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Yottaa Expert Roundtable Series

AI and the Future of Performance-Driven Commerce



AI Raises the Bar on Fundamentals

AI is now embedded across the digital shopping journey, from discovery and content to pricing and support. But the fundamentals haven't changed: speed, reliability, and trust still decide who wins — and AI magnifies the impact of every weakness in the digital core. The result is a widening gap between ambition and execution that shows up where it matters most: site performance, stability, and shopper experience.

That gap is also the opportunity. Teams that treat AI as part of an integrated performance system — not a collection of tools — can convert its capabilities into measurable outcomes: faster pages, smarter discovery, and resilient experiences under load. The advantage goes to brands that make content machine-readable, surface structured data, and design for low-latency personalization without adding fragility.

In short, the next generation of eCommerce performance leaders will build for inclusion in AI discovery, intelligent shopping personalization, and speed shoppers can feel.

This roundtable brings together experts from Yottaa, Fastly, HUMAN Security, and Ecom Ideas to explore how AI is reshaping performance. Their insights focus on practical ways to keep eCommerce sites fast, stable, and trustworthy as artificial intelligence spreads across every layer of the stack.

Meet the Experts



Darin Archer
Chief Product Officer

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Linda Bustos
Founder



Tomer Elias
Senior Director of
Product Management

HUMAN



Dominic Fee
Product Evangelist

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Shawn O'Neill
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1 AI Meets Performance

AI now powers everything from predictive logistics to personalized discovery, but every new integration adds weight to your digital storefront. The real question isn't whether to use AI; it's how to make each capability earn its place in your stack. For eCommerce teams, that means measuring every feature by the same standard: does it make the experience faster, easier, and more valuable for the shopper?



Insight from Linda Bustos, Founder of Ecom Ideas

For AI to drive revenue as a front-end feature, it needs to provide real value to the customer or remove friction from the shopping journey. For example, using AI to reduce the need to weed through navigation menus, scroll, pogo-stick between PDPs, and scrounge for information is a good place to start.

Today, we see a lot of solutions aiming to do that through generative AI and conversational commerce — be it a search bar that understands natural language, an LLM-powered chatbot widget, or generative Q&A baked into a product template. Similarly, AI fit prediction tools can map body data to digital twins for more accurate size finding, review apps can summarize pages of submissions, and we're even seeing the first uses of Google Try On integrated with online stores.

Some of these solutions will prove to be shiny objects. I've watched many early adopters roll out trendy genAI features, only to roll them back months later. They're not worth the extra pixels, API calls, and monthly charges if customers don't care. At worst, they can lower conversion and revenue. Always have a structured testing and measurement plan if you're going to experiment here.

On the back end, there's tons of opportunity to improve user experience and conversion with AI. For example, predictive prefetching, smart lazy loading, optimized media, and JS delivery by device and connection speed.



Insight from Dominic Fee, Product Evangelist, Fastly

For eCommerce platforms, providing real-time personalized recommendations is crucial for engagement. Running an AI model at the edge allows the system to analyze a customer's immediate actions such as clicks, searches, or scroll depth and instantly infer their intent. The model can then generate and serve a personalized list of products or articles directly within the response, ensuring the user receives relevant content with the next page load. This eliminates the delay of round trips to the

origin, making the recommendations feel instantaneous and significantly increasing the likelihood of conversion.

Most platforms force a trade-off between speed and personalization. Platforms like Fastly enable real-time personalization by moving decision-making and logic to the edge, closer to the end user.



Key Takeaways

- Every AI feature should prove its value in measurable performance or conversion gains.
- Generative and conversational tools must reduce friction in the shopper journey, not add visual or technical clutter.
- Edge-based personalization can deliver instant relevance, turning intelligence into a speed advantage rather than a latency cost.
- Continuous testing and performance validation keep innovation accountable to real business outcomes.

2 AI-Powered Discovery: The Rise of GEO

Product discovery is no longer constrained by traditional search engines and their algorithms. Shoppers are now asking AI systems like ChatGPT, Gemini, and Perplexity to do the browsing and comparison shopping for them, and those systems decide which brands get the most attention. In this new landscape, visibility depends on being readable, reliable, and fast enough for both people and the AI agents shopping on their behalf.

Generative Engine Optimization (GEO) and Answer Engine Optimization (AEO) have become the new frontiers of search. GEO ensures AI systems can find, interpret, and surface your content via generative tools like ChatGPT, while AEO ensures browsers and similar tools can deliver it as an answer to users. Together, they redefine discoverability: speed, structure, and trust now determine who wins the digital shelf.



Insight from Dominic Fee, Product Evangelist, Fastly

Stop optimizing for clicks, start optimizing for inclusion. AI is about to start commoditizing a lot of brands. Users are no longer browsing 10 tabs to compare. They're letting Google, Perplexity, or ChatGPT act as a personal shopper. That means your fight isn't for top-of-page SEO anymore, it's to be the default answer.

Think AEO + GEO, not SEO. AEO structures your product data, FAQs, and content so AI systems can ingest and serve them as direct answers. GEO optimizes for inclusion in AI-generated results and shopping carousels, even if it means you don't get the click. The 'answer layer' is the new storefront.

It's a new cost of doing business. You'll spend more time (and money) tuning product feeds, schema markup, and structured content so AI models can pull your data cleanly. This is work you give away for free, but without it, you're invisible.

And finally, embrace the agentic future, as it is here now. As AI shopping agents mature, they'll buy for brands or companies based on price, availability, and reviews, sidestepping your on-page recommendations, ads, and brand storytelling.



Insight from Darin Archer, Chief Product Officer, Yottaa

Many eCommerce sites are invisible to AI because content depends on JavaScript to render. And others have so much incredible user generated content that also is dependent on JavaScript — and to the bot, it's blank.

We validated this by looking at our customer traffic data and proved that when most of these agents fetch a site, they skip JavaScript rendering and say, 'I don't care about CSS or personalization scripts — I just want the text.' So, if your brand story, product attributes, or reviews live inside client-side scripts, they're invisible.

Maybe for the time being you might need to create what's essentially an adaptive content path for bots, like the old 'm-dot' sites we built for mobile. When a bot shows up, don't send it through the main retail experience. Bring it down a different

hallway and give it the content formatted in a way that makes sense for it.

You also need to reimagine what your content and catalog look like to these new assistants. If your user-generated content or reviews load through JavaScript, the bots don't see any of that endorsement. You've got to figure out how to make that information available as plain HTML so it can be consumed.

Right now, most retailers don't have visibility into how big this consumer activity via bots is. Is it one billionth of a percent of shoppers or 78%? We don't know. But this is absolutely a new discovery channel — as big or bigger than social or search. Retailers need to feed the beast because if the shopper is using an assistant instead of a browser, you want to make sure the assistant can find you.



Insight from Linda Bustos, Founder of Ecom Ideas

LLMs are quickly becoming the new starting point for search. We may even see ChatGPT overtake Google and Amazon.

When LLMs conduct web searches from a shopping prompt, they're under pressure to respond quickly to their human director. They care more about providing a good-enough answer on time than evaluating every option, so they prioritize fast retrieval from sites that make that easy.

Just like Google, LLMs have their own crawlers, indexes, and ranking algorithms, and have only so much crawl budget to spend across the web. If your site is full of heavy JavaScript, ill-suited media formats, or content hidden behind client-side

rendering, AI crawlers won't come around often — and they may completely de-index you.

In the short term, you miss out on capturing early adopters within the AI shopping channel. Longer term, poor early signals can lower your priority for future retrieval. Some models snapshot sources and refresh on a delay, so a bad first impression isn't forever, but you're not guaranteed a second chance.

Run the same performance playbook you would for human users, and provide a 'backdoor' to your site optimized for bot user-agents — server-rendered HTML, minimal CSS, no third-party tags, and clean JSON. Start with your key pages.



Insight from Tomer Elias, Senior Director of Product Management, AgenticTrust at HUMAN Security

GEO is all about allowing visibility and access to legitimate AI systems, but access without verification invites abuse. Without knowing who or what is accessing your website and applications, optimization turns into exposure.

Across the retail ecosystem, we're observing sharp growth in automated retrieval activity and LLM crawling. Most of this traffic represents legitimate discovery — AI scrapers or agents scanning product catalogs, parsing policies, or checking availability — but a portion is opportunistic automation that exploits the same access to scrape data and execute abuse at scale, creating risk and potentially impacting application performance. AI traffic should not be considered good or bad.

What matters is the ability to identify intent and authenticity in real time.

In recent research, we found that 5.7% of traffic presenting as AI crawlers or scrapers was impersonated[1], with the highest abuse targeting RAG bots that merchants commonly allow to drive discovery. That means allowlists based on useragent strings are insufficient and can be ineffective.

For merchants, GEO readiness should include safeguards that distinguish verified AI agent activity from unverified automation. That means authenticating machine identities, monitoring behavior patterns, and ensuring content can be read without being mined. Visibility should not come at the cost of control.



Key Takeaways

- Make key content accessible and structured for both humans and AI agents so it can be read, ranked, and surfaced across generative platforms.
- Fast, server-rendered pages with clean code and optimized assets are more likely to be included in AI-generated results, making performance a new visibility lever.
- Discovery efforts should also include safeguards that verify legitimate AI crawlers while blocking imposters and data scrapers that exploit open access.
- As generative search replaces traditional browsing, discoverability becomes the new storefront.

3 AI and Security: Smarter Threats, Smarter Defenses

AI has reshaped the security landscape. Attackers now use AI-powered automation to scale credential stuffing, scraping, and fraud, while defenders depend on AI to detect and respond in real time. The result is a faster, more adaptive threat environment where performance and protection are inseparable.

Modern eCommerce systems can't afford latency in their defenses. Security must act instantly, safeguarding both shoppers and storefronts without slowing the experience. The leaders in this space treat trust as a measurable performance metric that can be optimized, not just enforced.



Insight from Tomer Elias, Senior Director of Product Management, AgenticTrust at HUMAN Security

The legacy bot management binary of “bot or not” does not map to agentic commerce. Security now hinges on a simple question: trust or not. Systems should verify who or what is acting, evaluate behavior during a session, and apply policy at the moment of action. That way, you can stop malicious activity and keep good automation moving without adding latency for real customers.

Use two practical controls. First, identity: prefer proof over assertion. Protocols such as those developed by the IETF's web-bot-auth group extend HTTP Message Signatures to allow AI agents to cryptographically prove the origin of each request and tie it to a named identity that can be governed. Second,

behavior: agents have detectable signals. Many rely on mainstream automation frameworks and exhibit consistent fingerprints that can be confirmed through client-side checks and adversarial honeypots. Together, these controls prevent spoofed crawlers from hiding in your allowlist and prevent stealth agents from escalating to carting and checkout.

Modern commerce systems can no longer treat trust as a back-end process. Every interaction, whether human or machine, should be verified. Security that acts instantly preserves both experience and reputation, ensuring that speed never comes at the expense of safety.



Insight from Dominic Fee, Product Evangelist, Fastly

AI systems often work with sensitive data and perform mission-critical functions, so security can't be an afterthought. Organizations must defend against threats like data breaches, API abuse, and malicious bots, pushing protection to the edge with DDoS mitigation, WAF, Bot Detection, and token validation before attacks ever reach the origin.

The edge acts as the first line of defense for the entire platform, securing the APIs that power AI features and protecting against abusive traffic. Edge AI models can instantly analyze user behavior, location, and transaction patterns as a request arrives. A high-risk score can trigger an immediate block or challenge, preventing fraudulent transactions in milliseconds without delaying legitimate customers.





Key Takeaways

- AI-driven threats are faster and more adaptive than traditional attacks, requiring real-time detection and mitigation to stay ahead.
- Security that operates within the performance layer prevents latency and downtime, keeping both systems and user experiences intact.
- Verifying identity and intent at the edge enables teams to block malicious traffic while allowing legitimate shoppers and automation to move freely.
- Treating trust as part of performance ensures that every layer of protection supports, rather than slows, the digital experience.

4 From Hype to Discipline

AI can transform eCommerce, but only when it's implemented with discipline. Many teams rush to adopt new tools to keep pace with competitors, adding layers of complexity that often slow sites or disrupt user experiences. The real opportunity is to move past experimentation and treat AI as part of a performance system — one that strengthens speed, visibility, and operational control.

The antidote to hype is measurement. Every AI feature should prove its value through real data, not assumptions or trends. Effective execution depends on continuous validation, with teams testing for both conversion impact and long-term performance health.



Insight from Shawn O'Neill, VP Performance Consulting, Yottaa

AI isn't new in eCommerce. The current buzz is really around generative AI and large language models that create content or converse with people. But brands have been using forms of AI — search, recommendation engines, pricing algorithms — for more than a decade.

But what is changing is where and how AI is being deployed. We've seen cases where an AI-powered search engine is embedded as a third-party, client-side rendered experience. In those cases, you're at the mercy of that vendor's performance. If their HTML or JavaScript controls how your page renders, you likely won't be able to make a very performant experience.

That points to a broader truth: Most brands don't have a good handle on being technology companies, because they're retailers. They can't afford to pay Google- or Meta-level engineering wages, nor should they have to. But they're competing with the Walmarts and Amazons who do — and who set the expectation for how fast shopping should be.

Many teams are pushed to adopt AI for the sake of keeping up with the hype. There's pressure right now to 'use AI to increase productivity,' which often translates to throwing a chatbot on the site to check a box.

My advice is: think critically and prioritize your user's needs over the market hype. Don't confuse the fear of missing out being pushed by posters on LinkedIn with what your customers are saying.

In other words, be strategic, not reactionary. If 10% of your users are going to use this feature, don't penalize the other 90% by inducing performance degradation. Plan for the happy path — load it just in time for the person who wants it, not for everyone else.

And above all, measure the impact. Every AI integration should be treated as a hypothesis. Run A/B tests. If conversion improves, great. But if LinkedIn loves it and your bounce rate climbs, that's not innovation — that's noise.



Insight from Linda Bustos, Founder of Ecom Ideas

You have to educate business users and build performance best practices into standard operating procedures (SOPs) for adding site content and administering the site. Developers can follow every best practice only for a site admin to load everyday images as PNGs (or worse, GIFs!), embed YouTube videos or add apps and plug-ins through the CMS without understanding their impact. Creative directors and marketers may also push for

AI-powered features and experiences that are great for the brand but bad for speed.

Just like every marketer should know enough about SEO to (not) be dangerous, eCommerce business teams should have basic “web performance literacy” as it relates to their daily activities.



Key Takeaways

- Successful AI adoption starts with strategy. Each integration must support measurable business and performance outcomes.
- Teams should develop performance literacy to understand how everyday actions affect performance.
- Treat every AI deployment as a testable hypothesis, validating both user impact and operational efficiency before rolling out widely.
- Continuous validation closes the gap between innovation and reliability, turning AI investments into lasting performance advantages.

5 The Partner Ecosystem for AI-Ready Commerce

No team can manage AI-era performance alone. The strongest ecosystems share data, scale intelligently, and help teams stay focused on results instead of firefighting. The next phase of eCommerce performance depends on collaboration across infrastructure, CDN, security, and optimization partners to ensure AI workloads run fast, secure, and at scale.





Insight from Tomer Elias, Senior Director of Product Management, AgenticTrust at HUMAN Security

Agentic commerce is not a single-vendor challenge. It depends on the coordination of content delivery, infrastructure, and trust. Each partner in that chain must contribute to the same outcome: systems that are fast, observable, and safe under load.

Security plays a central role in that collaboration. Performance optimization at the edge only succeeds if the edge itself is trustworthy. Shared visibility into traffic patterns, whether human, bot, or agent, helps partners tune their systems together. When CDN, security, and application intelligence operate on the same data, threats can be neutralized without slowing delivery.

The most effective ecosystems combine precision with restraint: defend early, measure constantly, and keep the experience frictionless. In an environment where AI agents are both customers and potential adversaries, resilience and responsiveness are the new competitive advantages. Protocol initiatives from Visa, Google, and OpenAI are beginning to define how trusted agents transact and communicate; tools like HUMAN's AgenticTrust ensure those standards operate safely by verifying identity, monitoring behavior, and enforcing consistent policy across every channel.



Insight from Dominic Fee, Product Evangelist, Fastly

Organizations are feeling the gap between AI's potential and what's actually deliverable at scale. Bridging that gap means tackling a set of tightly coupled challenges.

High Performance & Low Latency: High performance and low latency are non-negotiable for AI workloads. Whether you're serving real-time recommendations, running inference for large language models, or powering agentic workflows, speed and throughput directly impact user experience and reliability.

Scalability & Cost Management: AI workloads strain centralized infrastructure and quickly become expensive at scale. Every user request, no matter how similar, travels to the origin, triggering fresh compute and API costs each time. Without edge caching and compute, scaling AI means scaling cost and complexity.

Security & Compliance: AI systems often work with sensitive data and perform mission-critical functions, so security can't be

an afterthought. Organizations must defend against threats like data breaches, API abuse, and malicious bots, pushing protection to the edge with DDoS mitigation, WAF, Bot Detection, and token validation before attacks ever reach the origin.

Integration & Developer Agility: Building with AI isn't plug-and-play. Developers need tools that streamline AI development and integration. Working with LLMs or multi-modal models involves managing prompts, inference, context windows, API tokens, latency, and cost all at once. Without streamlined tools, teams waste time wrangling APIs, debugging model behavior, and building infrastructure from scratch.

To summarize, the cloud and centralized infrastructure alone can't keep up with the speed and scale AI demands. You need an ecosystem that puts compute, caching, security, observability, and control at the edge so developers can build AI-powered apps that respond faster and scale smarter.



Key Takeaways

- Managing AI performance requires an integrated partner network that unites speed, security, and scalability across the stack.
- Edge infrastructure reduces cost and complexity while ensuring AI-driven workloads remain fast and reliable.
- Security and compliance should be embedded within performance architecture.
- Collaboration among technology partners allows teams to focus on innovation and outcomes rather than infrastructure management.

The Future of AI-Ready Commerce

AI is transforming eCommerce, but the fundamentals still decide who wins. Speed, reliability, and trust remain the foundation of performance, and AI only magnifies their importance. The brands that succeed will be the ones that balance innovation with execution — building systems that are fast enough for shoppers, transparent enough for AI agents, and secure enough for both.

Success in AI-driven commerce depends on disciplined performance practices, measurable outcomes, and a connected ecosystem of partners who share a common goal: delivering fast, resilient, and trustworthy experiences at scale.

At every layer of technology, performance still begins and ends with people — the ones who shop and trust the experience.



About Yottaa

Yottaa makes your storefront AI-ready. With continuous monitoring, intelligent orchestration, cutting-edge CDN and security technology, and safeguards against third-party failures, we help brands adapt to the new era of eCommerce with confidence. The result: faster sites, fewer disruptions, and more revenue.

Want to learn more? Contact one of our eCommerce performance experts for a personalized strategy call today.

About HUMAN

HUMAN is a leading cybersecurity company committed to protecting the integrity of the digital world. We enable trusted interactions and transactions across the full spectrum of online actors: humans, bots, and AI agents. The Human Defense Platform safeguards the entire customer journey with high-fidelity decision-making that defends against bots, fraud, and digital threats. Each week, HUMAN verifies 20 trillion digital interactions, providing unparalleled telemetry data to enable rapid, effective responses to even the most sophisticated threats. Recognized by our customers as a G2 Leader, HUMAN continues to set the standard in cybersecurity. For more information, please visit www.humansecurity.com.

About Fastly, Inc.

Fastly's powerful and programmable edge cloud platform helps the world's top brands deliver online experiences that are fast, safe, and engaging through edge compute, delivery, security, and observability offerings that improve site performance, enhance security, and empower innovation at global scale. Compared to other providers, Fastly's powerful, high-performance, and modern platform architecture empowers developers to deliver secure websites and apps with rapid time-to-market and demonstrated, industry-leading cost savings. Organizations around the world trust Fastly to help them upgrade the internet experience, including Reddit, Neiman Marcus, Universal Music Group, and SeatGeek.

Learn more about Fastly at <https://www.fastly.com>, and follow us @fastly.

About Ecom Ideas

Linda Bustos is the founder of Ecom Ideas, a publication dedicated to what's trending and tactical for ecommerce merchants and marketers. Since the mid 2000s, she's been covering the digital commerce industry for various publications and consulting to merchants and vendors on user experience and conversion optimization.