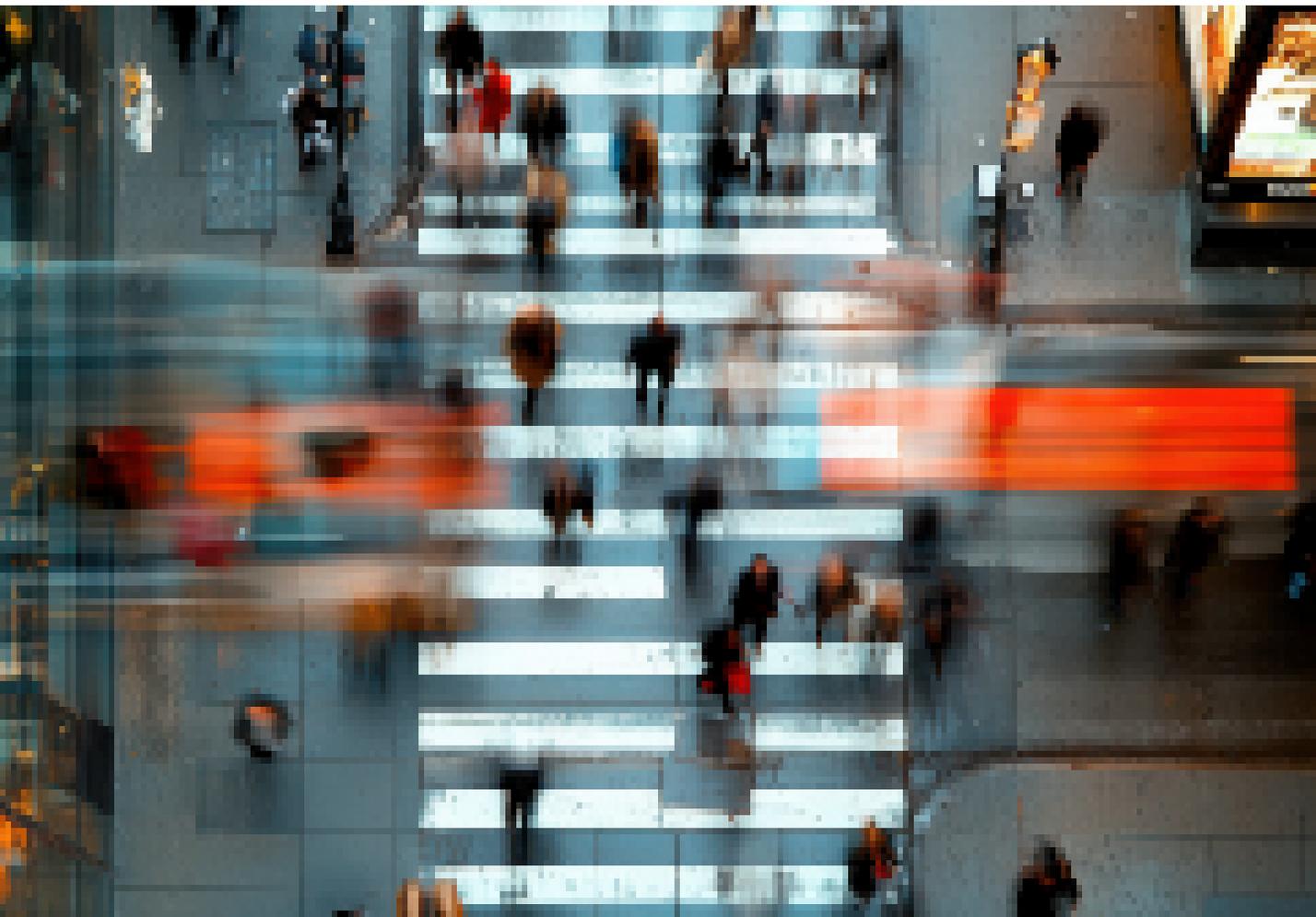




Harnessing AI to scale Retail Media Networks:

Overcoming volume challenges and driving competitive advantage



Introduction

As of today, there are over 240 retail media networks operating worldwide. A retail media network refers to a platform or ecosystem through which retailers sell advertising space on their websites, apps, or other digital properties, leveraging first-party data to target consumers with relevant ads. However, only a handful will eventually succeed in running full-scale media businesses, generating billions of dollars in annual revenue and earning the trust and investment of brand advertisers. Many retail media networks will falter, shutting down operations and writing off hundreds of millions of dollars in sunk costs. However, new entrants and smaller retailers can still succeed in establishing and scaling a retail media business, provided they invest in the **right technology** and focus on the **right areas**.

Problem statement

A retail media network's success depends on its sales team's ability to communicate its unique value proposition—the network's reach and ability to target specific customer segments in alignment with advertisers' objectives. These claims must be supported by robust measurement capabilities and verifiable data. However, apart from a few frontrunners, most retail media networks struggle to become consultative sales partners capable of addressing the specific needs of advertisers and brands. Many non-leading networks suffer from suboptimal digital user experiences and outdated customer identity graphs that are ill-equipped to support retail media networks. Once these fundamental issues are resolved, the next critical step is sales enablement—leveraging insights and data scientists, as effectively demonstrated by leading retail media networks.

Since no two retail media networks are identical, late entrants and smaller players face inherent disadvantages—unless they leverage AI and machine learning solutions intelligently. Amid the rapid proliferation of retail media networks, many fundamental factors are often overlooked, creating roadblocks that hinder sustainable scaling. However, these roadblocks can often be overcome by partnering with the right technology providers, strategically planning outcomes, and investing in targeted engineering initiatives.

The right data: The missing link for retail media network success

A retail media network's success depends on the sales team's ability to sell the unique value proposition of the network's reach. Can they target the specific customer segments the advertiser desires? The network's measurement capabilities and verification processes are crucial in demonstrating the effectiveness of this targeting and reach. However, all but a handful of retail media networks struggle to become consultative sales partners capable of addressing these brand and advertiser needs.

Non-frontrunner networks are stuck with a suboptimal digital user experience, made worse by a legacy customer identity graph that is not set up for a retail media network. Addressing these critical needs allows true sales enablement, leveraging the same insights and data scientists that frontrunner retail media networks deploy so effectively.

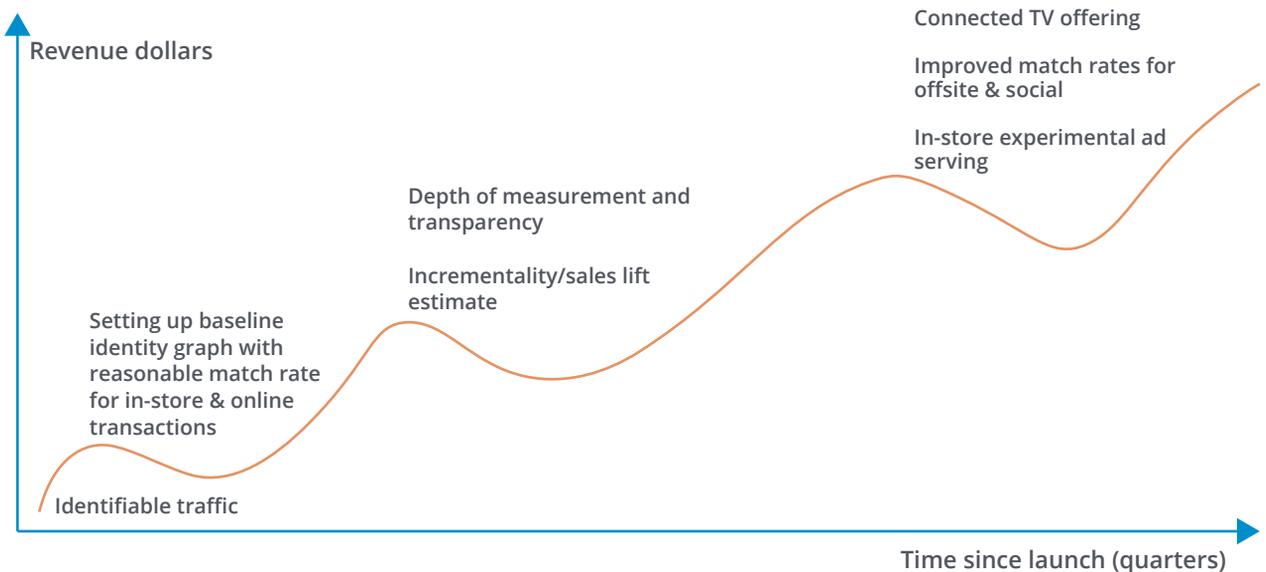
However, since no two retail media networks are the same, most late entrants or those lacking scalability face significant disadvantages—unless they make very smart use of artificial intelligence and machine learning solutions.

With the proliferation of retail media networks, some very basic factors are often ignored, leading to roadblocks in scaling business sustainability. Often, these roadblocks can be avoided by working with the right partners, efficiently planning the intended outcomes, and investing in the right engineering initiatives.

A few key areas that are often overlooked by newer entrants in the retail media space are:

- Improving identity graph and match rates
- Developing a first-party, data-driven insights program to generate demand and enable consultative sales capabilities
- Ensuring depth of reporting with reasonable transparency
- Building custom audiences and objective-oriented media campaigns
- Deploying data scientists and analysts for sales enablement and assisting the sales process

These roadblocks predictably arise over time as advertising revenue grows.



Winning the retail media revenue game

The bulk of retail media revenue is concentrated in only a handful of retailers, as is evident from the current revenue distribution pie. So, what differentiates the frontrunners from the laggards? There are three noticeable areas:

1. Sales enablement with first-party data insights, leading to consultative sales
2. Traffic volume: Ensuring the right kind of traffic is met with the right media campaign
3. The ability to invest, innovate, and measure where the majority of their traffic shops

Let's look at these pillars in a little more depth.

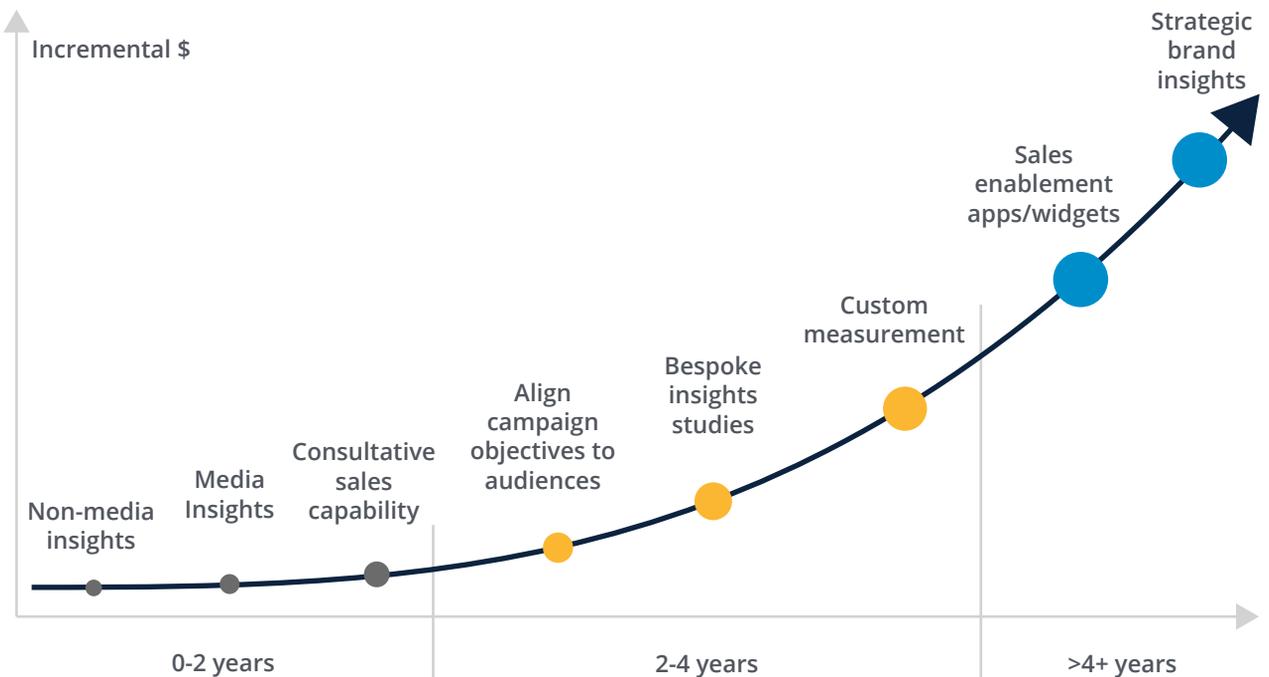
Sales enablement with first-party data insights, leading to consultative sales

First-party data insights help CPG advertisers understand the nuanced behavior and paths to purchase of the retailer's customer base. They then develop campaigns based on these signals. These first-party data insights are crucial, as they help make the case for the retail media network's inventory and audience versus those of competitors.

Sales enablement is primarily achieved by embedding forward-deployed data scientists into the media sales team. This facilitates direct, personalized interactions between retail media networks and brands, allowing them to address questions through quantitative analysis and develop tailored solutions for specific challenges. A lot of retailers struggle to find and train forward-deployed data scientists, as they require a unique mix of deep data expertise, business understanding, and sales tactics. Once a core team is set up, they start engaging with advertisers on multiple hypothesis-driven consulting initiatives, covering both simple questions and more complex challenges.

Thus, the sales initiatives on the RMN side of the retailer fail to achieve the desirable **consultative sales capability**. A consultative sales capability is where the sales team on the retailer side is focused on solving common problems for the brand advertiser. Alternatively, they may solve for a desired brand outcome. Where media sales teams are not able to problem-solve, the selling is mostly focused on transactional deals and a "dial for dollars" approach.

The figure below shows a typical sales enablement evolution using the embedded data science function for a high-growth retail media network:

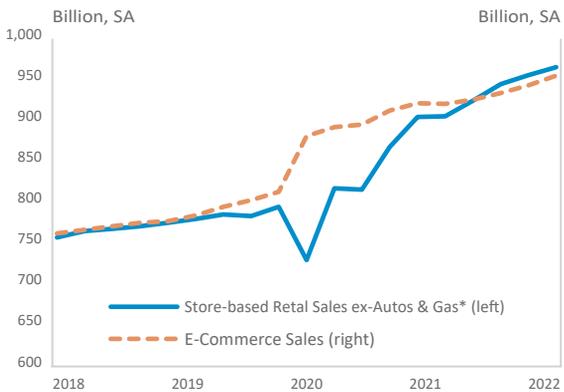


How AI can accelerate the evolution of insights generation: Uncovering insights starts by looking for patterns, trends, and anomalies, then connecting the dots to form the bigger picture. 1P data-driven insights are of massive value to CPG brand advertisers, hence the huge value retail media networks offer. Often, retail media teams do not have the luxury of large numbers of analysts and data scientists to uncover these insights and build their stories the way larger, multi-billion-dollar networks can. This is where AI can level the playing field. Models such as GPT have become significant force multipliers for smaller insights teams, enabling them to leverage vast amounts of data and reach. They can proactively look for patterns and trends for further investigation and insight. With more advanced connectors integrated into existing ad-serving networks, these insights can be used to build and activate custom audiences both onsite and offsite. This delivers better results for the brands, with measurable, data-driven impact.

Traffic volume: Ensuring the right kind of traffic is met with the right media campaign

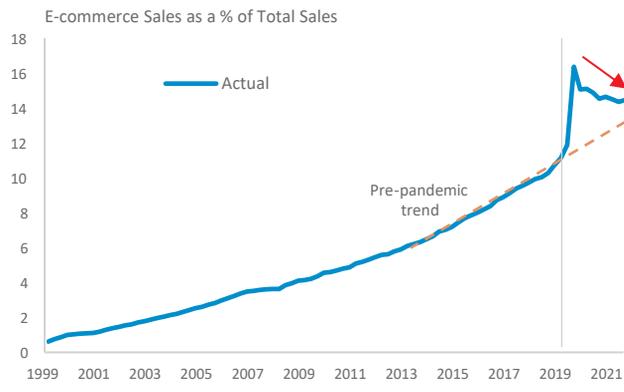
The simplest, yet toughest, roadblock to the growth and scale of a retail media network is traffic. Without the right kind of traffic, such a network is almost certain to struggle and inevitably become part of the also-ran league. In the post-pandemic normalization, most traffic has returned to in-store. In many instances, the COVID-19 bump has leveled out to pre-pandemic levels, as can be seen below.

Chart 1: Store-Based Retail Sales Trending Up



*Excludes e-commerce sales. Source: BEA, TD Economics.

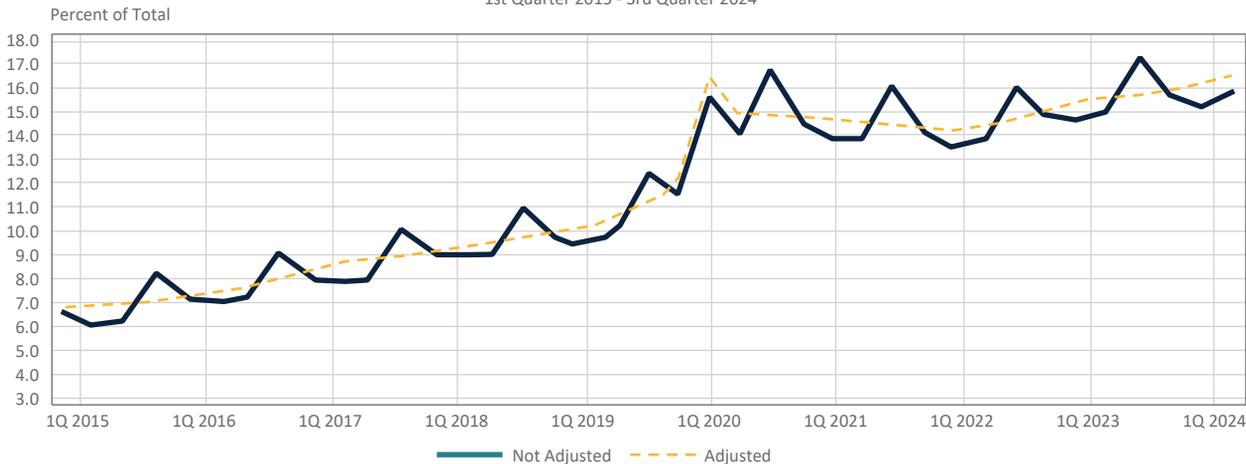
Chart 4: E-commerce Share of Retail Sales Eases Toward Pre-pandemic Trend



Source: BEA, TD Economics.

Estimated Quarterly U.S. Retail E-commerce Sales as a Percent of Total Quarterly Retail Sales:

1st Quarter 2015 - 3rd Quarter 2024



In short: Traffic is the primary determinant of a retailer's health, and identifiable traffic is key to its retail media success.

A retailer without a healthy growth in traffic volume (online, in-app, or in store) will face more significant challenges than others in the near future.

What traffic should a retail media network care about?

- Overall traffic volume:
 - Monthly unique shoppers/visitors to their website/app
 - Monthly shoppers/customers in store
- Identifiable transaction match rate (using unique customer IDs for in-store/online customers)
- Loyalty program (if any) usage as a percentage of transactions
- Online ad exposure log match rate to customer IDs

Identifying the traffic and tying transactions back to it is the most important piece of the retail media puzzle. Given that retail media can be a very lucrative business, the retailer might even consider incentivizing customers to use their loyalty program with exclusive deals and pricing. However, in the absence of loyalty programs, other approximations and triangulations can be applied to in-store media measurement, bringing a solid level of science and believability to the lift/impact measured by the retail media network.

How AI can help improve match rates and identifiability of traffic using an easy-to-implement CDP: With simple steps driven by incentives, more customers can be encouraged to use loyalty programs. These remain one of the easiest paths to building a reliable in-house, retailer-owned identity graph. A retailer with meaningful retail media ambitions should use machine learning and AI-agentic models to continuously enhance the deterministic and probabilistic nodes of their in-house identity graph. This helps to reduce their reliance on third-party solutions that they do not fully control. AI-based pattern recognition systems—infused with the right kind of geographic and reordering pattern context—can map transactions and form a holistic picture of the underlying customer persona.



The ability to invest, innovate, and measure where the majority of their traffic shops

According to Forbes' estimates the omni-channel retail media spend in the U.S. is likely to reach \$ 129.9 billion by 2028 and about 99.3% of all retail media spend will be allocated to digital channels. Yet on the flip side around 83.7% of all retail sales as of 2024 still happen in physical stores

The allure of this overinvestment in the digital side is real. However, shifting customer habits to online (as desired by most retailers) is a slow process without a massive, unforeseen driver (such as the COVID-19 pandemic). And when that driver disappears, we see the shift normalize, as COVID-19 has again shown.

With the redirected focus on the monetization of in-store traffic through media campaigns, the most obvious gap lies in the measurement. Due to the lack of deterministic identifiers for in-store traffic in most instances, many retail media networks struggle to provide any semblance of the closed-loop measurement that is the cornerstone of retail media.

Retailers where 100% of transactions are tied to a membership ID or customer ID have the cleanest way to measure lift in-store. Those retailers without an ID-style construct need not despair. They can still offer a close approximation of a closed-loop measurement for in-store media.

Measuring where your traffic is - Leveling up instore measurement

Emerging players in the mid-market retail media sector are prioritizing in-store advertising, often with basic measurement methods. This presents an opportunity for a straightforward and easily understandable in-store measurement solution.



Creating a closed-loop without the benefit of in-store IDs

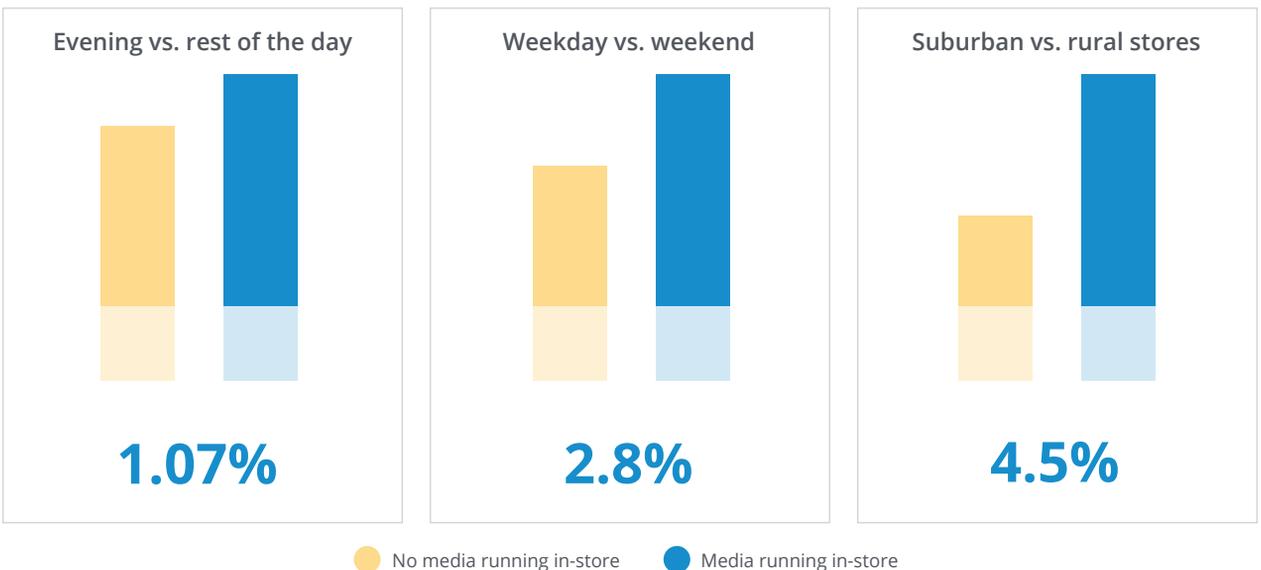
A few simple steps can greatly enhance the value of in-store media for retail media networks. Where that value exists, advertisers are willing to pay significant multiples over their existing in-store investments with the network.

These steps create a proxy for measuring media impact in-store and bring the necessary scientific rigor into the measurement process:

- Test-control media impression serving
- Measurement of impact based on time-slicing
- Hypothesis-based media testing
- Randomized controlled trial-based lift measurement
- Detecting proximity-based exposure to in-store screens
- Harmonization of retailer store POS transactions with the time window of ad impression log data
- AI-driven randomization to maximize inventory utilization

Under current setups, in-store media execution and its measurement is similar to out-of-home advertisements, complete with minimal to almost non-existent measurement of sales lift. Very simple solutions, such as measuring lift within the time window of the ad-play and controlling for multiple factors through randomization, significantly increase the value of media execution.

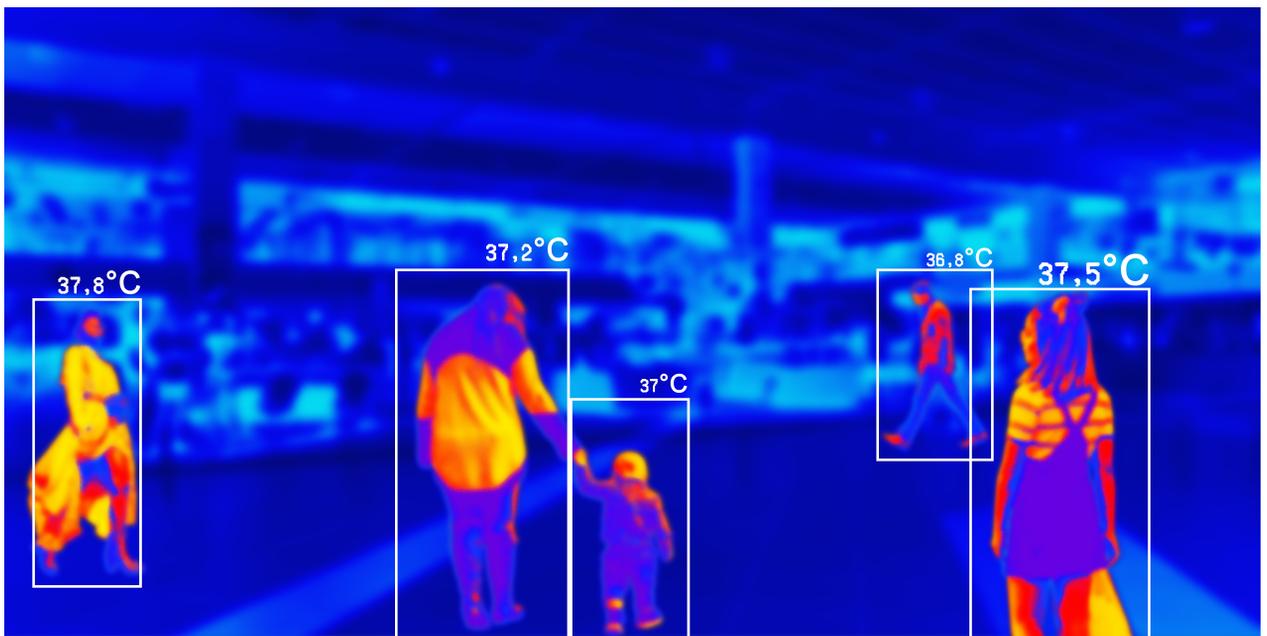
Hypothetical for illustration purpose only



The big privacy question

In a privacy-first world, driven by GDPR/CCPA, these steps enable retailers to gather meaningful data while minimizing privacy risks. For more advanced retailers, there might be merit in deploying privacy-first solutions in stores to measure proximity to in-store screens and shoppers' exposure to or interaction with visual and audio-based media and in-store assets.

How AI can help maximize the value of in-store media and its significant share of retail transactions: With the current evolution of AI, differentiated ad-serving based on multiple criteria—such as store location, SKU sales patterns, and weather—can be achieved on smart screens inside the store. This helps create the closest possible proxy for the closed-loop measurements that are otherwise missed in in-store media execution. Using currently-available AI techniques, retail media networks can build objective-driven agents that design effective experiments for in-store measurements. These experiments accommodate varying levels of identity graph maturity, ranging from high to moderately low. The right kind of AI automation enables the selection of store clusters and the delivery of differentiated creatives for brands at optimal time slots, thereby maximizing the limited in-store inventory. AI-based agents and solutions can also help orchestrate complex experiments that leverage the power of randomized controlled trials. These ensure measurement processes are backed by scientific rigor, allowing brands to invest with confidence. Fractal employs multiple cloud-agnostic solutions to bring the right level of science to in-store measurement, making the process transparent and credible—encouraging brands to continue investing.



Significant AI disruption is on the horizon—adopt or get disrupted

Retail media as we know it is undergoing significant disruption. AI-driven innovations are already transforming media, creative generation, and campaign management. Savvy retail media frontrunners are experimenting and investing in generative AI now, while it gives them a competitive advantage to earn their advertising dollars.

The biggest disruption in the retail media space will most likely be in sponsored product/search advertising, and in the relevancy-driven creative space. Most retail media networks are currently busy trying to fix the foundation and get their basics right for their retail media networks. Unfortunately, they are going to get disrupted in a big way by these upcoming AI based disrupters on the horizon.

Disruption in creative generation and delivery

In the next couple of years, creatives will be generated on the fly and ad units inserted based on context and personalization, all based on the customer's purchase behaviors.



Hello Jason, it's going to be 90 degrees and perfect weather to fire up the grill hope you are stocked up for the weekend.



Hello Tania, it's going to be 90 degrees and perfect weather to fire up the grill hope you are stocked up for the weekend .

This creative generation process relies on knowing past customer behavior and who has shown an affinity towards certain products. For example, barbecue supplies would get a very specific creative design to maximize conversion. Based purely on their buyer persona, different customers receive very different types of creative, with very different advertisers bidding to place the relevant ad unit.



Hello Aman, it's going to be 90 degrees and perfect weather to hit the golf course and swing the iron. Hope you are stocked up for the weekend.

Disruptions to search and sponsored product ads lie ahead

We already have simple task apps that can reorder your entire grocery list. Today, AI-driven shopping assistants are further disrupting this space. We anticipate that the whole search volume will collapse (very soon), as will sponsored products.

The AI assistants of the near future will collapse a significant amount of searching and browsing, impacting the current retail media execution of search/display ads onsite. This will open up all kinds of new ad units to nudge the assistant toward a certain advertiser's brand and, in turn, opening up new kinds of bidding and advertising.



Conclusion

In short, challengers need to adopt AI—or they will get even more disrupted by the leaders who are embracing AI in their retail media game. Retail media done right is an extremely profitable business. The leading retail media networks have all the more incentive to funnel these profits back into AI, making their retail media business even bigger and more sustainable. It's a flywheel effect they can sustain for decades.

Most challenger retail media networks choose the wrong data science partner and end up with years of stagnation—all while frantically focusing on the wrong areas of their business. Yet, a few small tweaks and the adoption of the right AI solutions in partnership with enablers such as Fractal can ensure a very different outcome for the newer entrants in the retail media space.

Most retailers will not have all the technology and AI capabilities in-house to win the retail media game with their unique traffic/customer base and unique selling point. However, partnering with the right AI enabler such as Fractal will help bring in the right solution and integrate their retail media networks with their core retail media platforms. Only a handful of retailers, and by extension their retail media networks, are technologically advanced to go toe-to-toe with the retail media frontrunners who have cornered the lion's share of the market. Thus, partnering with organizations such as Fractal helps them bring to bear the right kind of technological partnerships with the full-stack capabilities to integrate and operate the most cutting-edge retail media solutions, bringing them on par with the current winners. With the advancements in AI in recent years, smaller incumbents in the retail media space, with the right strategic partners—like Fractal—can level the playing field in many aspects and grab their rightful share of the retail media pie.

Sources

eMarketer. (2025). Dozens of retail media networks are fighting over a small slice of the pie (% of US retail media digital ad spending, by company, 2025). eMarketer.
<https://www.emarketer.com/chart/c/351564/dozens-of-retail-media-networks-fighting-over-small-slice-of-pie-of-us-retail-media-digital-ad-spending-by-company-2025>

Haynes, D. (2024, December 3). Most retail media networks will fight for ad spend table scraps in 2025: eMarketer forecast. Sixteen:Nine.
<https://www.sixteen-nine.net/2024/12/03/most-retail-media-networks-will-fight-for-ad-spend-table-scraps-in-2025-emarketer-forecast/>

Masters, K. (2024, November 8). 2025 will see retail media networks launch a charm offensive. Forbes.
<https://www.forbes.com/sites/kirimasters/2024/11/08/2025-will-see-retail-media-networks-launch-a-charm-offensive/>

TD Economics. (2025). Pandemic trends ease ahead of the U.S. holiday shopping season.
https://economics.td.com/domains/economics.td.com/documents/reports/ak/US_Retail_Holiday_Outlook.pdf

US Department of Commerce. (2016). EC current.
https://www.census.gov/retail/mrts/www/data/pdf/ec_current.pdf

<https://www.forbes.com/councils/forbestechcouncil/2025/01/08/three-key-trends-transforming-in-store-retail-media/>

<https://advertisingweek.com/lets-say-it-2025-will-be-the-year-of-in-store-retail-media/>

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About Fractal

Fractal is one of the most prominent providers of Artificial Intelligence to Fortune 500® companies. Fractal's vision is to power every human decision in the enterprise, and bring AI, engineering, and design to help the world's most admired companies. Fractal's businesses include Crux Intelligence (AI driven business intelligence), Eugenie.ai (AI for sustainability), Asper.ai (AI for revenue growth management) and Senseforth.ai (conversational AI for sales and customer service). Fractal incubated Qure.ai, a leading player in healthcare AI for detecting Tuberculosis and Lung cancer. Fractal currently has 4000+ employees across 16 global locations, including the United States, UK, Ukraine, India, Singapore, and Australia. Fractal has been recognized as 'Great Workplace' and 'India's Best Workplaces for Women' in the top 100 (large) category by The Great Place to Work® Institute; featured as a leader in Customer Analytics Service Providers Wave™ 2021, Computer Vision Consultancies Wave™ 2020 & Specialized Insights Service Providers Wave™ 2020 by Forrester Research Inc., a leader in Analytics & AI Services Specialists Peak Matrix 2022 by Everest Group and recognized as an 'Honorable Vendor' in 2022 Magic Quadrant™ for data & analytics by Gartner Inc. For more information, visit fractal.ai



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