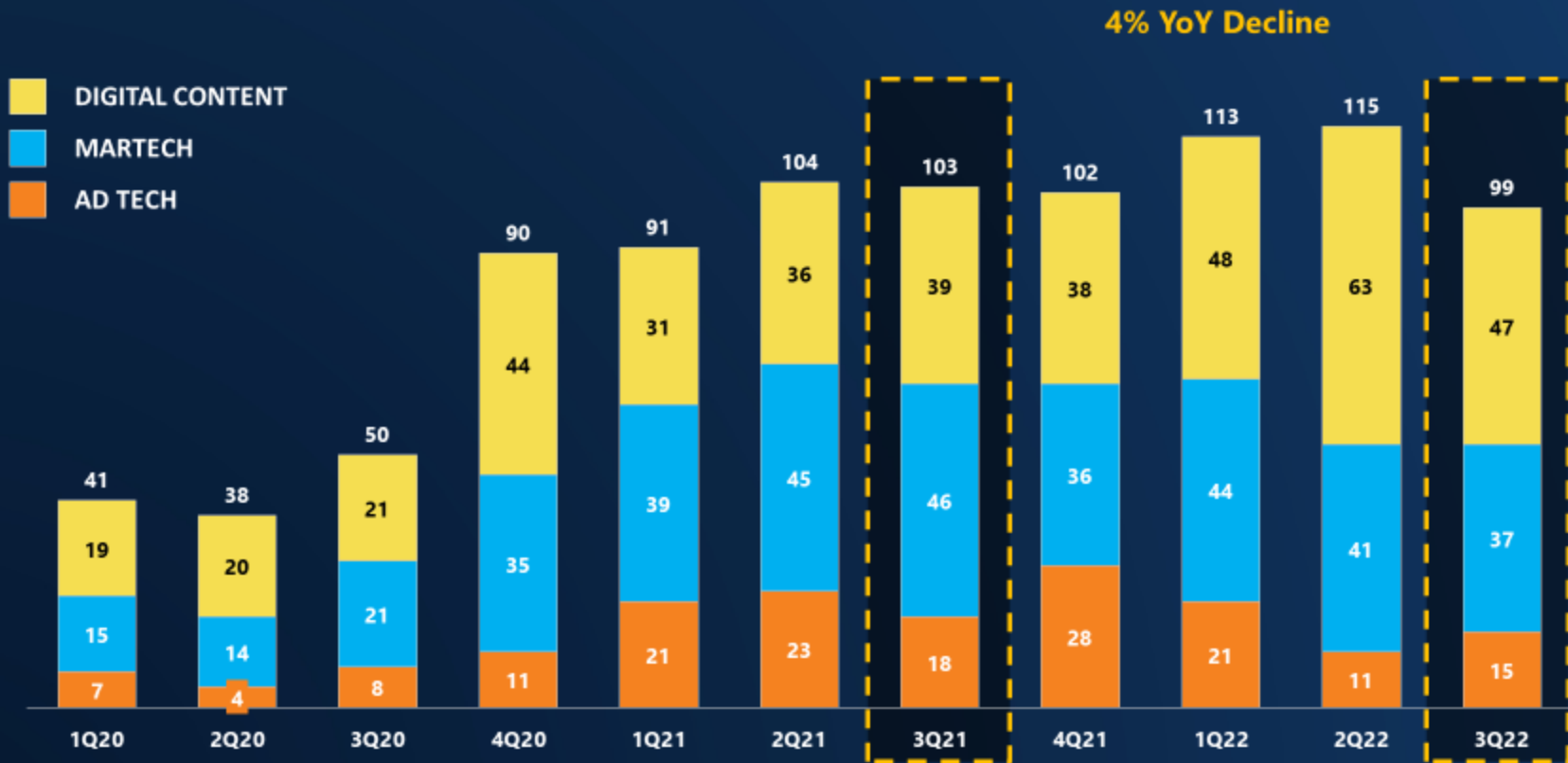
...And Deals are still being done



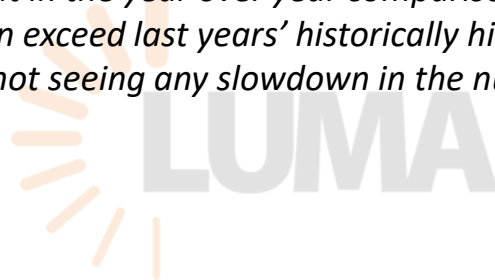
So speaking of M&A, deals are still happening. Strategic deals continued apace. We did see a deceleration last quarter, off about 14% in volume from the previous quarter.



...And Deals are still being done



But we're basically flat in the year over year comparison. And the full year to date deal count is on pace to match or even exceed last years' historically high levels, albeit at lower aggregate valuations. So we're not seeing any slowdown in the number of M&A deals getting done.



Though Scaled Financings Are Notably Down

Scaled Financings (>\$100mm) in Digital Media & Marketing: Q1'20 – Q3'22

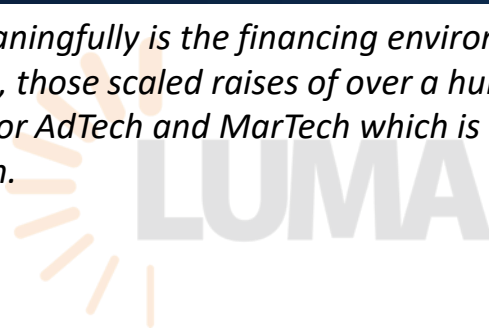
 DIGITAL CONTENT
 AD TECH & MARTECH



 Source: LUMA Analysis



What has slowed meaningfully is the financing environment – Venture capital in particular. This is looking at large deals, those scaled raises of over a hundred million dollars have pretty much fallen off a cliff: cut in half for AdTech and MarTech which is consistent with what we've seen across the broader VC ecosystem.



Venture Funding Has Returned to Pre-COVID levels

Global Venture Funding (\$bn) Q1'18 – Q3'22

While venture funding is down 34% QoQ, it is now back in line with historical levels



LUMA Source: CB Insights State of Venture Q3'22



This chart shows overall VC funding. You see it has dropped down like a stair step each quarter this year from \$178 billion all the way down to \$75 billion. But again, when put in historical context, that's pretty much in line with recent historical averages. So, again, this talk of the VC market being dead is a bit exaggerated. It's way off where it was but it's returned to the average – more evidence of “seasoning” and normalization.

Private Equity Activity Remains Active

Select Private Equity Deals Within The Digital Media & Marketing Ecosystem

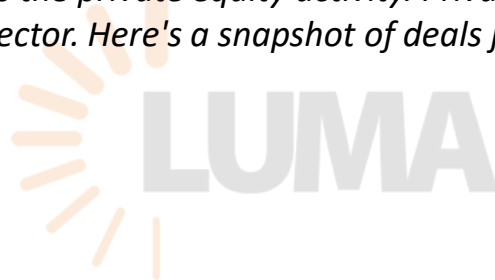
← LTM Period →



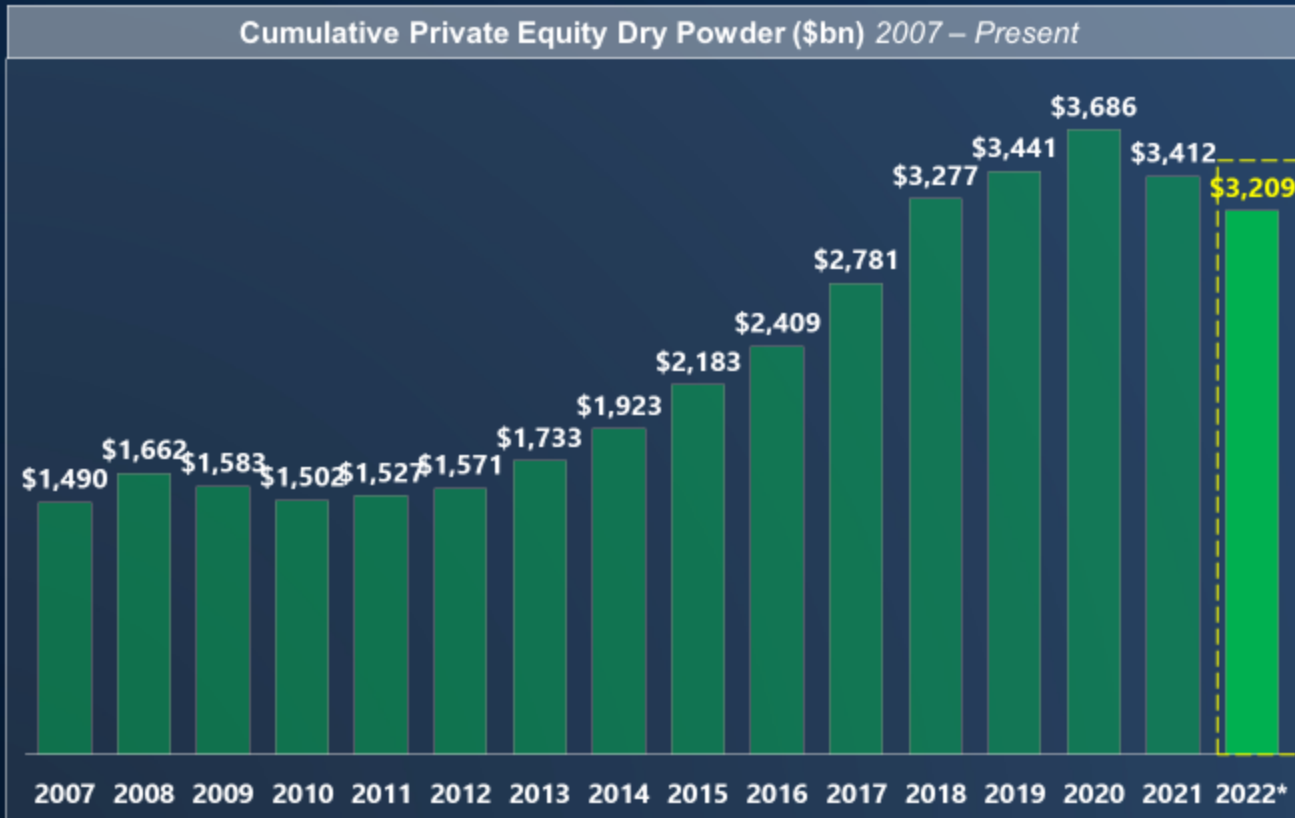
Source: LUMA Analysis. Note: Deal Values denominated in \$mm.



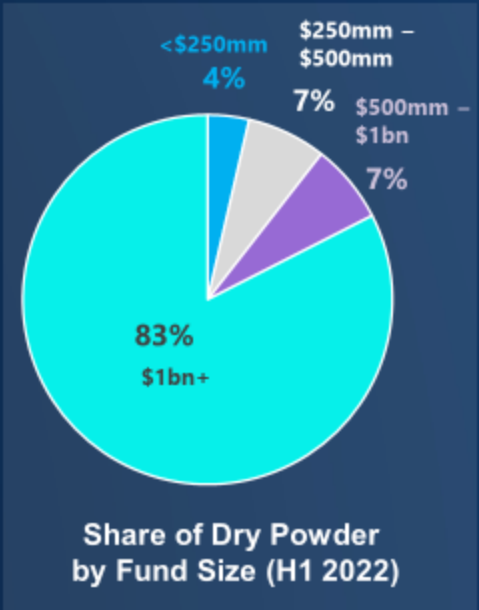
What hasn't slowed is the private equity activity. Private equity continues to be among the most active buyers in the sector. Here's a snapshot of deals just in the last year.



PE Dry Powder Still Hovers Around All-Time Highs



...With the Largest Funds Holding The Lion's Share



Source: PitchBook (June 2022) Note: * As of June 2022



The PE activity is not a huge surprise when you think about the amount of dry powder that remains to be deployed. There are trillions of dollars looking for deal, and not surprisingly they are concentrated among the largest funds. Anecdotally we have seen private equity discussion activity at an all time high in the recent quarters and they appear to be looking at just about everything out there. So we expect PE to continue to play a meaningful role in deal making in this year to come.

So that's the overview of the markets. Let me hand things off here. My partner, Brian Andersen.



MARTECH TRENDS



Brian Andersen, Co-Founder & Head of Digital Marketing



MarTech Market Drivers: 2019 → 2022

Privacy & Platform Changes



Data & Identity

Pandemic



eCommerce



Streaming TV



Influencer Marketing



B2B MarTech / SalesTech



May 2022



This section will focus on the changes in MarTech from 2019 (our last Digital Marketing Summit) to today. There have been significant privacy and platform changes that have impacted data and identity solutions. And obviously the biggest change was the pandemic. There has been a lot of press about the inflection of e-commerce and streaming TV, but areas that haven't received as much press are the emergence of influencer marketing as a mainstream marketing channel and the shift of B2B to digital MarTech and SalesTech. This section will cover all these except for streaming TV. LUMA covered this at its Digital Media Summit, so please see [this](#) presentation for CTV comments.

Identity Changes Create Challenges



Challenges

- 1:1 Targeting (Open Web)
- Facebook advertising (CAC )
- Measurement (MTA)



We've all witnessed the changes in privacy laws: GDPR, CCPA, and the other state laws. But a bigger impact has been the platform data restrictions. Cookies are deprecated on Firefox and Safari and will be on Chrome in 2024. In the mobile world, identifiers are opt-in on iOS and will be on Android, in which roughly 15% of people are opting in. The net effect is a lot fewer identifiers. That has dramatically impacted 1:1 targeting on the open web and in the mobile ecosystem. We've all seen Facebook's woes with ~\$800 billion of market cap disappearing largely due to the loss of signal and customer acquisition costs going through the roof for its customers. And measurement is challenged due to the lack of identifiers with solutions like multi-touch attribution fundamentally breaking.

Identity Changes Also Create Opportunities

Enhanced Focus on First Party Data Solutions

- Data & Identity solutions
 - CDPs
 - Open internet IDs
 - 1P Identity graphs
 - Data clean rooms

Alternatives to Audience-Based Media Buying

- Commerce media
- Contextual
- Creative
- Cohorts

Challenges

- Addressability / Reach Extension



Challenges

- Creative tech is harder to charge without tack on to media
- “Privacy Sandbox” is still being defined

However, various opportunities have emerged. First and foremost is that enterprises are focusing on first party data: capturing, managing and executing on their own data. Solutions such as CDPs, data clean rooms, and new identifiers and identity solutions have grown significantly. On the advertising side, we've seen an explosion of commerce media plus a reemergence of contextual advertising. An area that we've always felt has been under-invested is creative tech, and we are now seeing more interest in these solutions. Finally, the industry is moving to cohort-based targeting vs. one to one with solutions like Google's Privacy Sandbox. The biggest challenge with the focus on first party data is that its a much smaller data set creating scaled addressability concerns.



Customer Data Platform Growth

Unicorn (& Near Unicorn) CDP's

ACTIONIQ

Amperity &

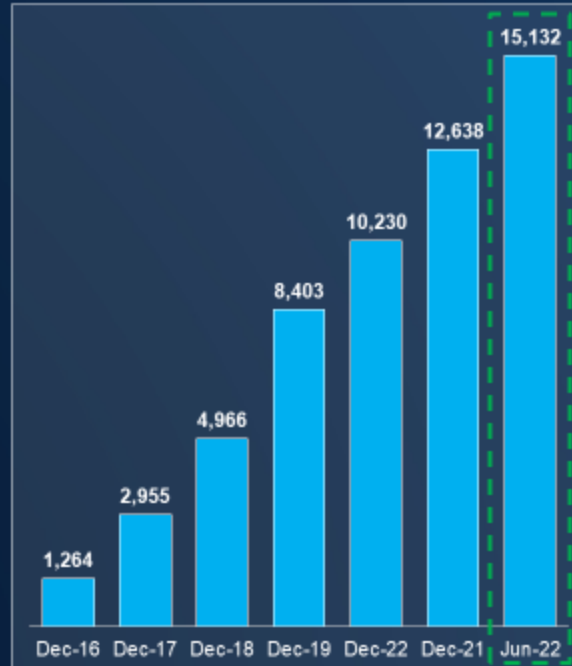
Insider

mparticle

TREASURE DATA

TEALIUM

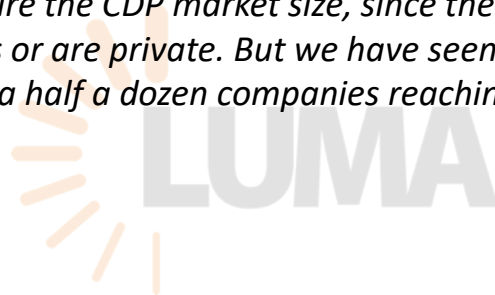
CDP Employees



CDP Funding (\$mm)

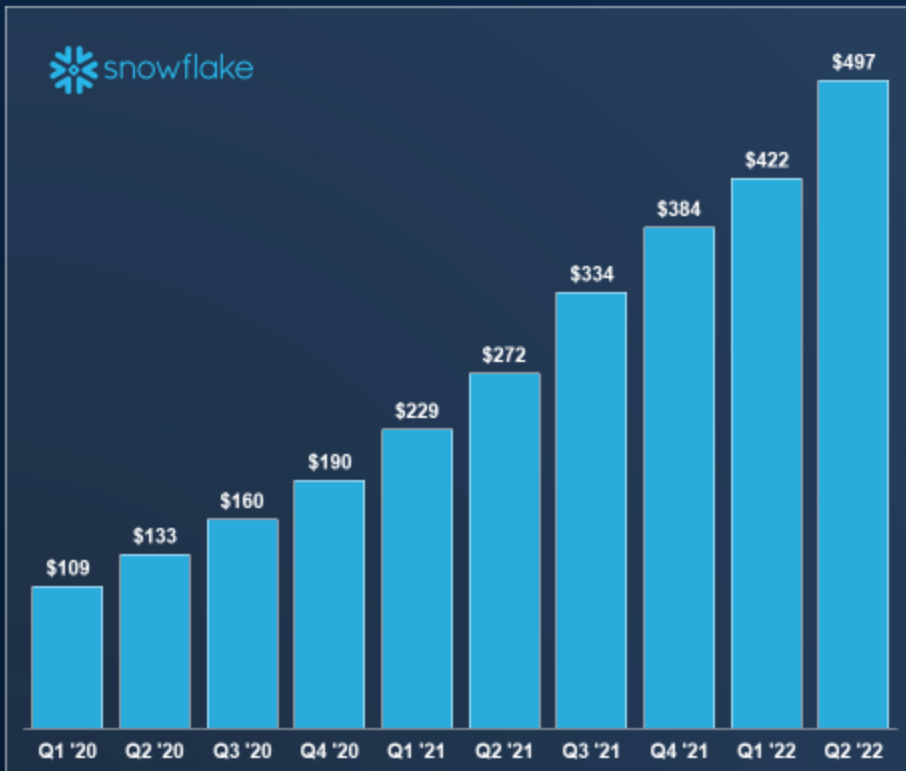


It is difficult to measure the CDP market size, since the solutions are either embedded within large enterprise companies or are private. But we have seen significant growth of employees and funding in the category, with a half a dozen companies reaching unicorn (or near unicorn status) in this sector.

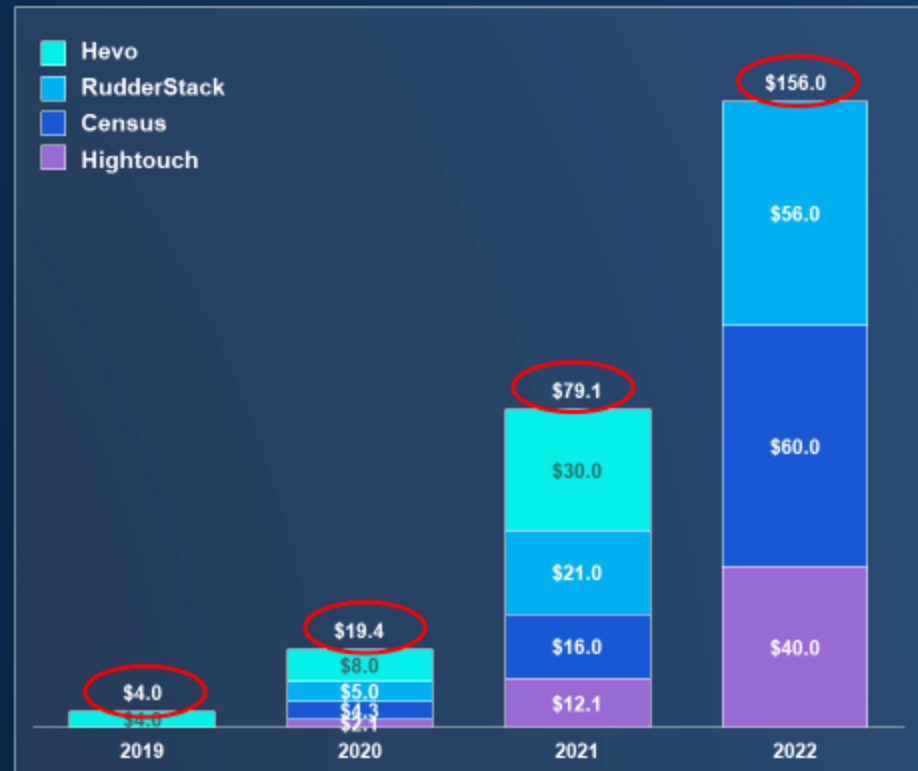


De-Coupling of the CDP (1 / 2)

Snowflake Quarterly Revenue (\$mm) Q1'20 – Q2'22



Reverse ETL Funding – Capital Raised Per Year (\$mm)



LUMA Source: Company Filings, CrunchBase, FactSet. Note: Snowflake Fiscal Year Ends January 31st.



It has also been interesting to observe categories that are associated with CDPs. First and foremost is the data warehouse space. As an example, Snowflake is an amazing business that has experienced rapid adoption among enterprises in the past few years. Another area that hasn't been getting as much press is the emergence of companies in the reverse ETL category. If you are an enterprise and have implemented a data warehouse, the argument from these companies is you don't need a CDP, you just use their solutions to extract that data and push them into the execution systems.

De-Coupling of the CDP (1 / 2)

The next generation of CDPs have arrived

January 7, 2022



The Emergence of the Composable Customer Data Platform



THE COMPOSABLE CDP: A FUTURE-PROOF CUSTOMER DATA PLATFORM

EDITORIAL

CMS WIRE

Should You Unbundle Your CDP?

9 MINUTE READ

Why the Composable CDP is Now on the Menu

ACTIONIQ

Why Your Customer Data Platform (CDP) Should Be the Data Warehouse

hightouch

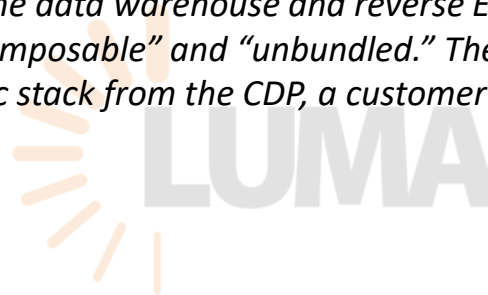
Q1 '20 Q2 '20 Q3 '20 Q4 '20 Q1 '21 Q2 '21 Q3 '21 Q4 '21 Q1 '22 Q2 '22

2019 2020 2021 2022

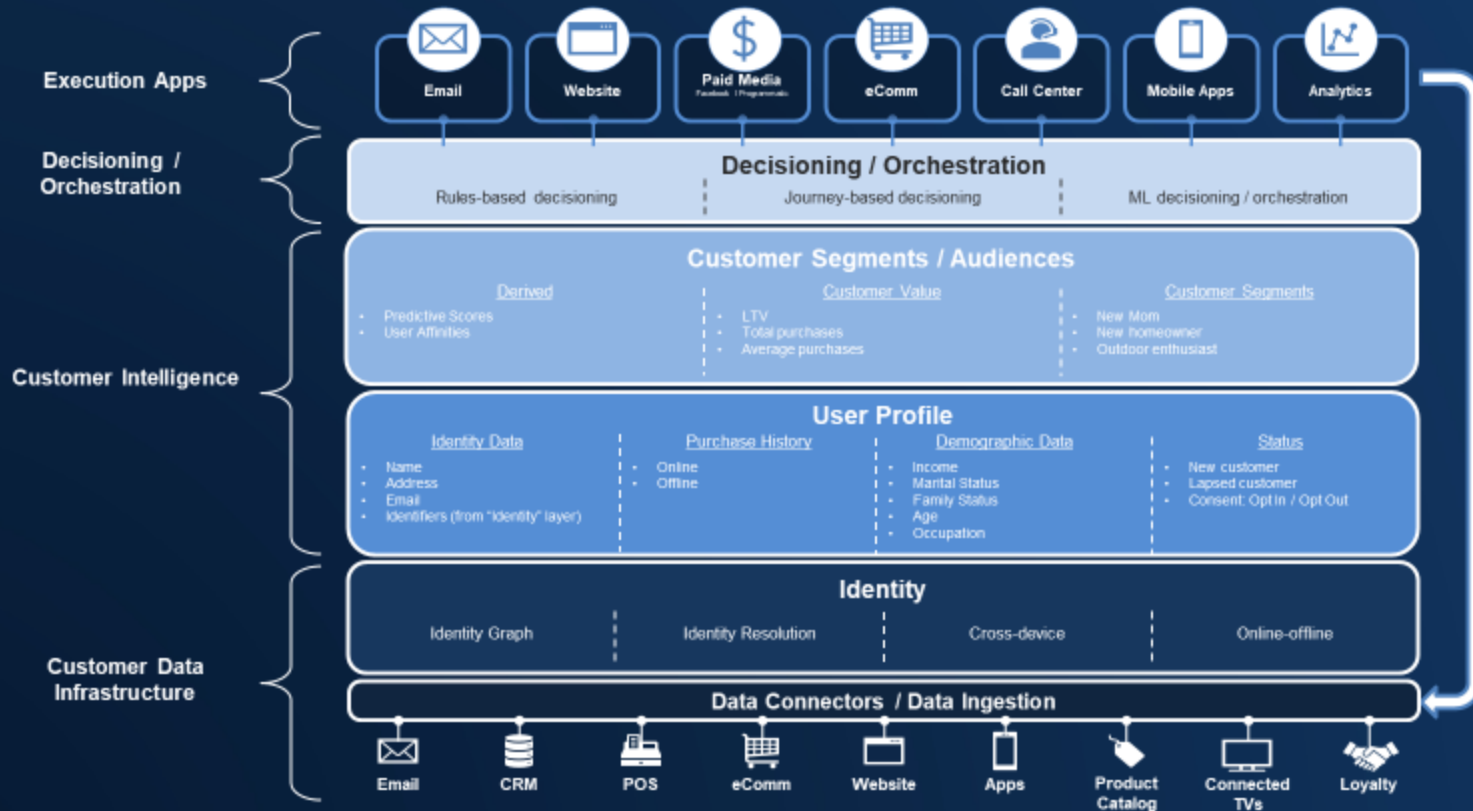
Source: Company Filings, CrunchBase, FactSet. Note: Snowflake Fiscal Year Ends January 31st.



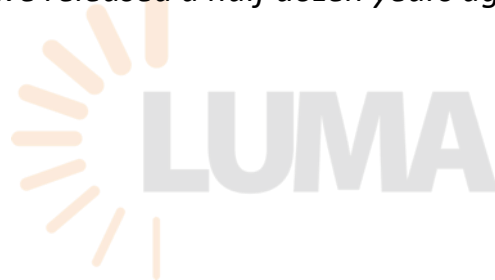
With the growth of the data warehouse and reverse ETL categories, we've seen two words emerge in the CDP space: "composable" and "unbundled." These terms basically reflect that instead of licensing a monolithic stack from the CDP, a customer can utilize only the specific capabilities it needs.



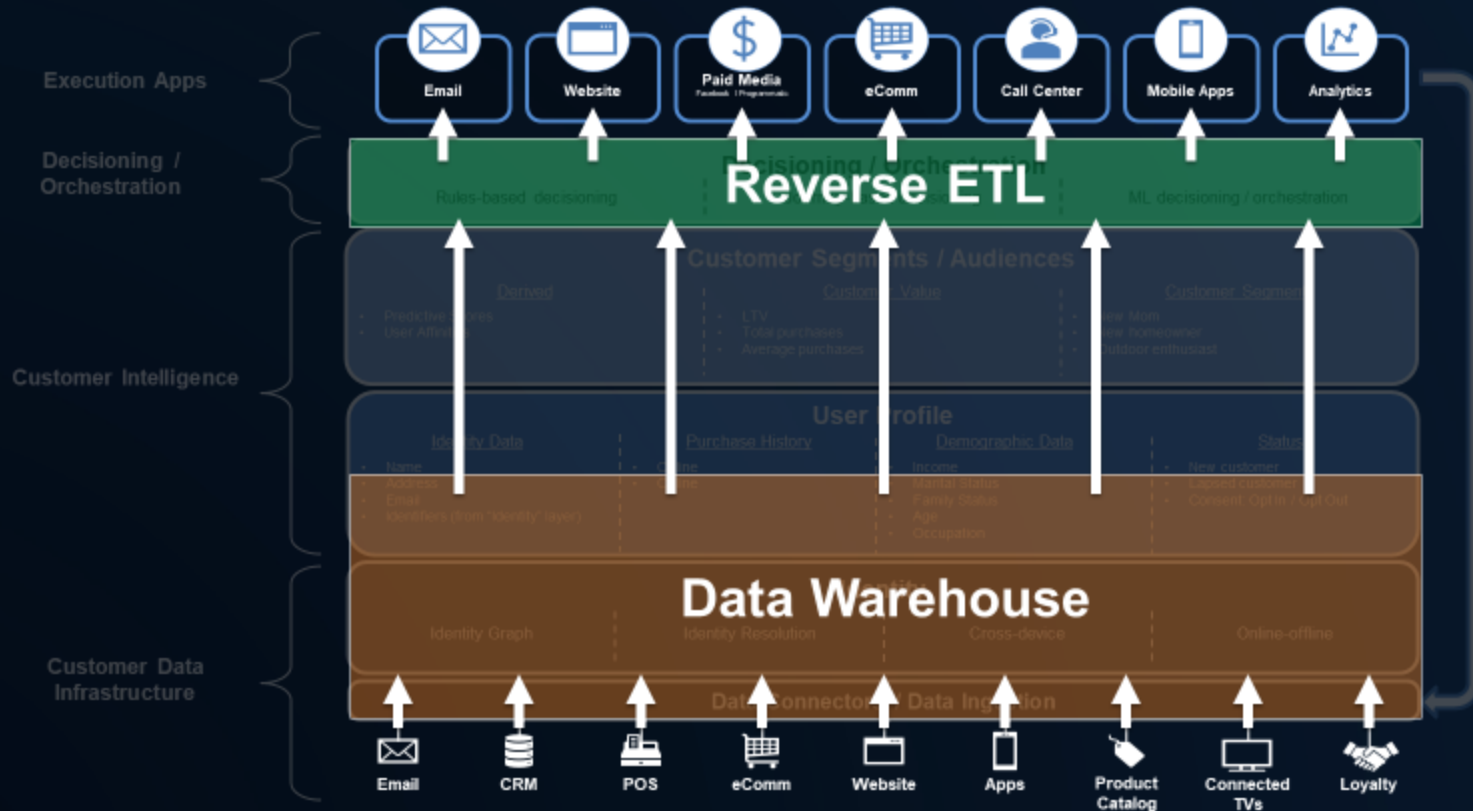
De-Coupling of the CDP (2 / 2)



This diagram, which we released a half dozen years ago, depicts the main functions of CDPs.



De-Coupling of the CDP (2 / 2)



LUMA Source: LUMA Analysis



If you overlay the data warehouse and reverse ETL companies on the graphic, it would look like this. The purchasing decision by enterprises looking to maximize the effectiveness of their first party data has become more complex. Some CDPs have data warehouse functionality. Others have their own reverse ETL capabilities. Quite a few specialize in “orchestration” of messages/experiences. The net effect is that customers can now pick and choose among the solutions to best serve their needs.

The Rise of Data Clean Rooms

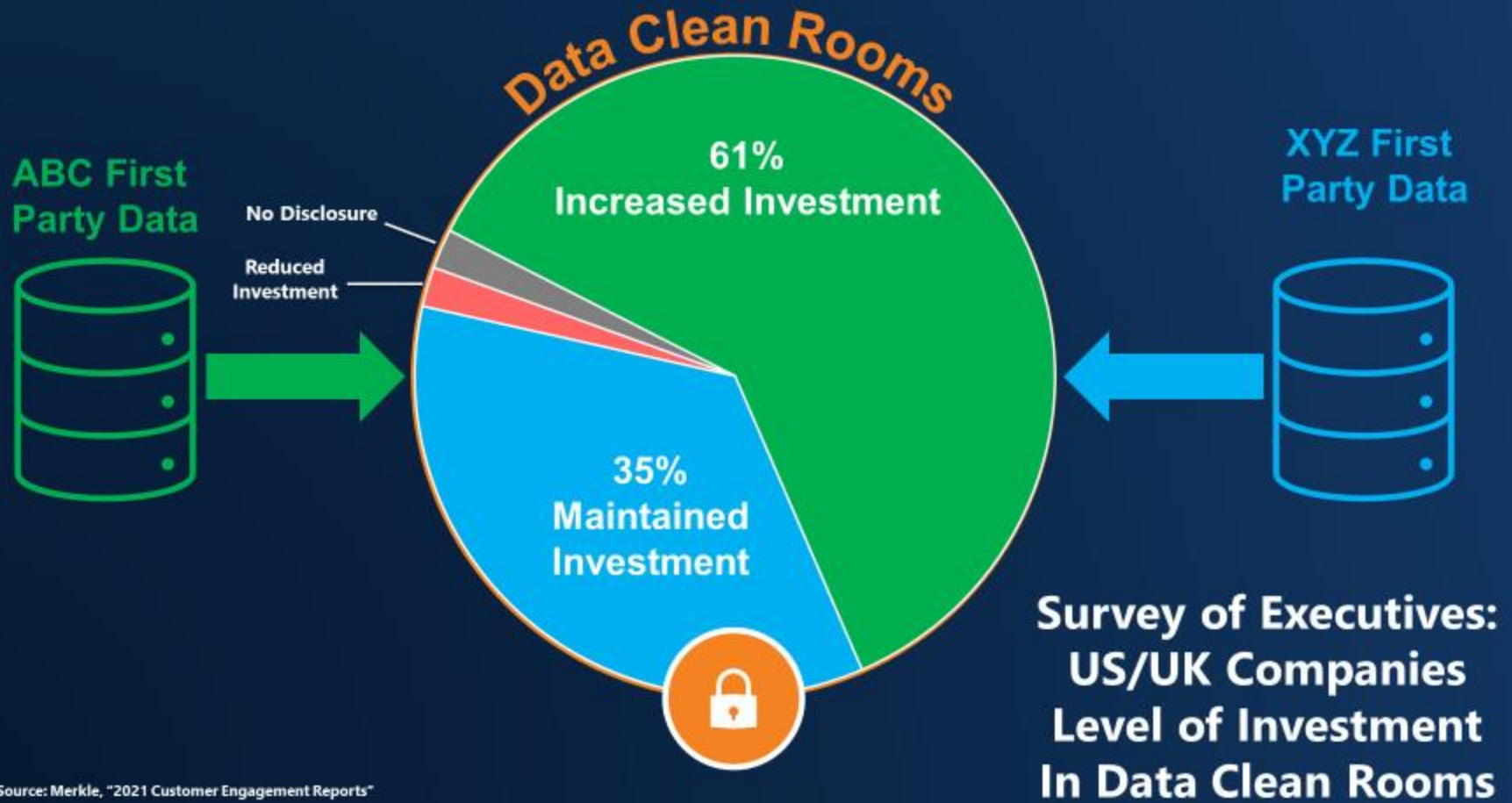


LUMA Source: Merkle, "2021 Customer Engagement Reports"



Once an enterprise has its first party data captured and wants to utilize that data in conjunction with partners, they can do so utilizing a data clean room. This is what data clean rooms enable: second party data sharing without data leakage. Google announced Ads Data Hub a half dozen years ago, which has enabled enterprises to merge their data with Google data. But what is a lot more interesting are the solutions that have emerged in the past few years from companies such as Habu, InfoSum, LiveRamp, Optable, and Decentriq, which enable the sharing of data among enterprises.

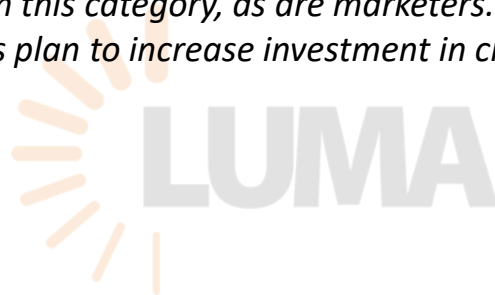
The Rise of Data Clean Rooms



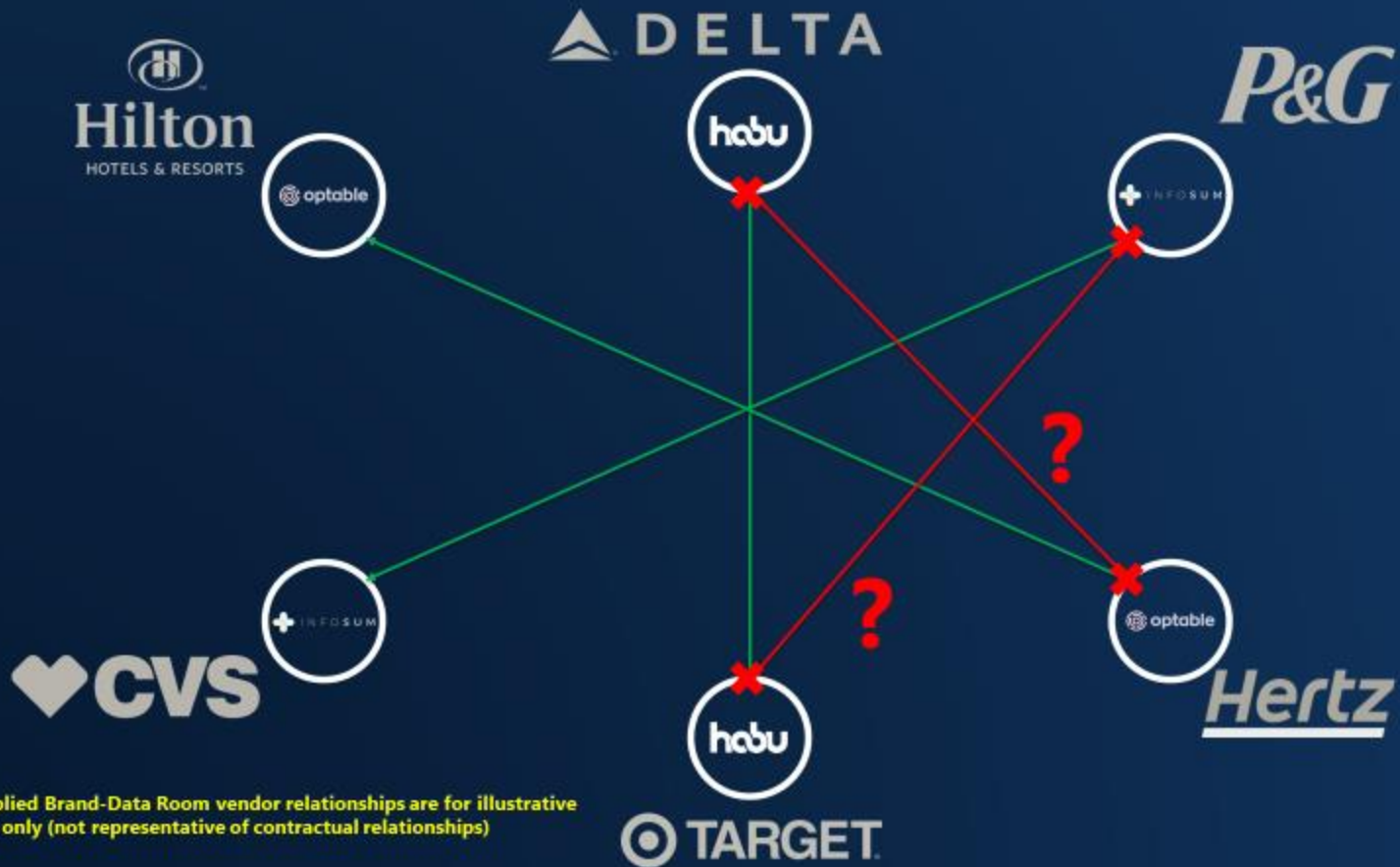
LUMA Source: Merkle, "2021 Customer Engagement Reports"



We are very bullish on this category, as are marketers. A survey that Merkle last year shows that a majority of marketers plan to increase investment in clean rooms.



Interoperability of Data Clean Rooms?



Note: Implied Brand-Data Room vendor relationships are for illustrative purposes only (not representative of contractual relationships)



The biggest issue regarding clean rooms we keep hearing about is around interoperability. But first, this diagram is illustrative since we don't know which clean rooms are working with which brand (so don't take the graphic too seriously). The point is, if P&G and CVS both license the same clean room, then it is highly likely they will be able to work together easily. But what happens in the situation where two parties have adopted different clean rooms, such as if Delta and Hertz use different clean rooms? This is still an unresolved question that the industry is figuring out.

Interoperability of Data Clean Rooms?

DATA

Google Unveils PAIR For Clean-Room-Style Activation



By Sarah Sluis

Tuesday, October 11th, 2022 – 11:00 am

Share:    

PAIR

Publisher Advertiser Identity Reconciliation

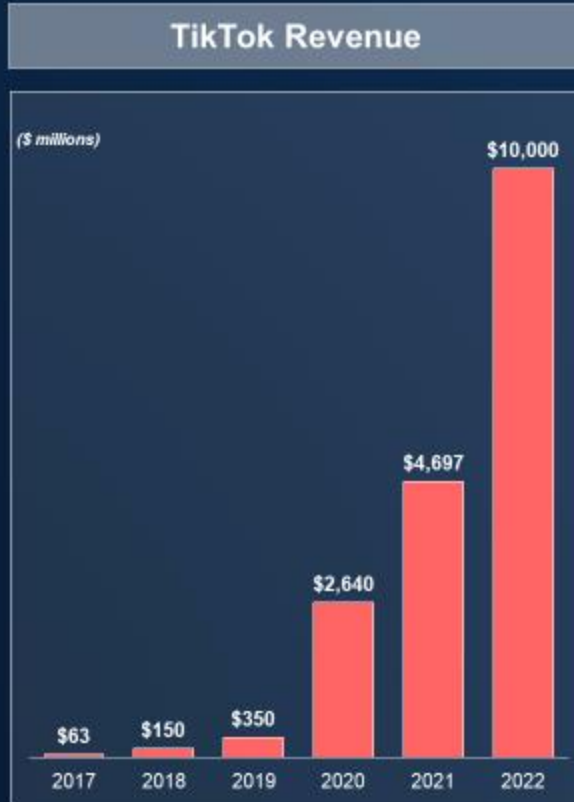
- Google announced a “Data Clean Room Protocol” for use with Google DV360 to help brands reach known customers
- Matches a brands first party data with publisher data (not Google Data)
- Relies on InfoSum, LiveRamp and Habu for matching

Note: implied Brand Data Room vendor relationships are for illustrative purposes only (not representative of contractual relationships)



An interesting announcement in early October was from Google, which announced “PAIR,” an acronym for “publisher advertiser identity reconciliation.” They call it a data clean room “protocol” which is specifically for their DSP, DV360, to help brands match first party data with publishers’ data. What is also interesting is that PAIR relies on InfoSum, LiveRamp, and Habu for the matching. While this is not interoperability across clean rooms, it is one use case that enables DV360 to leverage the data that is captured in clean rooms. We believe that the industry will continue to announce integrations like this which will lead to more utilization of clean rooms.

Influencer Marketing Gets Real



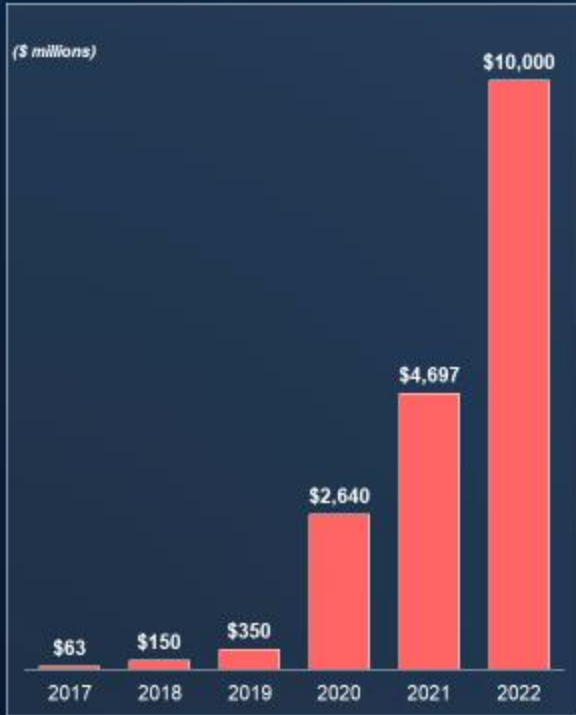
Source: Bloomberg, TikTok Reports, eMarketer (August 2022), ON3.



If you asked me my views on influencer marketing in 2019, I would have responded that it is interesting, but when we talked to marketers, they would say it is an experimental channel and not a mainstream marketing practice for them. That has changed. TikTok has exploded and in the pandemic the reach of influencers increased dramatically. This has led to significant growth of the category, and influencer marketing is now a real channel for enterprises.

Influencer Marketing Gets Real

TikTok Revenue



US Influencer Marketing Spend



Select NIL Deals

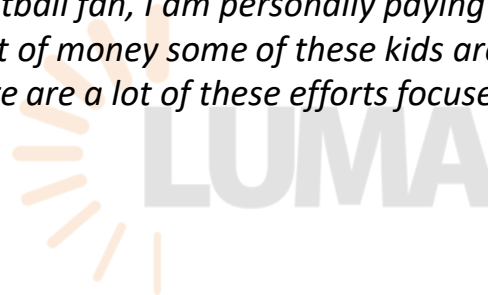
	Name	Status	Reach	Valuation
1	Bronny James	OSU	6.8M TikTok 5.6M Instagram	~\$7.4M
2	Mikey Williams	University of Kentucky	2.1M TikTok 3.7M Instagram	~\$3.4M
3	Arch Manning	Texas	8.6M TikTok 109k Instagram	~\$3.4M
4	Bryce Young	Alabama	236k Instagram	~\$3.4M
6	Olivia Dunne	LSU	6.2M TikTok 2.3M Instagram	~\$2.4M
10	Sunisa Lee	Alabama	1.6M TikTok 1.7M Instagram	~\$1.5M
25	Spencer Rattler	Georgia	115k TikTok 374k Instagram	~\$0.9M
37	Paige Bueckers	UConn	391k TikTok 1M Instagram	~\$0.8M



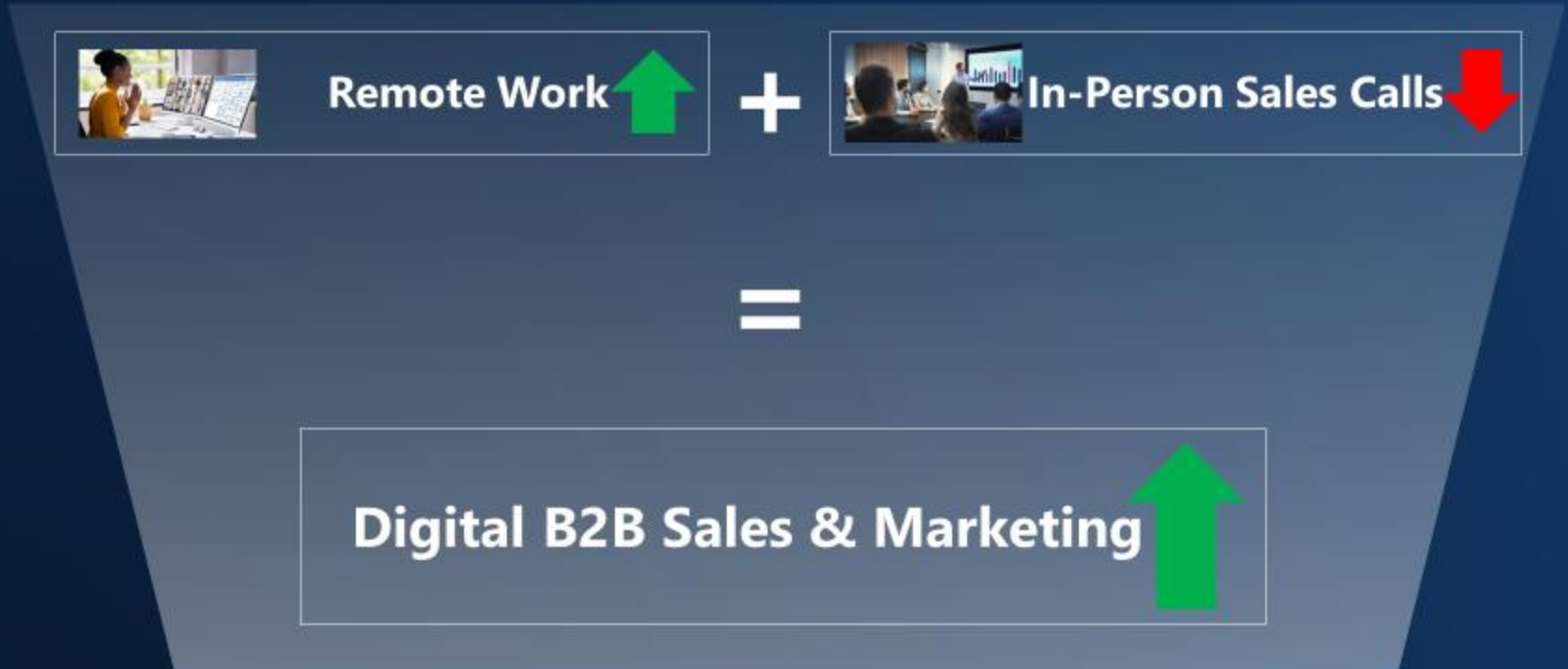
Source: Bloomberg, TikTok Reports, eMarketer (August 2022), ON3.



As a huge college football fan, I am personally paying a lot of attention to the Name Image Likeness dynamic. The amount of money some of these kids are receiving for playing college sports is significant. And where are a lot of these efforts focused? Influencer marketing.



Acceleration of Digital B2B Sales & Marketing...



While this is a boring slide, it captures the dynamic we saw in B2B sales and marketing during the pandemic. Remote work was way up while in-person sales calls were nonexistent. We therefore saw a dramatic shift to digital B2B sales and marketing. Even before the pandemic we noted that CRM systems are really a sales management tool, while new MarTech and SaleTech solutions were arming the marketers and salespersons to be more effective at their jobs. The tools that make the marketer bring in more leads and the salesperson more effective in closing deals grew dramatically during the pandemic.

...Birthed a Herd of Unicorns

Company	Unicorn Date	Latest Post-Valuation
 Outreach	April 2019	\$4.4bn <small>Jun 2021</small>
 GONG	August 2020	\$7.3bn <small>Jun 2021</small>
pipedrive	December 2020	\$1.5bn <small>Dec 2020</small>
Salesloft.	December 2020	\$2.3bn <small>Dec 2021</small>
 HIGHSPOT	Feb 2021	\$3.7bn <small>Jan 2022</small>
 sense	March 2021	\$5.2bn <small>Jan 2022</small>
mindtickle	August 2021	\$1.2bn <small>Aug 2021</small>
 zoominfo	March 2021	<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;">Market Cap</div> <div>~\$13.5bn</div> </div> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;">EV / Revenue <small>CY 2022E</small></div> <div>13.1x</div> </div>



Source: FactSet (market data as of 11/11/22), Pitchbook

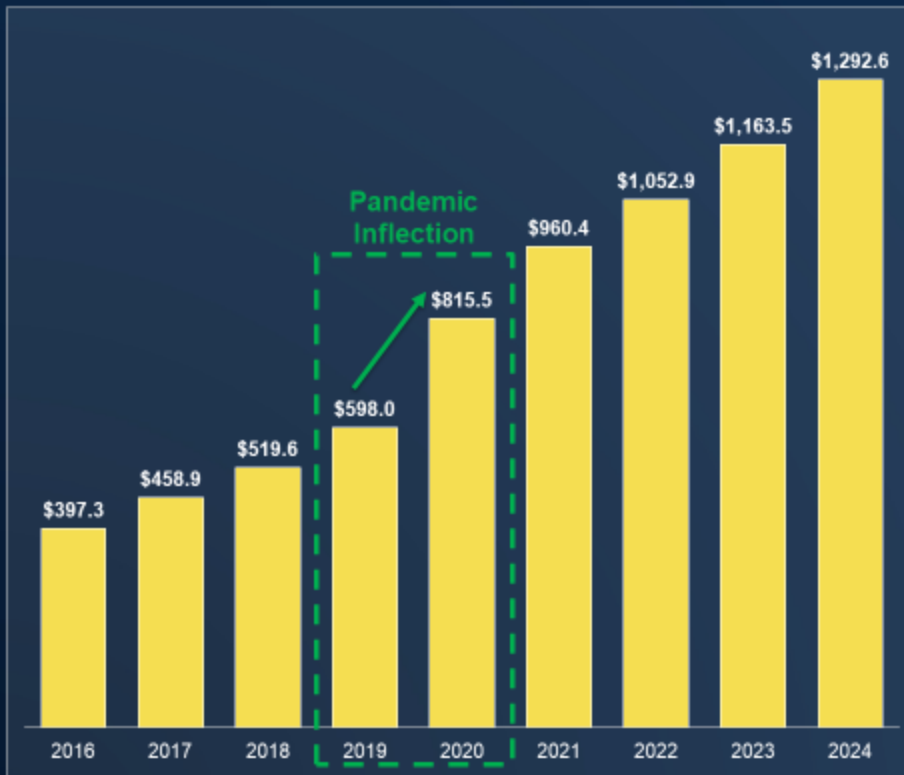


While FinTech likely had the most unicorns birthed during the pandemic, there were half a dozen SalesTech companies that reached unicorn status. This shows the dramatic adoption and growth of the category.



eCommerce Growth Highlights Importance of Retail Tech

Retail eCommerce Sales, US (\$bn)



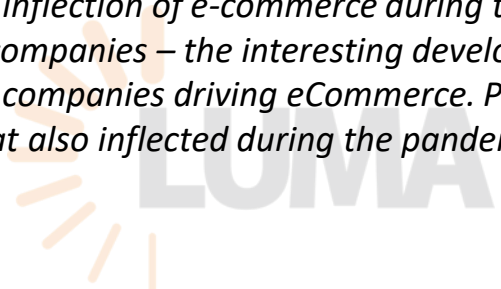
Retail / Commerce Tech Providers



LUMA Source: eMarketer



Lastly, we all saw the inflection of e-commerce during the pandemic. From our perspective - since we focus on technology companies – the interesting development has been the emergence and/or growth of interesting companies driving eCommerce. Personalization, loyalty, merchandising, etc. Lots of companies that also inflected during the pandemic and continue to grow today.





COMMERCE MEDIA

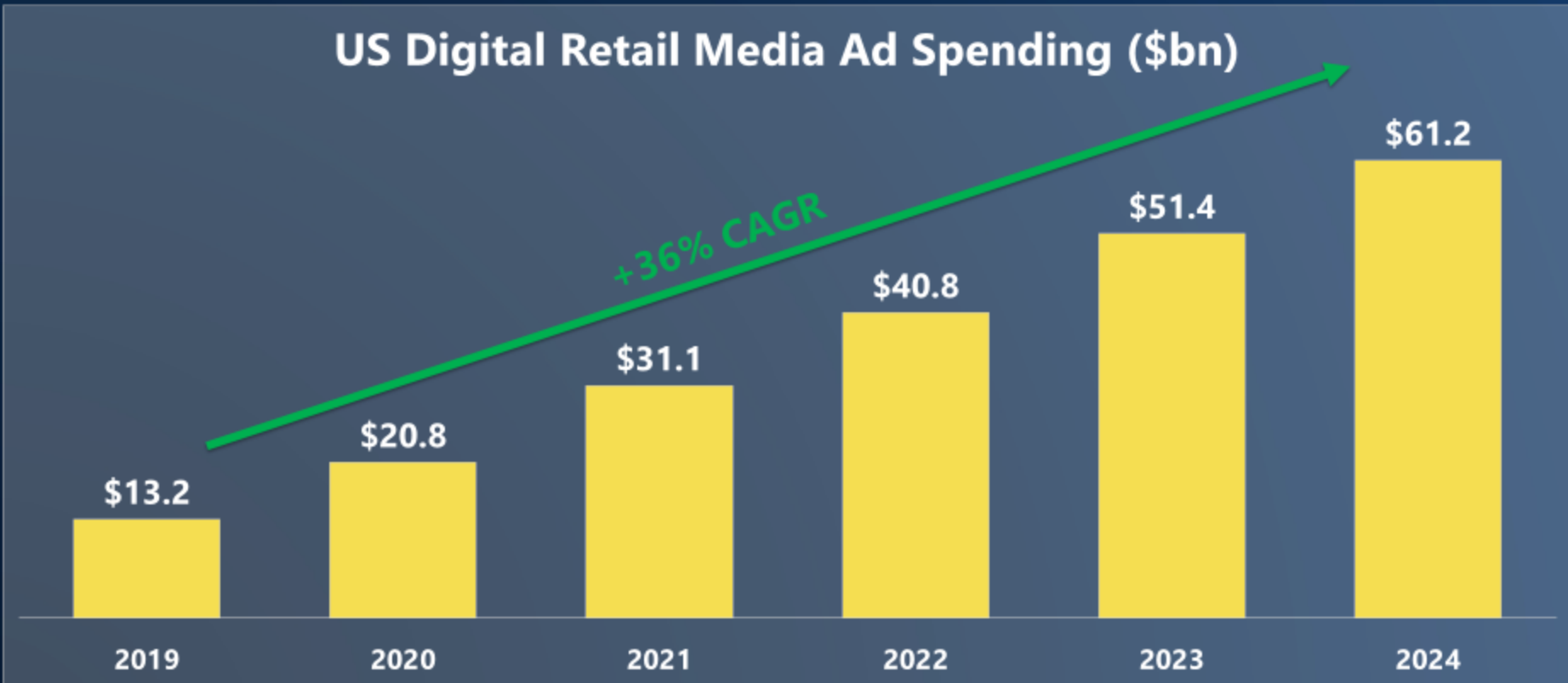
Conor McKenna, Director

While this presentation is more focused on trends in MarTech and data than media activation, the rise of Commerce Media is one we wanted to call out, as MarTech plays an important role in this emerging channel.



Retail Media Has Exploded Onto the Scene

US Digital Retail Media Ad Spending (\$bn)



LUMA Source: eMarketer (March 2022)



Over the last few years, Retail Media has begun to receive significant attention, with many new retailers jumping in. It's no surprise when we look at the sheer size of this ecosystem. Earlier in the year, eMarketer published its latest forecasts, with retail media expected to reach \$40bn in ad spend in 2022, going to over \$60bn by 2024. To put that in context, this makes the Retail Media ecosystem nearly 2x the streaming TV advertising ecosystem in 2022. Additionally, despite many concerns of macro headwinds impacting ad spend, we have yet to see researchers significantly shift their expectations for Retail Media.

With Amazon As Its Poster Child

amazon

\$36BN

- Closed loop data
- Media efficacy and efficiency
- Rapid growth



REUTERS®

Amazon trots out YouTube-sized advertising business

By Danielle Kaye

TECHNOLOGY

BARRON'S

Amazon Earnings Included a Shocker: It Has a Bigger Advertising Business than YouTube

By Jack Denton Feb. 4, 2022 11:28 am ET

Clearly Amazon is the major player here.

Over the last five to six years, Amazon has built a massive media business, leveraging their scaled consumer touchpoints, robust ad tech, and closed loop attribution to scale to over \$36 billion in ad spend this year. This means Amazon accounts for the vast majority of the current retail media spend, though others are getting into the game...



Everyone's An Ad Network

Digital Commerce Marketplaces	amazon	ebay	Etsy			
Mass Merchandise Retail	macy's	Walmart	target			
Category-Focused Retail	Albertsons	BEST BUY	CVS	THE HOME DEPOT	Kroger	Walgreens
Commerce Intermediaries / Hospitality & Delivery	DOORDASH	Expedia	instacart	Marriott	Uber	
Consumer / Entertainment Platforms	Apple	NETFLIX	ROBLOX	ROKU	XBOX	zynga
Finance / Payment Platforms	Bolt	Klarna	mastercard	shopify		



As was mentioned earlier in the presentation, we've seen a wide variety of new entrants into the advertising ecosystem. This includes a variety of retailers looking to replicate Amazon's success, as well as other platforms with scaled consumer bases and access to unique first party data. These include commerce intermediaries, back-end financial platforms, and consumer platforms that previously focused on subscriptions.

Why are these platforms entering the advertising market?

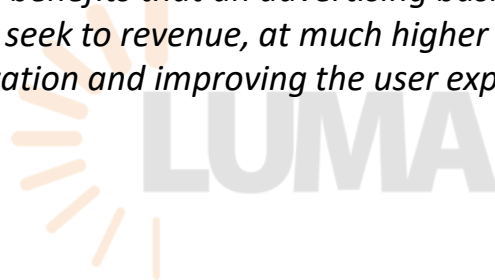
Everyone's An Ad Network

Digital Commerce Marketplaces	A	Improves Customer Experience?
Mass Merchandise Retail	B	Leverages Existing Assets?
Category-Focused Retail	C	WAY Higher Margins?
Commerce Intermediaries Hospitality & Delivery	D	ALL OF THE ABOVE
Consumer Entertainment Platforms		
Finance / Insurance Platforms		

Background logos: amazon, ebay, Etsy, macy's, Walmart, target, Walgreens, Marriott, Uber, NETFLIX, ROBLOX, Roku, zynga, Bolt, Klarna, shopify



When you look at the benefits that an advertising business provides, it's pretty clear. These platforms are able to seek to revenue, at much higher margins, while leveraging the existing work they do on personalization and improving the user experience.



Commerce Media at the Center of Fundamental Sector Trends

Data & Identity



COMMERCE
MEDIA

Performance

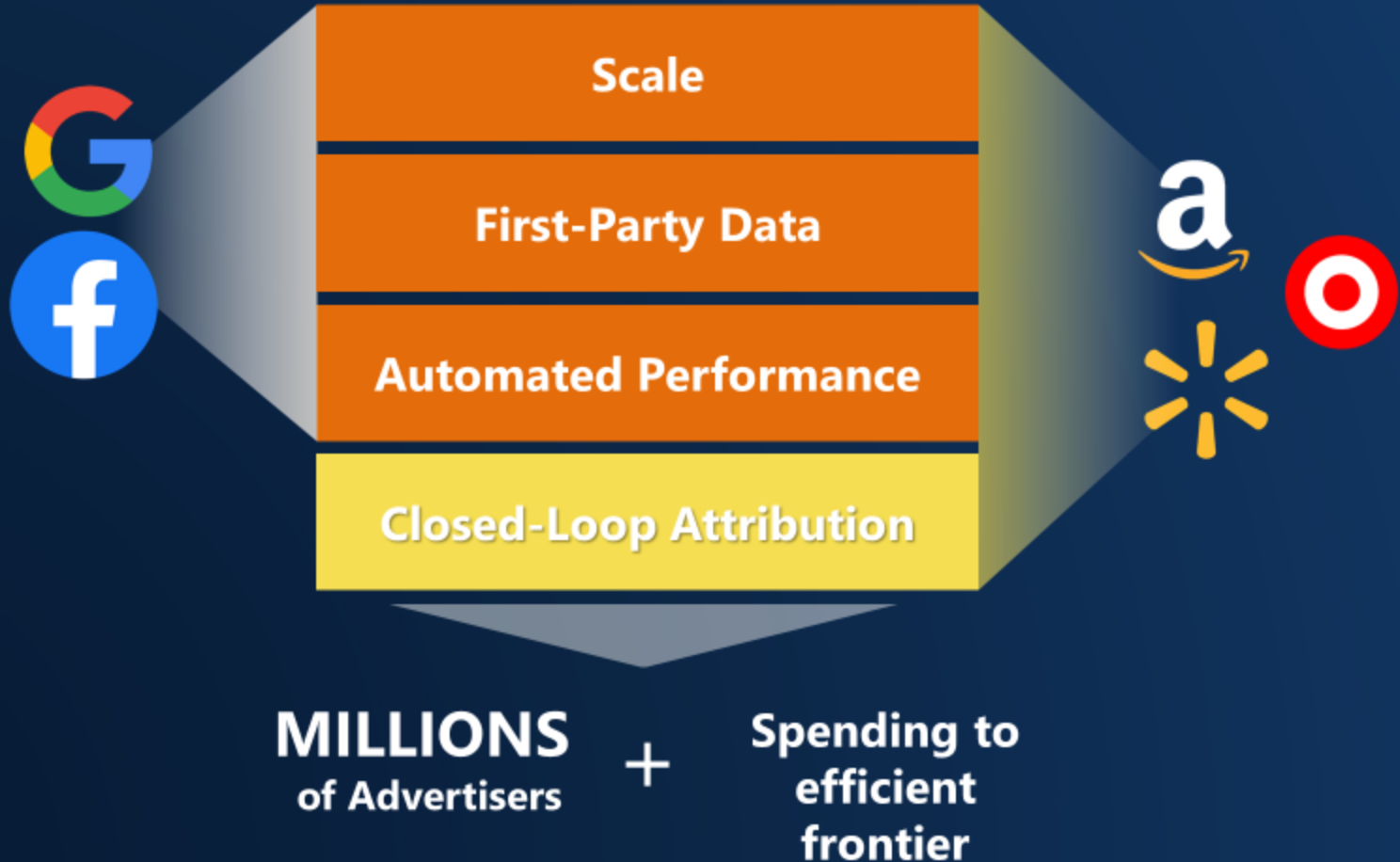
Growth

Given the huge business opportunity, it's clear why retailers and platforms are moving towards this trend, but what why are marketers directing so much spend to this channel? Well, it's because commerce media is at the center of fundamental Ad Tech / MarTech trends.

In a world of signal loss, those platforms that can bring scaled first party data to the table are able to stand out. They also bring performance since their data is often tied to actual transactions, filling a massive void as platforms such as Facebook struggle with a variety of signal challenges. This become especially important for categories like direct-to-consumer brands that leverage performance advertising as key drivers of their growth.



Commerce Media Echoes Strengths of Search & Social



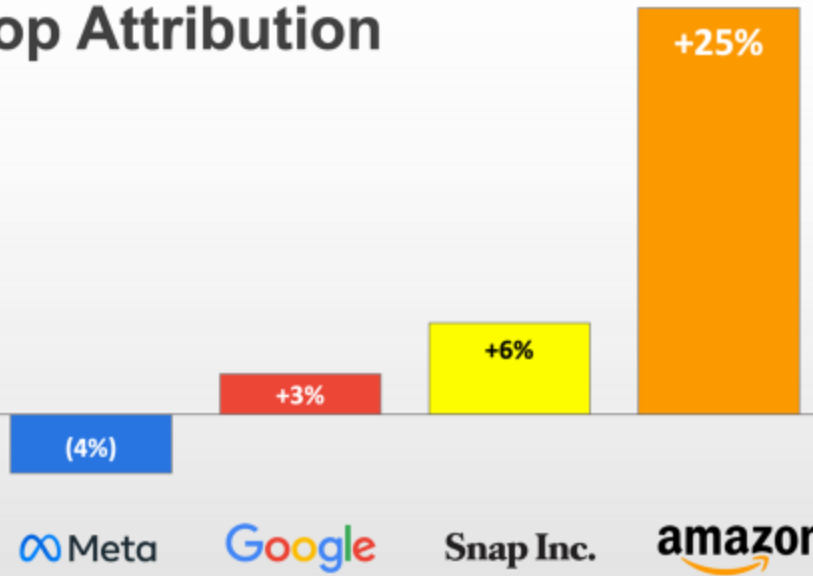
One thing we've noticed as we've dug into this sector is how much what's happening in Commerce Media echoes the strengths we saw in search and social. What has made Google and Facebook such powerful advertising channels is that they have scale consumer bases, robust first-party data and automated performance, which means they can both have a simple onramp for customers to utilize to their platform and they're able to tie ad spend back to KPIs. What this meant for them is they have millions of advertisers who are all able to spend to the efficient frontier. Thus, they're not reliant on specific large budgets, but rather millions of small budgets, and when they turn advertising into a cost of goods sold, those advertisers can continue spending as long as they see results. This is incredibly powerful, especially at a point in time when recession concerns are rampant. Commerce Media has all these traits PLUS closed-loop attribution from their own first party data.



Commerce Media Echoes Strengths of Search & Social

The Power of Closed Loop Attribution

Q3 Advertising Growth (Y/Y)



MILLIONS
of Advertisers

+

Spending to
efficient
frontier

...And you really saw this come to bear last quarter. In Q3 2022, Meta, Google, and Snap all reported either low growth or declining ad spend. Meanwhile, Amazon had over 25% growth in their media business. So, despite all the noise on macro headwinds, it seems that signal loss and its impact on attribution is the real driver of advertising softness.



Retail Media Starts with Search



2017

55% of shoppers
START on Amazon

On-site Search /
Promotion

I often get asked whether we are at peak retail media? Is there really room for more platforms here? When faced with this question, I think it's important to remember what commerce media really is today.

For the most part it's search advertising on a platform's owned & operated site. If a platform has a scaled consumer base coming to their site and engaging in search, they can monetize that intent. It's the same as any website, if you have consumers engaging on site, you can monetize them with media dollars. Here, it just happens to be the very bottom of the funnel. This creates the base for retail media to expand. Remember, before we ever talked about Amazon's media business, we first talked about the fact that Amazon had built a platform where shoppers started their search.



Retail Media Starts with Search



What's the basis for a strong search business? Two fundamental items.

- 1) Strong core business that can attract and retain customers*
- 2) Strong MarTech capabilities to take capture and improve customer interactions. These include UX, data infrastructure, and personalization capabilities*

Luckily these factors compliment each other and have already been a key part of commerce platform strategies, thus making the addition of search advertising relatively painless.



Retail Media Starts with Search

**Standard
Media
index**

**Retail Media is Here in a Big Way: Should
Search be Worried?**



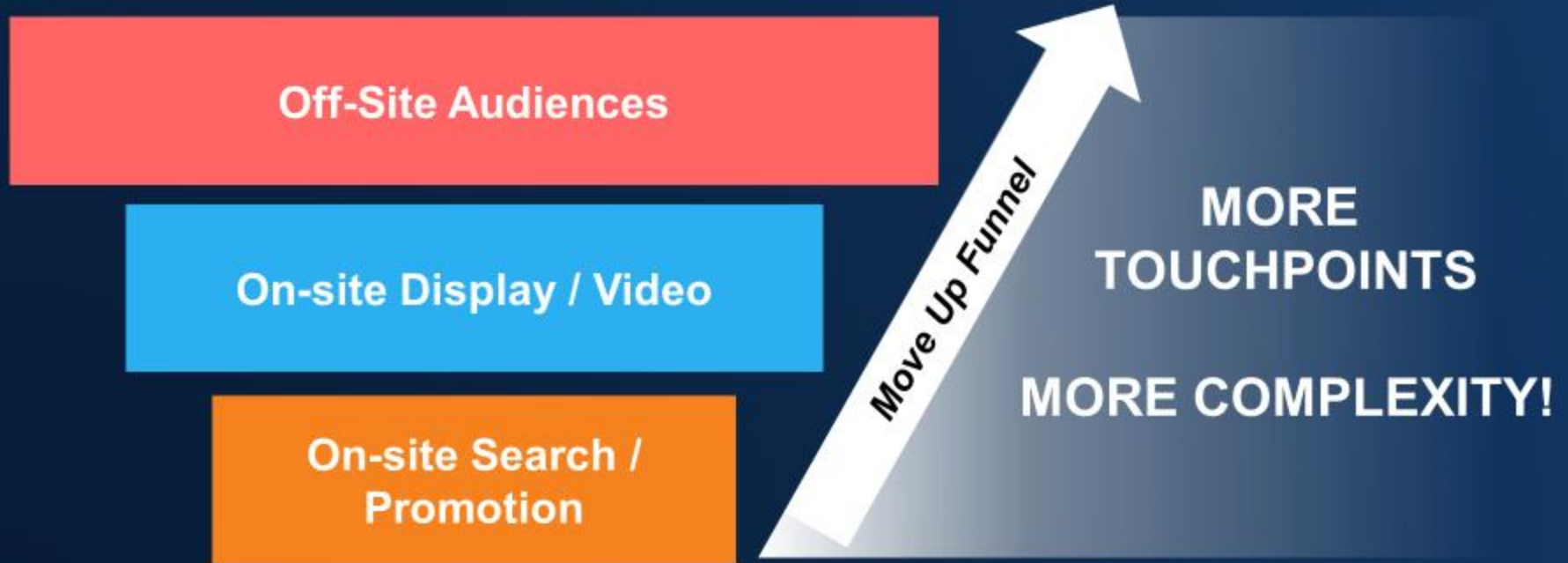
**On-site Search /
Promotion**



And we're starting to see this make an impact.

Recently the Standard Media Index put out a report showing that paid search is shifting from the broad search platforms towards retail media platforms, as consumers increase their search on these sites. Consumers may start at Google but end up continuing their search shift once on more specific platforms, allowing these platforms to take part in the intent monetization in a meaningful way.

The Stages of Retail / Commerce Media



From the base of on-site search, we see retail / commerce media expanding as it moves up funnel. This starts with on-site display & video and then moves into off-site activations.

Each of these steps creates more consumer touchpoints and a larger media business, but they also add significant complexities, requiring broader use of data and deeper touchpoints into other platforms. This will be very difficult for most platforms to do on their own...

Most Platforms Will Require “Hedged Garden” Strategies



- Scaled global audience
- Scaled & varied merchant base
- Tech-centric core business



Utilize partners to:

- Extend reach (consumers & brands)
- Onboard / connect data
- Measure / attribute

...Instead, we believe most in the commerce media ecosystem will take a “hedged garden” approach. That is, rather than develop and own all the tech in-house, most platforms will leverage a variety of independent technology partners to create and expand their media platforms. Much like the open-web, the scale and complexities needed for the advertising activation to be successful are beyond the scale and capabilities of most individual platforms. However, unlike the open web, the data controls will be much tighter and more carefully utilized.

This dynamic, alongside the scale, is what makes us so excited about the Commerce Media opportunity, as a vibrant, independent ecosystem, is the basis for significant M&A.





MOBILE APP



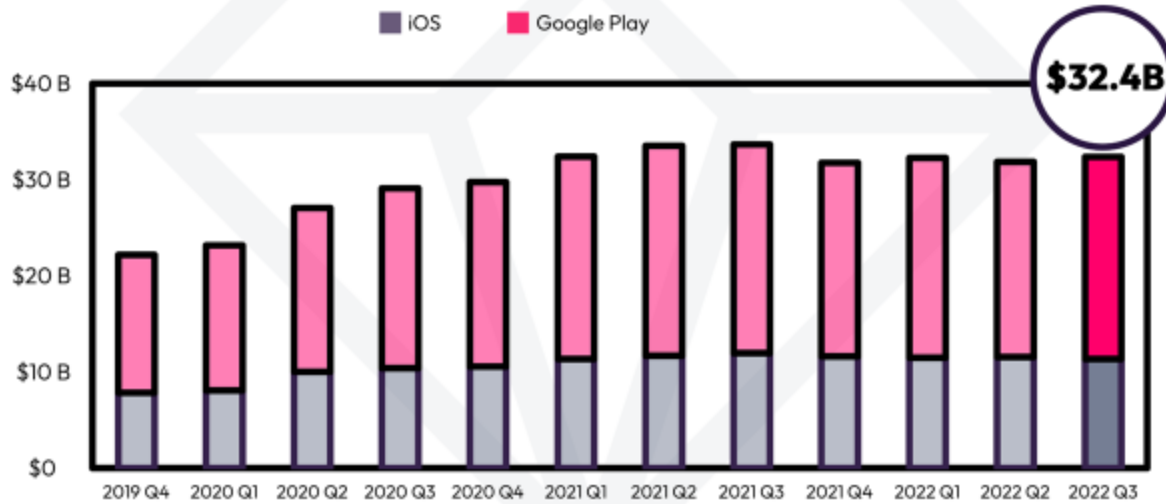
Dick Filippini, Partner & Head of Mobile Investment Banking



Mobile App Economy Still Alive and Kicking



Worldwide App Consumer Spend Q3 2022



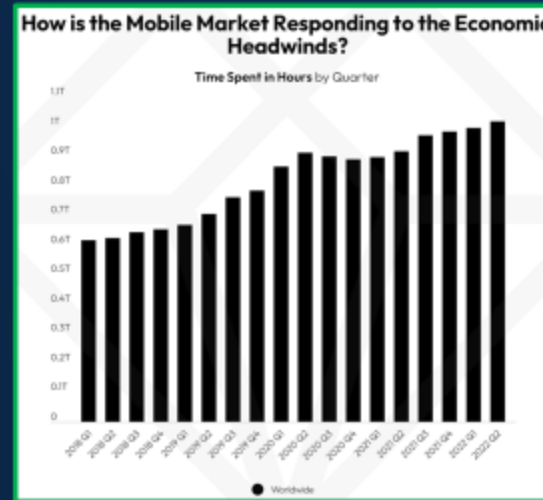
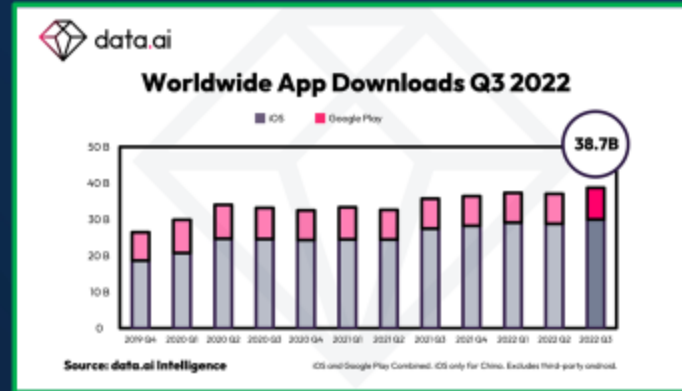
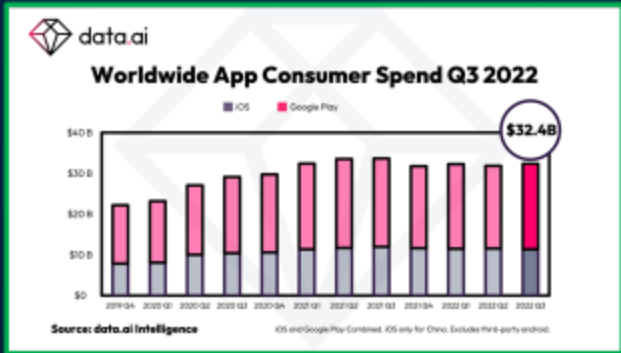
Source: data.ai Intelligence

iOS and Google Play Combined. iOS only for China. Excludes third-party android.

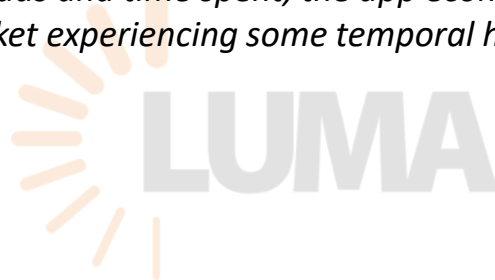


There's been a lot of talk about a slowdown in the app economy, so we looked at the latest market stats from Data.ai. Their most recent update shows a modest decline in consumer spending in Q3 relative to the third quarter of 2021, but their data shows that's still 40% growth from pre-pandemic levels. Obviously, we're in a more challenging economic environment, but also keep in mind how much talk we heard during the Covid lockdown regarding a material pull forward in spend.

Mobile App Economy Still Alive and Kicking



If you look at downloads and time spent, the app economy continues to set new records – it's a large, attractive market experiencing some temporal headwinds.



Earnings Season Highlighting Mobile Ad Turbulence

Facebook Parent Meta's Earnings Fall Short as Advertising Fizzles

The social media giant is the latest to reveal signs of frailty in its ads-reliant business.

ONET

Google misses earning expectations as YouTube ad sales drop

AXIOS

Spotify profit margins squeezed by slow ad growth; stock sinks

REUTERS

TikTok slashes global revenue targets by at least \$2bn

FINANCIAL TIMES

Applovin stock falls 5% following earnings miss, another outlook cut

Snap stock falls nearly 25% after revenue hit by shrinking advertiser budgets

CNN

Unity slides 12% as revenues narrowly miss, losses swell in Q3

Seeking Alpha

Digital Turbine Fiscal Q2 Adjusted Earnings, Revenue Decline; Issues Fiscal Q3 Outlook

MarketWatch

Big Tech is getting wiped out in a brutal 3rd-quarter earnings season - but Apple isn't. Here's why.

BUSINESS INSIDER

Source: Axios, Business Insider, CNET, CNN, Financial Times, Market Screener, MarketWatch, Reuters, Seeking Alpha



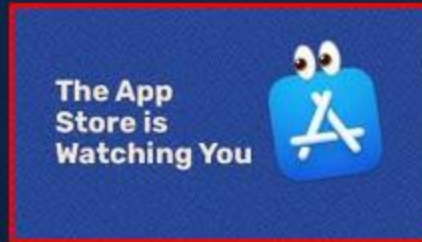
Mobile ad spend has also been impacted by market dynamics, with many earnings calls commenting on reduced budgets with belt tightening by marketers navigating uncertainty in the economy, as well as some impact from tough Covid comps, plus the continued difficulty in optimally matching app advertisers with the best consumers for their products due to signal loss. You'll notice one of these headlines is not like the others, as Apple had really impressive earnings results, but if you listen to their call, they shared that digital advertising and gaming are areas where they've seen softness.

Apple Marketing vs Reality

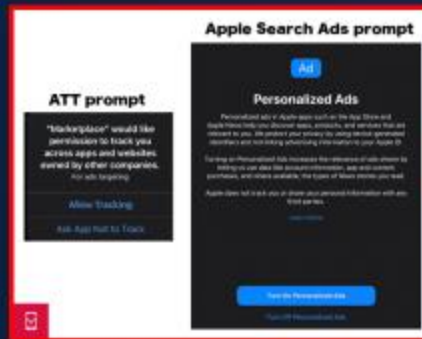


Apple Is Tracking You Even When Its Own Privacy Settings Say It's Not, New Research Says

An independent test suggests Apple collects data about you and your phone when its own settings promise to "disable the sharing of Device Analytics altogether"



Apple's advertising platform does not track you, meaning that it does not link user or device data collected from our apps with user or device data collected from third parties for targeted advertising or advertising measurement purposes, and does not share user or device data with data brokers.



App Tracking Transparency antitrust investigation launched because Apple exempts its own apps 9TO5Mac



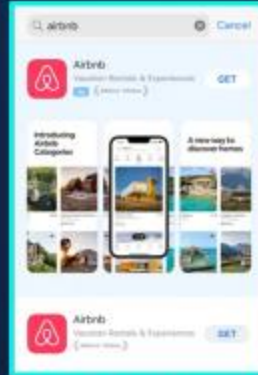
It's interesting to look at how Apple talks about its ads business vs reality. They've had a really successful marketing campaign centered on user privacy. But it's not that Apple doesn't track us, rather that they have a specific definition of tracking in that they don't share data with third parties. Apple still does track us for targeting ads and that's a good thing – if we have to see ads, most of us would prefer them to be relevant and high quality. And the rest of the ecosystem shouldn't have to play by different rules. Of course, tools to give consumers more visibility and control over their data make sense, but this consent prompt puts a number of good actors that add value to the ecosystem at a disadvantage. And regulators have taken note, so we'll see how that plays out.

Apple Marketing vs Reality

Product Management Leader, Ad Platforms

Santa Clara Valley (Cupertino), California, United States
Software and Services

At Apple, we work every day to create products that enrich people's lives. Advertising Platforms makes it possible for people around the world to easily access enlightening and imaginative content on their devices while helping advertisers promote and monetize their work. Our technology and services power advertising in Apple News, Search Ads in the App Store across 60 countries. Our platforms are highly performant, deployed at scale, and set new standards for enabling effective advertising while protecting user privacy!



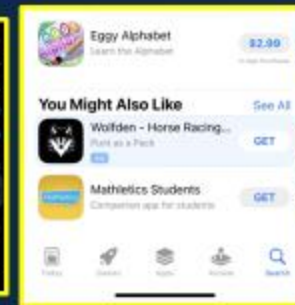
Paying for Organics



Dating app ad next to relationship counseling apps



Adult Video Chat ad on Apple Books app page



Gambling Ads Next to:
• Addiction Recovery app
• Children's Content



On the ad experience quality topic, Apple hasn't had the best reputation, with many marketers commenting ASA doesn't scale + results in paying for organics. But it's been surprising to see some recent coverage of campaigns that ran on some of the new inventory Apple has opened up. Given how Apple positions its ads business, I don't think most people would expect it to be running campaigns for gambling apps, or adult video chat. Not to mention the inappropriateness of running gambling ads next to apps for kids... There's clearly a lot of room to improve the ad experience and better tools for effectively and appropriately targeting ads help the consumer experience – driving app installs is different than influencing elections and policy has over-corrected here.

Marketers Changing Their Playbooks...

AppsFlyer's 15th Performance Index Finds Market Conditions and Privacy Changes Continue to Disrupt App Marketers and Media Companies

App install ad spend budgets dropped 14% in the first half of 2022, but the use of owned media is on the rise

Marketing Activity Trend

Owned Media



Paid Media



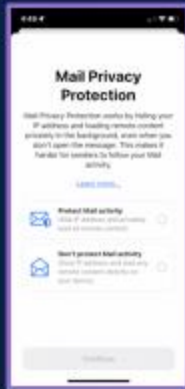
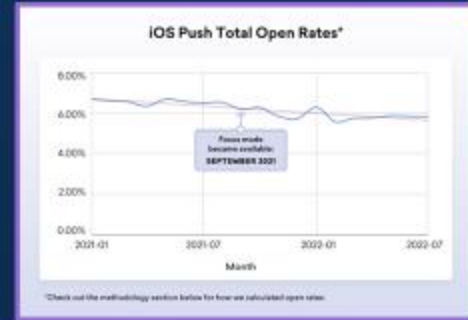
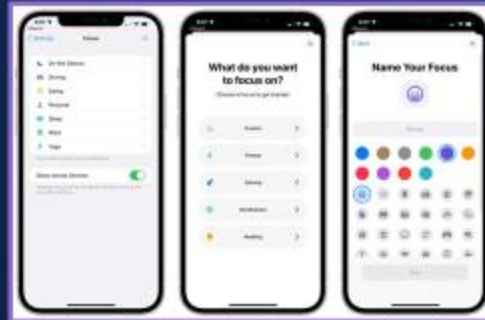
Growth in Owned vs. Paid Media HoH Change in New Installs



Back to the broader mobile ads market, it's interesting to see how marketers are handling the current environment. AppsFlyer research shows app install budgets dropped 14% in the 1st half of 2022 and they see brands turning their focus more to owned media, with positive results there.



...And Can't Stand Still...



Impacts for Mail Privacy Protection

- 1 Open Rate Tracking** - Measuring campaign performance by open rates will overstate performance since all emails load as "open"
- 2 Customer Engagement** - Models that use opens to determine if users are engaged or (like click-to-open rates) will be impacted
- 3 Send Time Optimization** - Performance optimizations and tests that leverage the "open" metric, like send times, will need to leverage other KPIs to determine efficiency
- 4 Journey Triggers** - Engaged user flows or automated audience targeting based on email open rates will need to be reconfigured
- 5 Geo-localized Content** - Content dependent on user's location at the time of open will be inaccurate
- 6 Countdown Timers** - Countdown timers and some other real-time updates, like displaying a loyalty point total will be generated at the time sent



And speaking of owned media, this is again a dynamic space where marketers and vendors need to continually adapt to platform changes. Google is following Apple's lead in requiring consumers to opt-in to receiving push notifications. Also, Apple introduced some changes in iOS 15 that have impacted email and push marketing. Mail Privacy Protection has made tracking and measuring email campaigns more challenging, and Focus Mode has led to declines in push open rates, both complicating the marketer's job in trying to balance policy changes to optimize the consumer experience, while achieving their marketing goals.

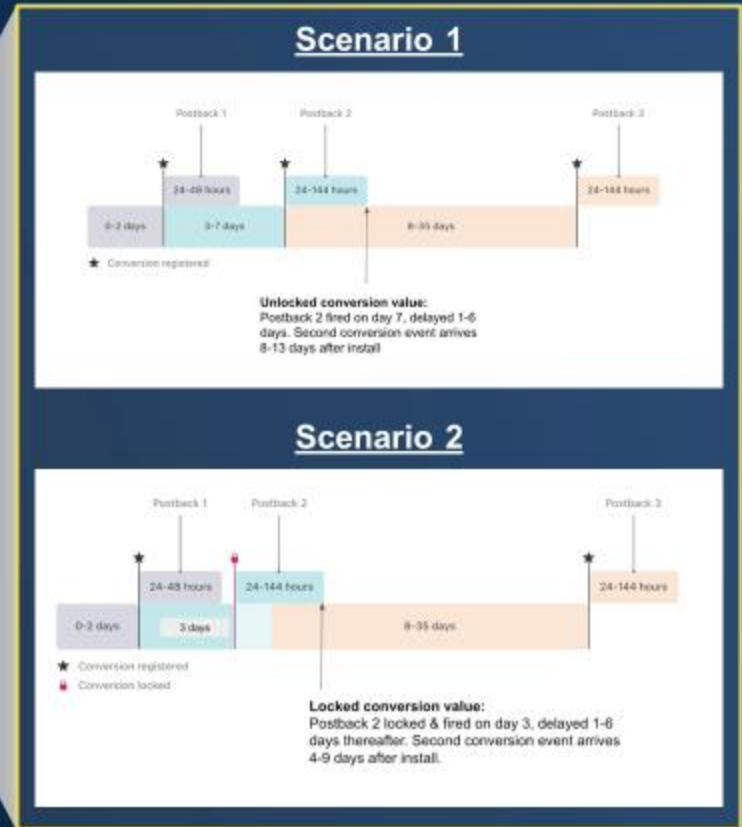
...Some New Opportunities...



Apple's Live Activities opens up a new way for brands to interact with their customers, with a channel on the home screen that automatically updates with fresh content. Apple's developer page encourages brands to avoid using this for ads, but this doesn't appear to be policy, rather a suggestion. And it's interesting to note that Apple changed policy to permit ads in push notifications (you can see the Uber / Peloton example here). Obviously, there's a lot of responsibility at play, it's one thing if I opt into proactively opening a channel with a brand via Live Activities, but another for Uber to promote another brand when I've signed up for utility push, they better be really good at making the ad relevant or I'll likely turn off their ability to reach me that way.

...Light at the End of the Tunnel?

	Tier 0	Tier 1	Tier 2	Tier 3
Postback 1	<ul style="list-style-type: none"> source-identifier, the hierarchical source identifier, with two digits 	<ul style="list-style-type: none"> source-identifier, the hierarchical source identifier with two digits coarse-conversion-value, a coarse value, if the app provides one 	<ul style="list-style-type: none"> source-identifier, the hierarchical source identifier with two, three, or four digits conversion-value, the fine-grained conversion value, if the app provides one 	<ul style="list-style-type: none"> source-identifier, the hierarchical source identifier with two, three, or four digits conversion-value, the fine-grained conversion value, if the app provides one source-app-id for ads that display in apps, or source-domain for attributable web ads
Postback 2 + 3	For ads in Tier 0, the system doesn't send a second or third postback.	<ul style="list-style-type: none"> source-identifier, the hierarchical source identifier with two digits coarse-conversion-value, the coarse conversion value, if the app provides one 		



In other positive news, Apple has rolled out what looks to be a constructive update to its measurement solution with SKAD 4.0. The good news here is marketers should now get more and more granular signal with up to 3 postbacks. This should be helpful in managing and optimizing campaigns and hopefully help unlock more ad spend, if advertisers can be more confident in the results of their activities. Another observation here: as you can see from the slide, this new approach includes a fair amount of complexity. And likely sufficiently so that many smaller marketers won't have the experience to handle it, which could be a positive for the networks and MMPs who can step in to help on that front.







































Market Conditions Have Slowed Pace of Scaled M&A Activity

 Denotes 2022 Acquisition

Public

 Market Cap: \$6,687mm	    
 Market Cap: \$2,859mm	<p style="color: red;">None Yet</p>
 Market Cap: \$1,965mm	   
 Market Cap: \$14,899mm	                      

Private

 Funding: \$101mm	    	 Funding: \$293mm	<p style="color: red;">None Yet</p>
 Funding: \$863mm	 	 Funding: \$667mm	 
 Funding: \$182mm	 	 Funding: \$157mm	  
 Funding: \$500mm	   	 Funding: \$210mm	<p style="color: red;">None Yet</p>
 Funding: N/A	   	 Funding: \$370mm	 
 Funding: \$272mm	 	 Funding: \$82mm	<p style="color: red;">None Yet</p>

LUMA Source: FactSet (market data as of 11/11/2022), Company Filings, CrunchBase, PitchBook

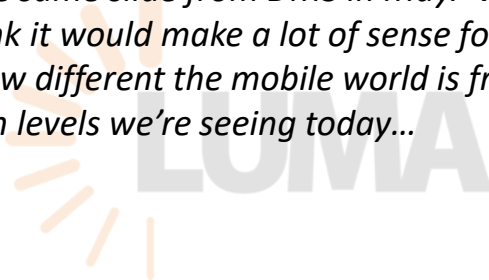


There's been a slowdown in mobile M&A activity with companies conserving cash and more sensitive to dilution given where market caps have traded. Looking at some of the best capitalized public and private players in the space, we've seen 10 deals this year, with a number of tuck-ins and 1 scaled deal each from AppLovin (expanding its TAM into CTV with Wurl) and Unity. Unity's recently closed combo with IS is obviously the biggest news, a multi-billion-dollar move and interesting financial play as Unity's ad business was struggling and IS materially changes Unity's profitability profile. We still see interest in the sector in bigger scale, diversification and the strategic growth M&A can afford, so will see if things pick up as the economy progresses.

Many Big Tech Players with Mobile App Ad / MarTech Gaps



And we'll end with the same slide from DMS in May. When thinking through some other potential acquirers, we still think it would make a lot of sense for a number of big tech players to make a move in the space, given how different the mobile world is from an ad tech / martech perspective, not to mention the valuation levels we're seeing today...





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