

MARKETER AND MACHINE

How AI Is Bringing Back the Mojo

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AI and ML Enable Digital Marketing to Fulfill Its Promise

If you've ever been followed around the web by ads for a product you bought a week ago, then you'll know that digital marketing still has a long way to go before it meets consumer expectations.

At Rakuten Marketing, we're well aware of that gap. It's what fuels our commitment to our mission—to deliver experiences that people love. Like the marketers featured in this report, we believe artificial intelligence (AI) and machine learning (ML) will play a huge part in helping us achieve this goal on behalf of our clients.

In the following pages, Harvard Business Review Analytic Services shows how forward-thinking digital marketers are already using AI and ML to put consumers at the heart of their campaigns. They demonstrate that digital marketing can live up to its promise—to deliver personal, relevant, and timely experiences for consumers and real uplift for marketers.

It's worth taking a moment to unpack what that means for both parties.

For consumers, it means interactions that help rather than hinder whatever they're doing at that very moment. Those interactions might be discounts, perfectly timed for when people are on the cusp of purchasing. They could be reminders of services that are of genuine relevance and utility to customers' lives. Or they could be influencer posts featuring new products that brings actual excitement and happiness to the reader.

For advertisers, AI and ML are already helping bring about a step-change in marketing effectiveness. As you'll find in the report, they're enabling marketers to see a more complete picture of their performance and to reach new audiences at scale by pinpointing where consumers are on their journey—including those who are ready and eager to buy. This enhanced effectiveness means marketers can ramp up revenue by delivering the one-to-one, highly personalized experiences that engender loyalty, and even affection, for a brand.

Yes, digital marketers have had a rough ride in recent years, with privacy and intrusion issues sowing distrust among consumers. But the future is brighter, and closer, than you think. We're investing in technology that's built on AI and ML and fueled by data in order to help our clients deliver better experiences for their customers—which directly translate to better results and increased value for their businesses.



NICK STAMOS

CEO

**RAKUTEN MARKETING &
RAKUTEN INTELLIGENCE**

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This year, U.S. marketers are on track to spend nearly \$130 billion on digital advertising, representing more than half of all ad spending in the country.¹ Globally, the digital ad market will increase 17.6% to \$333.2 billion.

Using data and increasingly sophisticated information technology, marketers will move faster than ever to refine target audiences, more accurately predict customers' next steps, and deliver more personal, timely, and highly relevant ad experiences to increasingly curated sets of customers and potential customers.

That's right. After more than a few years of struggling with online fraud, disengaged and/or hyper-demanding consumers, one-size-fits-all metrics that don't align with business objectives, and a plethora of other digital challenges of customer experience, marketers are getting back their mojo, thanks largely to growing data sets and the innovative application of artificial intelligence (AI) technology.

And that mojo is returning not a moment too soon. Indeed, Accenture found that more than 60% of customers stopped doing business with at least one company in 2017 because of a poor customer experience. Moreover, customer frustration with marketing and sales practices increased by an average of 2.8% across every category.² Failing to deliver on promises, being difficult to work with, and mishandling personal information are customers' top three sources of discontent, according to Accenture's global survey of 25,000 consumers across 33 countries.

"You cannot make marketing decisions based on your 'gut.' Instead, you need to collect, analyze, and leverage data to develop informed hypotheses that you then test in the marketplace," says Carola Jain, CMO at Spartan Race Inc. in New York City.

At the very center of these data-intensive efforts—especially among retailers—are AI and machine learning (ML), which, put simply, enable computers to automatically learn and improve from experience. Using AI technologies, digital marketers are taking on—and resolving—some of the biggest conundrums that have dogged them persistently for the past few years.

HIGHLIGHTS

- Using AI technologies, digital marketers are resolving intractable issues like online fraud and disengaged consumer audiences, all while improving business performance.
- AI enables continuous learning, allowing marketers to fine-tune messaging according to customers' most recent digital behavior and ever-changing preferences.
- AI will increasingly automate most lower-level marketing tasks, affording marketing professionals more time and energy to work on creative content and strategy.

AI surfaces **higher levels of insight and intelligence**, empowering marketers to make better, more informed decisions with a greater amount of visibility and control.

For example, AI makes it possible for marketers to respond to live customer signals. The result: greater customer engagement, which in turn works to boost overall marketing effectiveness and performance results.

AI-enabled systems also can accurately read digital signals of consumers who are likely to buy, quickly pointing marketers to the right new audiences and expanding their digital reach.

AI surfaces higher levels of insight and intelligence, empowering marketers to make better, more informed decisions with a greater amount of visibility and control.

Finally, by continuously capturing signals and learning through AI-enabled systems, marketers gain the power to deliver messages, content, offers, and experiences that are continuously and increasingly more personal, relevant, and timely on a one-to-one basis every single time.

For all of these reasons, AI- and ML-enabled systems are giving marketers back their mojo, helping them foster more meaningful connections with customers, get more creative, and most importantly, increase overall marketing and business performance.

One major factor driving this technology-enabled, endlessly iterative marketing approach is the growing disconnect between ad-fatigued consumers and equally weary yet zealous digital marketers. Prior to the relatively recent widespread use of data analytics, many advertisers' tactics have boiled down to little more than "blast and hope" exercises, as one CMO put it. It's no wonder that some 70% of internet users describe digital ads as increasingly intrusive. They also complain about seeing more

ads overall, further contributing to pervasive ad burnout.³

"Customers want much more personalized content," says Nicole Goldberg, digital marketing manager at clothing brands 7 for All Mankind and Splendid.

To help combat this fatigue, marketers have enlisted help to optimize placements and messages for valuable consumer engagements—tapping groups of special-interest websites, promotional and cash-back sites, bloggers, and social influencers, all of which fall into the broad category of affiliates. Affiliate marketing is a performance-based process whereby a brand credits a publisher for delivering relevant messages that drive traffic and conversions for the brand.

Additionally, brands continue to invest in other traditional digital marketing channels, like search and display, but are leveraging new data and technology advancements to ensure the experiences they deliver are actually moving tailored audience segments along the customer journey in a meaningful way. In 2018, Google, one of the largest ad platforms, commanded a 38.2% share of all internet advertising, while Facebook garnered 21.8%. The reason, marketers say, is simple. These large networks and publishers are getting their ads in front of the right audiences, as determined by the platforms' internal algorithms.

Gaining Insights Gets More Difficult

Yet for digital marketers, tapping the biggest platforms, in particular, to identify the most receptive consumers has often also meant sacrificing visibility and access to specific information about how and where

their ad dollars are working—the so-called walled garden disadvantage. A walled garden is a closed ecosystem in which all operations—as well as the data—are controlled and retained by an ecosystem operator. The big social media sites and advertising platforms and networks fall into this category. Marketers may get desired results by advertising with these large companies, but they don't glean any information about how exactly those results were obtained. As a result, the brands themselves can neither learn from nor duplicate them. It's the advertisers' age-old dilemma—half of the advertising budget is wasted, but which half?—with a digital twist.

“Moving to Facebook and Google has proved successful in pushing where we want our brand to go, but they don't just hand over a bunch of email addresses,” notes Goldberg. Instead, it's only if and when a consumer enters their information on the brand's own website that the advertiser can begin to build a customer profile.

Meanwhile, consumers are getting a lot more reluctant about handing over personal information, and as Goldberg tells it, buying information is also getting more challenging. “Three years ago, it was much easier to buy customer data. I could go to big firms and get gender, marital status, email address, and age data. But now, given increasing regulations and consumer backlash, this is getting more and more discouraged.”

At the same time, a larger portion of digital advertising in the form of storytelling, video, and other content is moving to social media platforms whose methods are proprietary. These entities may improve results for marketers, but they do not usually provide any deeper insights into how they are reaching marketers' target customers or furnish information about the data they are tapping into to do so. As a result, Goldberg says, “There's still something of a black hole with the insights.”

Still, she believes there's an advantage to be gained from leveraging social platforms and other types

of advertising partners, which she predicts “will [eventually] move toward giving you recommendations as to who meets your customer needs for a particular goal. And that will shorten the testing life cycle a lot. You can more efficiently target the right people faster.”

On the customer side, consumers' growing use of ad blocking tools is yet another trend that has stymied advertisers. More than three-quarters of North Americans engage in at least one form of regular ad blocking, while approximately 10% block ads across four or more types of traditional and digital media channels most of the time, according to a Deloitte Global survey. In all countries Deloitte studies, people who were employed and had higher incomes and more education were all more likely (by 200% to 400%) to be heavy ad blockers than were less-educated people who were not working and had lower incomes.⁴

Upping the ante even more for advertisers in an already hyper-competitive market is a relentless consumer demand for more timely and relevant messages, plus a growing expectation that brands “know” them across multiple channels.

“Customers assume that brands know them, and therefore expect strategic marketing. Boilerplate content and targeting are seeing diminishing returns, and we are increasingly creating segment- and persona-specific content and marketing approaches,” says Spartan's Jain.

For all of these reasons, digital marketers have had a rough ride over the past couple of years. Now, however, the emergence of tools based on AI and ML promises to significantly smooth the journey for both marketers and customers. Experts go so far as to predict a marketing transformation with humans and machines working together in a more intelligent way on a variety of tasks. That spectrum of missions extends from digital analytics to creating content that yields more relevant and satisfactory user experiences to significantly improving target marketing and



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one-to-one messaging—a collection of undertakings that will bring a greater ROI for brands.

Enabling a More Intelligent Approach

Enterprise marketers have used computers and software for more than two decades to do tasks like organize and cluster customer transactions and behaviors as a way to predict future customer actions. Amazon, Netflix, and Spotify are among those organizations that have built thriving businesses by pairing and analyzing customer, product, and profile data to make product recommendations and sell to individual consumers.

Today, the terms AI and ML are frequently used interchangeably, but they are not the same thing. ML is an application of AI, and more importantly, it is what is transforming digital marketing. ML provides systems with the ability to automatically learn and improve from experience. It does so by focusing explicitly on the development of computer programs or algorithms that can access data and use it to learn for themselves. Online recommendations, digital chats with customer service agents (chatbots), and traffic predictions are just a few everyday examples of ML at work.

At its core, ML in digital marketing is all about optimization. An online retailer may want to figure out how to display products on its website in a way that will result in the most purchases by a particular audience. Or an insurer can develop an algorithm to identify

customers with the highest lifetime value, then target those customers for a higher level of service.

ML enhances retailers' and others' ability to identify and target specific customers and customer preferences when it comes to their brands. Additionally, it enables marketers to continually add to and refine their knowledge about customer behavior, which in turn can be used to design more successful campaigns in the future. This progression is precisely what is happening in the background on mega advertising platforms, which are sifting through, analyzing, and learning from massive quantities of user data about everything from photos users like on Instagram to what books they're reading, from music they're enjoying to the organic and gluten-free foods they're buying online.

Expansion and Precision

Brands can also take advantage of this information to up their marketing mojo and broaden their reach to new audiences with greater precision. With new and increasingly specific information, marketers can deliver a more personalized message, increasing their overall relevancy to ever more demanding users. The same valuable information can be used to extend and improve the relationships brands have with current customers. Better serving those customers with more relevant and valuable ads and messages makes for more meaningful customer connections and ultimately leads to better lifetime value.

Consumers benefit from these self-learning applications, since marketers are better able to identify which ads are most relevant to a particular customer set, then show only those relevant ads to that audience. Another algorithm might combine customer preference data and location data to deliver a just-in-time coupon to a consumer's smartphone.

“The learning is much faster,” says 7 for All Mankind's Goldberg. “The platforms can tell you where the opportunities lie without you having to be a data analyst yourself. We're pulling in dynamic



ACCORDING TO A DECEMBER 2018 ESTIMATE FROM TECH RESEARCH FIRM TRACTICA, THE DIRECT AND INDIRECT APPLICATION OF AI SOFTWARE GENERATED \$5.4 BILLION IN WORLDWIDE REVENUES IN 2017 AND IS FORECAST TO PRODUCE \$105.8 BILLION BY 2025.⁵

“Impressions used to be the big metric, which fell under reach, but it doesn’t tell you the most important information about how your campaign is performing. **It doesn’t tell you if people care,**” says Nicole Goldberg, digital marketing manager at 7 for All Mankind and Splendid.

product recommendation information, plus we’re finding out patterns and customer behaviors and information about what other customers with similar shopping habits are looking at and how they are behaving.”

The increased speed in learning that ML produces puts new pressures on marketers, such as pushing them to make faster decisions when it comes to shifting strategy and tactics. But ML has also yielded some surprises, resulting in the discovery of a new audience for the brand.

“We discovered that our [buying] audience is a little older than we expected. Mid-30s to mid-40s is our sweet spot. We thought it was much younger—people in their 20s,” Goldberg notes. “What we’re finding out is we might get the audience visits from younger people, but older visitors are purchasing. They have more money.”

Better Business Alignment

Using ML-enabled systems, marketers are able to set very specific KPIs that are more closely aligned with overall enterprise business goals rather than just marketing performance goals.

“For me in my daily job, conversions and revenue are my top two goals. All of my campaigns are driving toward conversion. When I see very high engagement while showing products, I can look at what people are purchasing off, versus when I’m doing a campaign and look at metrics like reach or how much someone remembers your brand,” Goldberg notes. This is an important distinction—and advantage—of ML,

she says. “Impressions used to be the big metric, which fell under reach, but it doesn’t tell you the most important information about how your campaign is performing,” she continues. “It doesn’t tell you if people care.”

A big benefit of ML at Spartan is greater visibility, according to Jain. The company initially built its brand on organizing running races, steadily building up to 16 different levels of races, from 10K runs to 100-mile adventure treks in 42 countries annually. Now it’s expanding the brand to include training, nutrition, a Spartan university, and merchandising, all focused on the notion of training the brain to overcome obstacles.

“We have data on over 7 million people who have participated in our events, and our website is a go-to place for training and nutrition content,” says Jain, the company’s CMO. “We engage with our customers via email, across all of our social channels and at our events. Having been a growing expert in the field of community experiences and having built a new sport gives us nine years of very interesting data.”

Using ML, Spartan has been able to add more value to its customers (via a photo platform) and enrich the ability to microtarget more precisely, she says. “It’s not only about having better data about who customers are to better target them, but to have the ability to quickly change how you advertise to them,” she adds. A strong base of data and the right tools to assess the data on a daily basis provide Spartan greater visibility into customer segments and insight into what influences consumers at each touchpoint.

“Of 1,646 professionals surveyed at organizations with AI embedded in at least one function, 42% of respondents cited a lack of AI talent as a significant barrier to adoption. 30% of respondents reported that functional data silos constrain end-to-end AI solutions.”⁶

MCKINSEY & CO., “AI ADOPTION ADVANCES, BUT FOUNDATIONAL BARRIERS REMAIN,” NOVEMBER 2018

Another major challenge, especially for smaller and midsize companies, is the cost of hiring and retaining a staff of data science experts to design data integration strategies and then build and optimize ML algorithms. “Data scientists are a scarce and very expensive resource,” notes MIT Sloan’s Aral.

“Nearly half of marketing leaders say some of their most experienced and expensive data analysts and scientists spend their time preparing data to be analyzed rather than analyzing it.”⁷

2018 MARKETING ANALYTICS SURVEY, GARTNER, INC.

ML applications such as real-time personalization, content and media optimization, and campaign orchestration are all catching on with digital marketers, according to market research, yet experts agree that machines cannot do 100% of the work involved in marketing. Marketing very much remains part art, part science, which will require humans and machines working in tandem into the foreseeable future.

“Creativity and understanding are still key to marketing, and there will continue to be a lot of work on that side of data science,” says Sinan Aral, a professor at MIT’s Sloan School of Management, where he holds a joint appointment in the IT and marketing groups and co-leads the Initiative on the Digital Economy.

“Machines are going to be much more useful in the targeting, deployment, and measurement of ads,” he explains. “There will be a lot more concentration in the marketing organization on managing machine learning and deploying it efficiently. There will be a lot of human input of creativity. You can’t just turn on a machine and be done. The other areas humans will focus on are content creation and thinking about what engaging content is,” he says. “Machines are not quite to the point where they can do that work.”

The Data Challenge

Between email, print, and online advertising campaigns; customer transactions; customer support inquiries; and virtually all other customer interactions, marketers already have amassed vast quantities of data about their customers. Combining this data with outside feedback such as sentiment data—which is opinion and commentary collected from social media—as well as Twitter streams and demographic information works to increase its value. Yet there remains a giant hurdle if marketers are to fully capitalize on this data treasure trove, and it involves refining it further, namely by consolidating, tagging, and optimizing

it either in-house or through a service provider to be used by AI-enabled systems. It’s necessary work that’s tedious, but more and more service providers are sprouting to help organizations do it.

“Enterprises don’t have data ready [for AI applications],” says Dean Eckles, a professor in communications and technology at MIT Sloan and a former data scientist at Facebook. “One big challenge is that a lot of data is produced for a purpose that’s different than the marketing purpose, and people are trying to repurpose it. It’s called data exhaust.”

Make or Buy?

“There’s an important make or buy decision here for brands,” Aral contends. “There are third-party providers dedicated to building sophisticated algorithms.” At the same time, the software used to conduct ML is already being democratized in that it is widely available off the shelf. For marketers that go that route, data science talent and expertise still are required to use it effectively.

Either way, ML represents a giant step forward in helping marketers place customers at the center of their advertising strategies. With every click, like, view, inquiry, and purchase—represented by billions of data points—customers are telling brands exactly what they want at any given point in time, experts say. AI-enabled tools allow marketers to better listen and respond to those desires in a far more effective manner.

ML-powered insights give marketers an understanding of particular customer segments or even individuals, enabling a brand to respond with relevant and personalized messaging. Platforms empower advertisers to conduct many randomized experiments combined with ML models to test the effectiveness of ads on different groups. “This shift to randomized experiments has significantly improved the evaluation of ad spending,” notes MIT’s Eckles.

It also significantly shrinks cycle time, according to Goldberg. “Personalization has been a buzzword for a long time,” she says. “Originally, it meant creating 10 different pieces of creative and finding opportunities for them by crawling through data yourself (manually). Now, if you’re a customer who has already purchased, I know not to show you the same ad. Also, if it works for you, I can go and look for other users with your same behaviors.”

Consumer Privacy Challenges

Of keen interest to marketers currently is the role AI and ML can play in regulatory compliance, especially with the European Union’s General Data Protection Act (GDPR), which took effect in May 2018. While enacted in Europe, the rules have implications for all global companies, which must ensure that personal data is gathered and stored in a way that protects it from misuse and exploitation. The regulations also restrict marketers from using any data for which consumers haven’t given their consent. Unquestionably, GDPR has made marketers’ work more difficult. But on the other hand, it is moving the industry toward acquiring the highest-quality data possible to deliver a superior digital experience.

Still, this is a huge dilemma for organizations with brands. “When you restrict the data advertisers can use, the only thing the consumer sees is what they’ve already consented to. They can’t discover new things,” says Nicolas Pickaerts, e-commerce director for London-based luxury goods retailer Matchesfashion.com.

“We focus a lot on the right products for the right user. But we also have an important angle around discovery and inspiration,” Pickaerts says. “Customers come to us not to buy just Gucci, but to be surprised and exposed to newness.” Matchesfashion, like all retailers, must comply with GDPR, “but we also want to make sure we keep inspiring and keep the magic in the business,” Pickaerts says.

One solution is for marketers to step up efforts to obtain so-called declared data, which is information offered up willingly and directly by a customer—usually about their preferences and habits—when they complete a sale, take a survey, or perform some other action.

“Essentially, brands are trying to engage with consumers in conversations that elicit data in a voluntary way,” explains Aral.

What Comes Next

GDPR requires organizations to “manage consent relationships at scale,” says Gerry Murray, research director with IDC’s Marketing and Sales Technology Service. Looking ahead, Murray suggests that yet another type of AI- or ML-enabled platform could likely emerge to empower customers to manage their consent and loyalty themselves across multiple brands.

Rather than go brand by brand or purchase by purchase, a consumer might tap a single app to authorize use of their data by multiple brands whose products they purchase at Amazon.com, Walmart, or some other retail outlet.

For now, though, the best advice for brands looking to leverage AI-enabled tools is to “go out and learn by doing,” says Aral. “Don’t start with a massive data science organization, but instead, learn by trial and error,” he advises. Team up with one of the growing number of AI-enabled marketing service providers to tackle a specific business challenge. Service providers, experts agree, will be the key vector through which AI and analytics in marketing will take hold.

The Boston Globe, for example, consulted with Aral’s team at MIT, which built an AI-based model that estimates users’ content preferences and erected churn models based on those dynamic preference models to provide a step-by-step idea of what customers would do. “They learned a lot by dipping their toe in the water,” Aral says.



**GDPR IS MOVING THE
INDUSTRY TOWARD
ACQUIRING THE HIGHEST-
QUALITY DATA POSSIBLE
TO DELIVER A SUPERIOR
DIGITAL EXPERIENCE.**



HUMAN CREATIVITY AND INNOVATION WILL REMAIN CRITICAL.

AI-enabled digital marketing services providers will also play a bigger role in processing and managing brands' digital ad spending, increasing efficiency along the way.

Matchesfashion.com, for example, conducts 16% to 20% of its digital marketing through 950 partners worldwide, according to Pickaerts. A third-party services provider “makes sure those partners get paid on the fly. Everything is fully automated in terms of commissioning and tracking,” he says.

Experts say this kind of automation will become more and more important as brands shift a greater portion of their ad budgets away from specific campaigns or channels and optimize spending for business goals using real-time analytical data.

But even as automation takes hold, humans will remain very much a vital part of the marketing organization, though their roles or duties will inevitably change.

“Machine learning is going to start automating much of the work of marketing. AI is very good at low-level tasks like subject line writing, content generation, and segmenting markets,” says IDC’s Murray. “As AI becomes more capable, an email marketer may not need to format HTML or write subject lines or figure out what to offer in emails.”

But human creativity and innovation will remain critical.

“Data itself does not loan itself to innovation,” Murray says. “Two banks don’t have radically different data sets on their customers. Instead, competitive advantage in the AI-enabled world of marketing will be all about creativity and how organizations can use data to do new and different things.”

The future, he says, is marketers and machines working together in a more intelligent way.

Endnotes

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