



MARTECH 2030

Five Trends in Marketing Technology for the
Decade of the Augmented Marketer

by **Scott Brinker & Jason Baldwin**

This report is a collaboration between chiefmartec.com and WPP to envision the decade ahead in marketing technology and its impact on strategy and operations for brands and agencies.

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Introduction

The 2020s have had a tumultuous start. Yet for all the challenges of this year, it has taught us that people and organizations — even large organizations — can adapt quickly when we must.

Many companies implemented new ways of engaging with their customers through digital channels and new ways of operating internally with a remote workforce in a matter of weeks this spring.

Previously, such significant changes would have been estimated to take years.

A Twilio study of 2,569 companies published this summer found that, on average, COVID-19 accelerated their digital communication strategy by six years¹. An article by McKinsey shared data that showed that in three months of 2020, US ecommerce penetration grew as much as it had in the past ten years².

In Microsoft's Q3 2020 earnings call, CEO Satya Nadella said, "We have seen two years' worth of digital transformation in two months."³

This year has taught us how disruption can come at us quickly. It's not just risk from start-ups or large, adjacent competitors that might someday threaten our business. Disruption can happen instantaneously. The global pandemic shut down critical elements of marketing and sales, such as retail channels and in-person events, in a matter of days.

Martec's Law

Generally, technology changes quickly, while organizations change (relatively) slowly. But a cataclysmic event can trigger more rapid adaptation.



1 COVID-19 Digital Engagement Report, Twilio, August 2020.

2 McKinsey Quarterly Five Fifty: The Quickening, McKinsey & Company, Summer 2020.

3 <https://www.fool.com/earnings/call-transcripts/2020/07/23/microsoft-msft-q4-2020-earnings-call-transcript.aspx>

While we hopefully won't repeat this year's challenges, we can expect more and different kinds of disruptions ahead.

The big tech companies — Apple, Amazon, Facebook, Google, and Microsoft — that we rely on for many of our digital go-to-market mechanisms can make sweeping changes in a snap (e.g., goodbye third-party cookies and all the marketing plays built around them). Or they can be forced into major overhauls by governments (e.g., GDPR, CCPA, executive orders, antitrust actions). Either way, we must be ready to adjust to an altered digital environment at any time.

Science-fiction-ish visions from the future will be mainstream in this decade — several within the next couple of years.

It can feel overwhelming to marketing professionals who must keep up. Yet it is also exhilarating. With

imagination, resilience, and a sense of adventure, marketers who are willing to lean into these changes will pioneer the future of marketing and lead a decade of incredible innovation.

We must adapt quickly to harness these changes. But now, more than ever, we know we can.

This report examines five major trends with marketing technology poised to shape marketing strategy and operations at agencies and brands over the next 10 years. Instead of predicting the course of individual technologies — such as 5G or virtual reality interfaces — we'll delve into second-order effects on marketing strategy and operations derived from them.

THE FIVE TRENDS WE'LL COVER

- 1 **"No Code" Citizen Creators**
- 2 **Platforms, Networks & Marketplaces**
- 3 **The Great App Explosion**
- 4 **From Big Data to Big Ops**
- 5 **Harmonizing Humans & Machine**

Each of these trends is already emerging in practice today. But we believe each of them will grow exponentially in the years ahead. Collectively, they will reshape marketing disciplines in profound and wondrous ways.

This report isn't about martech as a category of products. This is about martech as a strategic and management "operating system" by which brands and agencies will run marketing in an ever more digital and hyper-connected world.

It's going to be an amazing decade in marketing: **the Age of the Augmented Marketer.**



Trend 1.

"No Code" Citizen Creators

Fifty years ago, if you wanted to deliver a slide presentation, you needed a specialized professional to create it for you.



As described in Before PowerPoint: The Evolution of Presentations by Orana Velarde⁴:

1

Designs were first put together on white paper using rulers, Exacto knives, rubber cement, and typesetting sheets.

2

Each slide was designed as a standalone design on a large piece of paper. It had to be proofread and checked for errors until it was just right.

3

When the large slide designs on paper were ready, they were photographed.

With "no code" tools, anyone can be a "citizen developer."

Creating slide presentations, a laborious and skilled exercise, was out of reach for most people.

Today, Microsoft PowerPoint has over 500 million users. More than 30 million presentations are delivered every day.⁵ Anyone can create a presentation. And while the obvious joke is that not everyone should, we can't deny the massive democratization of visual communication that has resulted from this capability.⁶

This is the essence of the "no code" trend: software that empowers general business users to create things that previously only specialists could produce.

We're way beyond slides now. Today's "no code" tools give non-technical professionals the power to create websites, databases, workflows, integrations, mobile apps, web apps, chatbots, voice assistant skills, and more. This category of products is called "no code" because previously you had to be a developer programming with code to build any of these.

⁴ <https://visme.co/blog/evolution-of-presentations/>

⁵ <http://news.bbc.co.uk/2/hi/8207849.stm>

⁶ Before throwing stones, pause to consider how many decks you've shared in the past year.

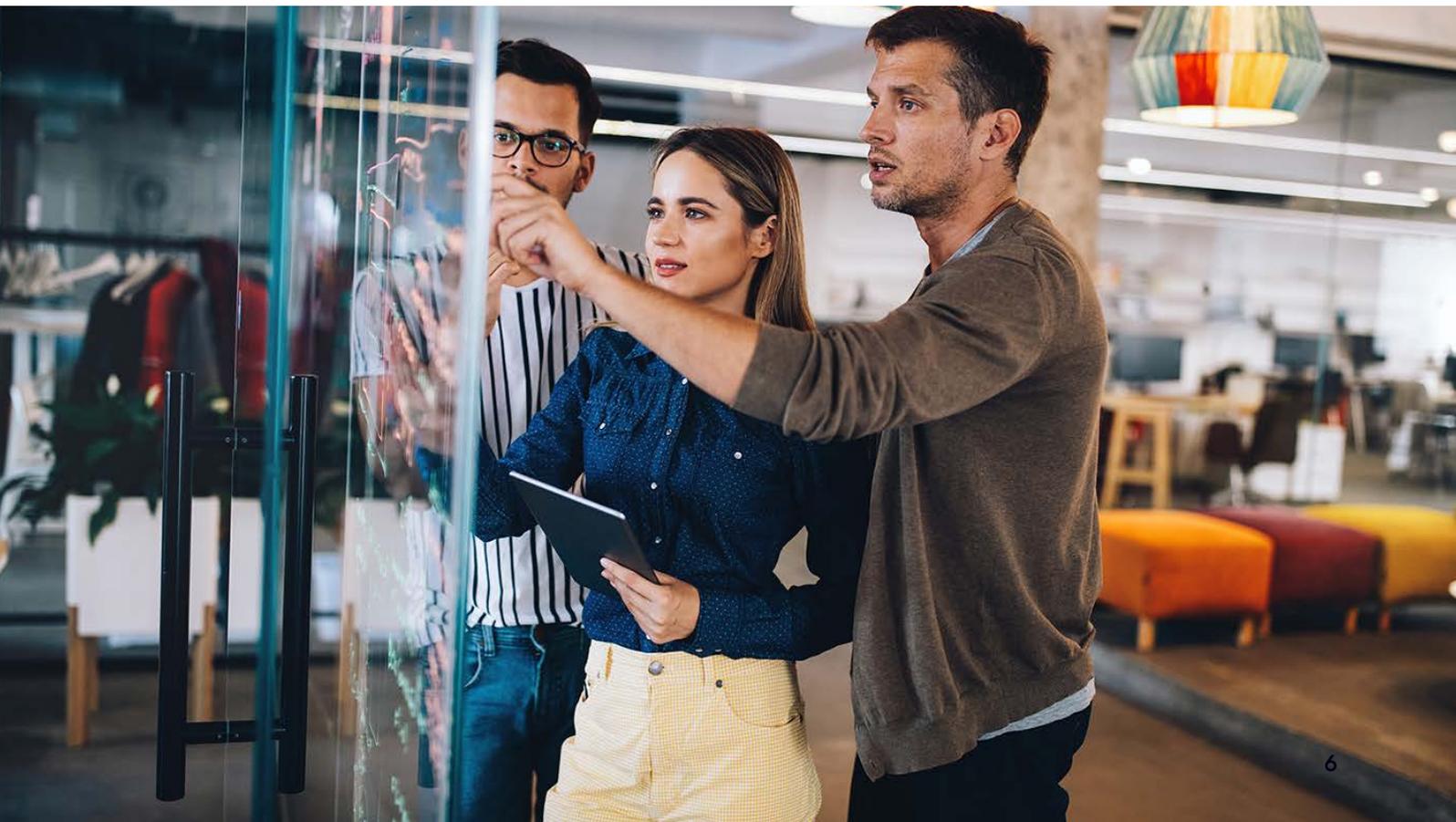
MORE THAN CITIZEN DEVELOPERS

This power to create isn't limited to software development either. People who aren't graphic designers use tools like Canva and Easil to produce their own creative assets. People who aren't data scientists use tools such as Tableau and Obviously.ai to analyze large data sets and build predictive machine learning models. People without audio engineering skills use tools like Descript to produce podcasts, editing recordings like a wizard simply by typing some text.

In martech, many marketers have adopted marketing automation and customer journey orchestration products without even realizing that architecting such sophisticated customer experiences would have required a team of software engineers to implement not too many years ago. Now it's drag-and-drop.

Common martech "jobs to be done" currently addressed with "no code" tools and a representative sample of specialized products serving those use cases.

Job to Be Done	Sample "No Code" Tools	Job to Be Done	Sample "No Code" Tools
Landing pages		Chatbots	
Website forms		Voice assistant skills	
Websites		App integration	
Interactive content		Workflow processes	
Web apps		Data analysis	
Mobile apps		Machine learning	
Database apps		Video creation	



More and more specialist superpowers are being bottled into software that anyone can use. These products aren't all called "no code" — a label generally applied to tools that substitute for common programming tasks. But they are all in the spirit of this citizen creator revolution.

It's impressive what "no code" enables today. But in the decade ahead, advances in AI will put even more amazing capabilities at the fingertips — or voice command — of citizen creators of all kinds: citizen developers, citizen graphic designers, citizen data scientists, and so on.

For example, the GPT-3 API recently released by OpenAI is powering tools such as Snazzy.ai that generates Google Ads, Facebook Ads, landing pages, emails, blog posts, etc., as a remarkably proficient "robot copywriter" that anyone can direct on their behalf.

Imagine what will be possible in ten years' time.



NO CODE DOESN'T MEAN NO EXPERTS

This raises the discomfoting question of whether we will still need experts at all?

In short, yes. Most "no code" citizen creator tools address needs that are not being served by specialists, because the time and cost such expert production required couldn't be justified for relatively small or simple use cases. Such use cases would be overserved by such specialists — like firing a bazooka to rid a picnic of a mosquito.

In this way, the rise of "no code" tools is a quintessential example of Clayton Christensen's theory of disruptive innovation.⁷ At first, these tools address needs that incumbents — in this case, professional software developers, graphic designers, data scientists, etc. — consider too "low end" to be a good use of their time.

An experienced web developer does not want to spend their days building

landing pages for each keyword in a search marketing campaign. They're quite happy to let a marketer use a product such as Unbounce to build out troves of pages and A/B test them on their own. For the marketer, this costs them ~\$2,500/year for the "no code" tool instead of ~\$100,000/year for a dedicated web developer.

Specialists want to apply their skills to more interesting and challenging work. And indeed, more advanced or important projects still benefit from their expertise. Going back to slides, you're not going to hire a firm like Durate Design to craft a deck for a monthly metrics review with your team. But you would hire them to craft a killer keynote presentation for a major conference.

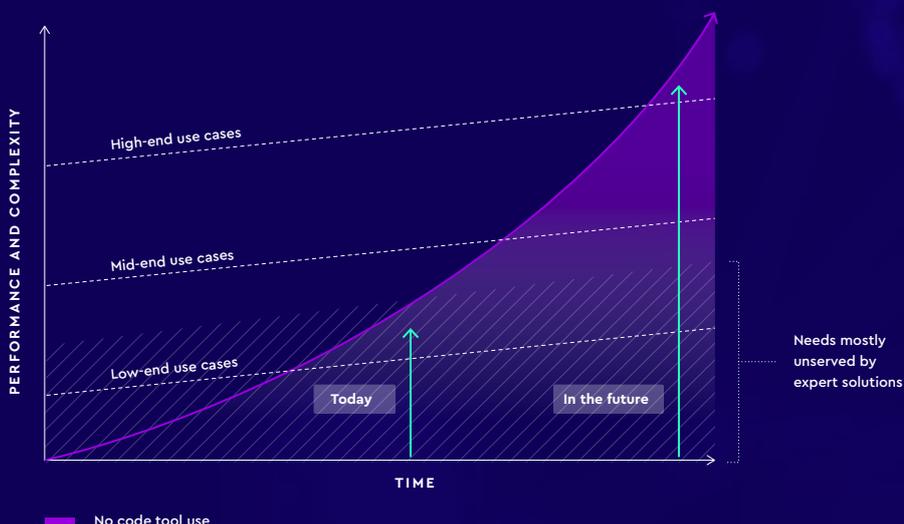
The value specialists bring to mid-range and high-end use cases is less about the mechanics of the production, and more about the expert thinking, deep experience, and clever imagination they apply to the design and management of what's being built.

As an example, building a registration form on a landing page is a low-end use case. Building an interactive directory of partners on a website is more of a mid-range use case. Building the entire online experience for a new direct-to-consumer (DTC) brand is a high-end use case. As you tackle larger and more complicated creations, the blueprint of what to build is often more valuable than the keyboard-clacking labor that goes into its construction.

Specialist talent will continue to be in demand for that higher-level expertise, empathy, and insight that extends beyond the scope of algorithms in even the best no code tools.

However, over time, disruptive technologies that start by addressing unserved, low-end use cases steadily improve. As they do, they serve more advanced use cases that people previously didn't think were possible. This is what makes such innovations "disruptive from below."

The disruptive innovation of "no code" technologies.



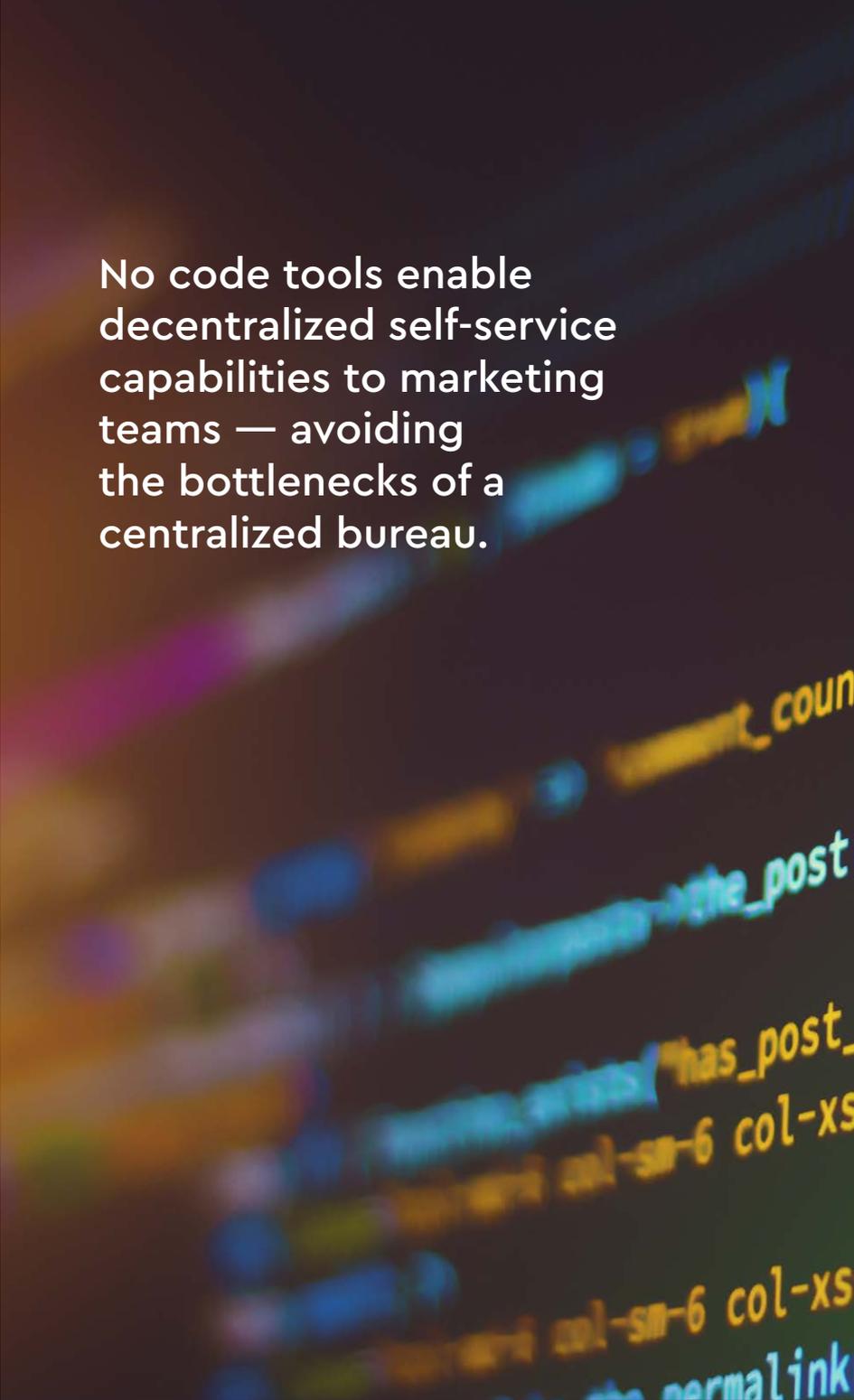
⁷ https://en.wikipedia.org/wiki/Disruptive_innovation

DECENTRALIZED SELF-SERVICE

As “no code” tools become more suited to mid-range and high-end use cases, we’ll harness their power on both ends of the talent spectrum. Non-specialist business users will use AI assistants embedded in these tools to guide them through the process of building ever more advanced creations. But specialists will also wield these tools as a way to accelerate production — making it easier, faster, and cheaper for them to implement their ideas.

The result will be exponential growth in creators and digital creations. For instance, AppSheet, a “no code” web app builder offered by Google, claimed on their website that 2,413,351 apps had been built with its platform as of August 30, 2020. Around one million of those were created in just the past year, since August 2019.

Rajeev Batra, a partner at the VC firm Mayfield, recently framed the scale of what’s possible by commenting how powerful it would be “to see not twenty million developers [building] really cool software — but two, three hundred million people developing really cool, interesting software.”⁸



No code tools enable decentralized self-service capabilities to marketing teams — avoiding the bottlenecks of a centralized bureau.

	Centralized Service Bureau	Decentralized Self-Service
speed	wait in queue	immediate self-service
bandwidth	narrow & sequential	wide & parallel
creativity	limited to a few people	many diverse ideas
learning	limited to a few people	widely distributed

⁸ <https://techcrunch.com/2020/08/22/five-vcs-talk-about-how-no-code-is-going-horizontal-across-the-worlds-industries/>

An orders-of-magnitude expansion of things that can be created — and who can create them — will drive changes in the way marketing is organized and operates.

In this past decade, many companies implemented a centralized "service bureau" model — often called a center of excellence — to handle most marketing creation and deployment tasks. Create a web page, assemble an email list for a special offer, analyze campaign results from the previous month by a different segmentation, produce an animated explainer video to embed in a blog post, etc. Marketing teams had to route such requests through that center, which was often a bottleneck.

"No code" tools will empower marketers to self-service many of these tasks instead. This will accelerate the speed by which things are produced. They don't have to wait in a queue for processing. It will increase the bandwidth of the number of things that can be produced within a given timeframe, as more marketers can be creating in parallel, instead of waiting their turn sequentially.

Self-service "no code" tools will significantly reduce the cost of experimentation, as marketers will be able to try more ideas on their own, quickly and cheaply. In turn, this increased diversity of experimenters will tap into greater creativity from across the organization. And the learning that results will be more widely distributed too.



Cleve Gibbon

Chief Technology Officer
North America,
Wunderman Thompson

Coding is a superpower that allows us to think bigger than we've thought before, but not all team members have the technical skills to help bring those visions to life. With a "no code" platform, all team members can assist in the software development process without the need for a computer science background.

"No code" will continue to bring increased power to marketers, allowing them to both access and adopt capabilities that were once solely the realm of developers and data engineers. This means greater efficiencies and the end to end management of connected digital experiences that are growing more intricate with every release.

Fred Brooks said, "'No code' abstracts away accidental complexity." Applying this to martech, where fragmentation has given us plenty of accidental complexity, we'll see more marketing capabilities assembled through "no code" platforms. "No code" provides a practical way for marketers to abstract away a lot of underlying complexity and concentrate on delivering better customer experiences for consumers.

But the "no code" movement isn't just about empowerment. It's a huge lever for efficiency too.

"No code" tools for workflow automation and integration will dramatically accelerate marketing processes across widely distributed teams and tools, even across organizational boundaries between brands, agencies, and channel partners. Manual steps will be steadily replaced by scheduled and triggered automations, freeing marketers to focus on craft more than chores.

Enabling such "no code" automation will drive both commercial martech vendors and internal company developers to provide greater

programmatic access to their software through APIs. While user interfaces for humans will still be important for many apps, we will expect the data and functionality of all apps and platforms in our business to be accessible via APIs — so that they can be orchestrated through "no code" automation and composed into virtual compound apps, configured and reconfigured on-the-fly for any operational need.

The 2020s will see the rise of the "marketing maker" — non-technical marketers who are able to create the majority of digital experiences they imagine with their own hands.

Yet even in a more decentralized marketing organization, there

will still be need for centralized expertise to provide the scaffolding and governance in which all of this distributed creation is happening. A common foundation and framework that balances diversity with consistency.

This leads to the next trend of platforms, networks, and marketplaces — and the opportunity for conceptually "platforming" marketing.

A representative sample of "no code" tools available today.



KEY TAKEAWAYS: "NO CODE" CITIZEN CREATORS

1. **The proliferation of "no code"** tools will give non-specialist business users the ability to self-serve more of their needs immediately, instead of being constrained by the cost or availability of a specialist.
2. **"No code" capabilities** aren't limited to building software. All kinds of digital assets, apps, analyses, and workflows will be produced by non-specialists using tools designed to empower citizen creators.
3. **"No code" tools** will abstract complex operations for marketers delivering automation and efficiencies. However, they will also multiply the number of moving pieces in a firm's digital environment, increasing the need for platforms and software-based governance.
4. **Specialists will still be in high demand** for applying their skills to more advanced and complex creative activities. They will leverage "no code" tools too, to accelerate their production process.
5. **Software, both commercial and custom,** will increasingly expose its capabilities through APIs for "no code" tools to be able tap into that functionality for any workflow or customer experience built by a citizen creator (in marketing, a "marketing maker").



KEY ACTIONS / QUESTIONS FOR YOUR ORGANIZATION AND "no code"

1

What tools or products are you using today that have "no code" capabilities? Are they being used or maximized? What's on the horizon for those products to take advantage of this trend?

2

Look for the complex or time consuming parts of your marketing processes. What "no code" solutions are available to ease or solve these?

3

Consider the integration opportunities for the tools and data you use today. What "no code" opportunities do you see? Put these in the plan.

A man in profile, looking upwards and to the right, is the central focus of the image. He is wearing a dark shirt. A large, semi-transparent orange circle is overlaid on the right side of the image, partially obscuring the man's face and neck. The background is a solid orange color.

Trend 2.

Platforms, Networks & Marketplaces

Our previous era of business thrived through chains. Value chains. Supply chains. Distribution chains. Linear flows that produced and delivered goods and services. Internal workflows often mirrored this assembly line mental model, managing knowledge work the same way as physical manufacturing. Project management Gantt charts epitomized this view.



The advantage of such chains was optimizing for efficiency, squeezing out waste from even highly elaborate end-to-end processes. As long as we were operating in a stable environment, we could produce relatively predictable outcomes with speed, scale, and precision.

But the digital world is eclipsing traditional chain-style thinking. There's much less predictability in today's business environment. Markets, competitors, and customer expectations can change swiftly. Every year, new technologies bring new capabilities, new channels, and new consumer experiences — in turn enabling new business models and operating models that harness them. The speed by which these changes are spread and adopted continues to accelerate.

In this environment, efficiency is still valued. But we've come to appreciate agility, adaptability, and resilience as even more valuable business characteristics. What good is a highly efficient operational pipeline, if it's eclipsed by an entirely different

Yet while a highly connected, digital world has generated these new challenges for us, it has also given us new organizational structures to overcome them. Three patterns have emerged:



Platforms

Software and hardware platforms have ushered in tremendous extensibility and remixability on top of standardized foundations — from early operating systems, such as Windows, to modern device platforms, such as iOS, Android, Amazon Alexa, and Philips Hue, to current SaaS platforms such as HubSpot, Salesforce, Shopify, and Xero.

Developers stand on the shoulders of giants to create specialized apps that inherit the capabilities of the platform upon which they're built. Users of these platforms benefit from a spectacular variety of apps. They can choose ones that best suit their needs and preferences — or even make their own — while being assured of their interoperability around shared data models, operating workflows, and user interface standards.

This platform pattern is also applied to content and campaigns, where foundational creative assets are designed to facilitate independent production of variations and localizations within a common marketing framework.

The biggest advantage of platforms is their adaptability. The ecosystem of things built around them can continually evolve, to rapidly address new use cases and emerging innovations, without having to explicitly coordinate their actions with a central authority. Platforms with a large ecosystem of creators are extremely resilient.



Networks

A network is a group or system of interconnected people or things.⁹ The Internet itself is one giant network, and by connecting over 4.5 billion¹⁰ people on the planet, it has facilitated trillions of dollars in measurable transactions — and trillions more in personal and professional value-add.¹¹

Within that mother-of-all-networks, the Internet contains millions of other networks, from social media juggernauts, such as Facebook, Twitter, and WeChat, to private collaborative networks inside organizations, using tools such as Slack and Microsoft Teams. Within these networks, participants can connect, communicate, share content, and tap collective contributions of information. They form digital communities and affinity groups — and specialized subgroups within them. There's often a fluidity to these networks that let them adapt and evolve.

Companies get value by participating in relevant networks, as a source of customers, knowledge, and talent. But far greater value is achieved through owning a network. It could be a network of partners, a community of customers, a portfolio of agencies (if you're a holding company) or startups (if you're a VC), or a pool of vetted suppliers or freelancers available on-demand. In the context of a platform, you can have a network of users, developers, or connected devices.

Metcalfe's Law claims the value of a network is proportional to the square of the number of participants — assuming compound benefit for each participant from everyone else in the network. But companies can also create value through the exclusivity of their own "closed" networks and the specialized context in which they operate.



Marketplace

Marketplaces provide a managed environment for buyers and sellers to get matched with each other, conduct transactions, and coordinate the delivery of their goods or services. By validating sellers and buyers and enforcing rules for participation, marketplaces reduce risks for parties to do business without a direct relationship.

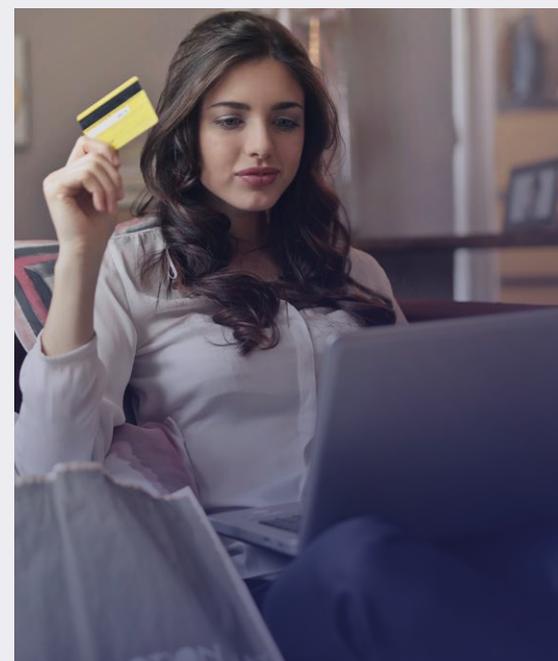
Marketplaces have blossomed on the Internet: Airbnb, Alibaba, Amazon (for third-party sellers), eBay, Etsy, Fiverr, Groupon, Houzz, Kickstarter, Uber, Upwork, Walmart, Wish, and many more. There are B2B and industrial marketplaces, such as Cargo.one for booking air cargo and Laserhub for sheet metal orders. Facebook, Google, and other ad exchanges run marketplaces for advertising, matching advertisers with audiences in real-time bidding for placements. A number

of data marketplaces have sprung up for both businesses and consumers to monetize their data.

Marketplaces are everywhere in the digital world.

Buyers and sellers participating in a marketplace are also a **network**. And many digital marketplaces are built around a **platform**, such as Apple's App Store for iOS, Google's Play Store, HubSpot's App Marketplace, and Salesforce's AppExchange.

Well-run marketplaces are adept at balancing supply and demand. They give sellers the ability to reach new buyers and increase the liquidity of their inventory (which may be physical goods, digital assets, professional services time, etc.). They give buyers the benefit of more flexible purchasing, on-demand, with greater competitive choice.



9 Google English dictionary definition for "network" provided by Oxford Languages.

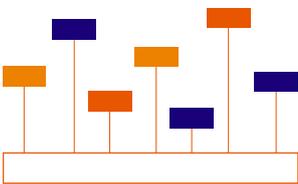
10 <https://www.statista.com/statistics/617136/digital-population-worldwide/>

11 "Understanding the Value of the Internet", Christopher Hooton, The Internet Association

These three patterns are cropping up in nearly every corner of digital business. They thrive on the dynamics of the Internet the way manufacturing plants in the 19th century once thrived on the rivers that powered their machinery before electricity. In the decade ahead, these patterns will be an explicit and integral part of our strategy and operations.

Successful platforms, networks, and marketplaces — and the ecosystems of participants that flourish around them — will be some of the most valuable assets a company can own.

Platform

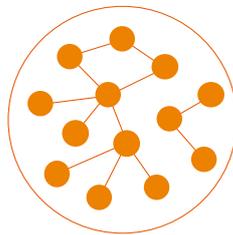


Platforms enable specialization, innovation, and variation of apps, campaigns, creative, workflow, etc., on a coherent, common foundation.

Examples: iOS, HubSpot, Salesforce, Shopify, Xero

Key dynamics: extensibility, remixability, governance

Network

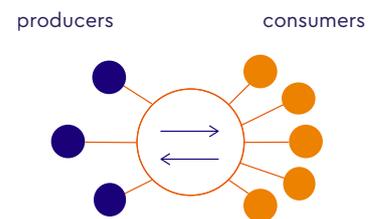


Networks facilitate connections, interactions, and asset sharing — content, data, knowledge, etc. — among participants in a community.

Examples: Facebook, LinkedIn, Slack, Twitter Xero

Key dynamics: network effects, Metcalfe's Law

Marketplace



Marketplaces match producers and consumers in a particular market, brokering discovery, evaluation, transactions, and service delivery.

Examples: Airbnb, AdWords, App Store, Etsy, Fiverr

Key dynamics: supply & demand, "GDP"

BUSINESS MODELS & OPERATING MODELS

Platforms, networks, and marketplaces can be business models, where a company monetizes them directly. But they can also be operating models, where a company leverages these digital structures to run their business more effectively. And they can be blended together, in short it also depends on the viewpoint.

A brand can sell a hardware platform, tap their user network for community-based support and advocacy, and run a marketplace for apps and services offered around its products. An agency can provide

their own proprietary apps on top of their clients' marketing platforms — as a way of efficiently collaborating and securely sharing data — source panel insights from a consumer network owned by their holding company, and secure endorsements for localized campaigns through their own specialized influencer marketplace.

Because platforms, networks, and marketplaces are excellent ways to coordinate independent and widely distributed contributors, they can also serve as effective organizational models for empowering a more decentralized workforce inside a business.

Business models and operating models often combine these three patterns in external and internal — or open and closed — ecosystems.

THE 8 PS OF PLATFORMING MARKETING

Organizing your internal marketing operations around a "platform" model ¹² enables people throughout the broader marketing organization to self-service many of their most common requests. Here are the 8 Ps of successful platform marketing:

01**Platforms**

open and extensible software platforms at the core of marketing

02**Partitions**

modular design of responsibility pods for distributing leadership

03**Permissions**

software-enforced governance of what distributed teams can do

04**Perception**

automated monitoring and human review of usage and results

05**Permission**

not technical permissions, but empowerment from management

06**Preparation**

training and enablement for distributed/ decentralized users

07**Principles**

clear values and guardrails for users to apply tools in good ways

08**Passion**

genuine enthusiasm for empowering the edge of the organization

A centralized team of specialists design and manage that platform — the business operating system of that function — rather than doing the hands-on production work themselves. This increases responsiveness for most requests, as self-service fulfillment can happen immediately. The centralized team can then reserve bandwidth for a smaller number of advanced requests that require their expertise to produce.

¹² <https://chiefmartec.com/2019/09/platforming-marketing-8-ps-self-service-martech/>



Lindsay Shirley

Chief People Officer,
Wunderman Thompson Asia Pacific

Platforms have a significant impact on the marketing workforce. A core set of people are needed to maintain and operate the platform. But then additional people can participate more on a more dynamic basis to support increased demand or deliver a new capability or service.

From a business perspective, this drives the adoption of a skills on-demand model:

Teams are created to solve specific short term problems and then disbanded once the capability is established.

It can de-risk future business model changes by enabling more flexible staffing options to adapt and scale in response to new opportunities.

As a result:

People will experience and expect a much more flexible way of working, being able to apply their skills to a specific need within the context of a platform, build and automate their contributions, and then move to the next challenge.

Remote working will grow in popularity, giving professionals the option to adapt quickly to different teams and projects, plugging voids with skills on-demand.

To enable this:

Marketing team collaboration will be key, bringing people up to speed quickly and enabling efficient execution as a dynamically configured team.

This will be an increasing area of investment in people management, to maintain connections and cohesion across more dynamic marketing teams, each with their own unique workflows and requirements.

Particularly interesting opportunities will arise from platforms, networks, and marketplaces that are shared privately among a set of companies — blurring the line between internal operations and external ecosystems. Partnerships for sharing second-party data are examples of such models today.

Martech will both define and be defined by these patterns. Leading martech companies will be platforms, networks, and marketplaces themselves. They will empower marketers to engage in other platforms, networks, and marketplaces. And they will give marketers the ability to create their own.



Provide

Martech companies provide their platforms, networks & marketplaces to customers and partners.



Engage

Martech products enable marketers to engage in other platforms, networks & marketplaces.



Create

Martech products empower marketers to create their own platforms, networks & marketplaces.



Standards will help. In marketing, there are relatively few standards today — in contrast, say, to the telecom industry. But regulation, often the impetus for creating standards, is increasing in marketing's domain. Standards for the interconnection of marketing platforms and ecosystems will likely emerge in the years ahead, helping to break down silos that exist across platforms.

The marketing industry should stay ahead of this and advocate for international standards. Or face cross-platform inefficiencies, increased pressure from walled gardens, and complexity from local regulatory bodies implementing standards that vary significantly — or outright conflict — across jurisdictions. Standards will fuel the next stage in the maturity of marketing technology.

Martech vendors provide platforms, networks, and marketplaces, but they also help companies engage with others — and create their own.



Stephan Pretorius

Chief Technology Officer,
WPP

Connected TV is an example of a super fragmented environment in need of greater platform and marketplace cohesion. There are lots of local market alliances that have established themselves. All the way from the screen manufacturers, the content owners, and the streaming services, it hasn't yet been dominated by a few large players, (e.g., YouTube, IMDB, Facebook Video) in the same way digital advertising has. They're not in a position to aggregate in the same way.

In part, this is due to the content owners managing the rights to their programs and open standards that allow OTT (over-the-top) delivery of TV — think HDMI, streaming video codecs, bandwidth quality control, etc. — and the low price of entry, through a simple app or hardware device.

Marketers have had a difficult time providing a coherent connected TV service for brands in the same way linear TV has been because they needed to work with so many different market-specific platforms.

The opportunity here is when more programmatic connections can be made to simplify the planning, booking, scheduling, content management, and reporting processes for marketing. Agencies have a key role to play in this phase of platform and marketplace development, providing the aggregation necessary for critical mass. This would be too costly for a single brand to manage. It's a symbiotic relationship.

At the same time, new creative technology tools are disrupting the workflow of traditional TV production: client meeting, brief, ideas, shoot ideas, plans, travel, all fly back, cut/recut, post production, transcreations — this has been expensive. Frame¹³, however, has disaggregated this entire flow. Only the camera person needs to be on location. A lo-fi version or live stream is uploaded for comment. Editing is done through remote collaboration. The cost base is fundamentally changed.



Brands and agencies will compete within marketplaces and platform ecosystems, strategically deciding which ones to participate in — and how to differentiate themselves within them. They will source more services on-demand through networks and marketplaces to increase speed or scale, decrease costs, and provide more flexibility in their operations. And they will build their own platforms, networks, and marketplaces as the architectural structure of digital business.

Brands and agencies will compete within marketplaces and platform ecosystems, strategically deciding which ones to participate in — and how to differentiate themselves within them. They will source more services on-demand through networks and marketplaces to increase speed or scale, decrease costs, and provide more flexibility in their operations. And they will build their own platforms, networks, and marketplaces as the architectural structure of digital business.

Platform businesses have proven to be robust in turbulent times, being able to quickly adapt around their foundational core. Over the next ten years, brands will increasingly build customer engagement and business models around platform concepts.

In turn, agencies will need to help their clients to build out their business platforms, as all parts of the business become increasingly interconnected and interdependent. Particular attention in platform and network design will be on sharing data and resources and enabling increasing levels of automation. The objective will be to empower marketers to tap broad ecosystems — many with participants beyond the boundaries of the firm — to rapidly build deeper and more connected experiences and micro-experiences for customers.

Marketing in the 2020s will be driven by the Ecosystem Economy.¹⁴

KEY TAKEAWAYS: PLATFORMS, NETWORKS & MARKETPLACES

1. **In a digital world**, brands and agencies are shifting from static, linear, and hierarchical business models and operating models to more dynamic structures and processes organized around platforms, networks, and marketplaces.
2. **Brands and agencies will participate** in many marketplaces, networks, and platform ecosystems, but some of the most strategic opportunities will be in creating their own.
3. **Platforms thrive** when they provide a common underlying architecture and governing principles that standardize data and operations across a high volume and wide variety of digital elements and interactions. Good platforms enable greater innovation and experimentation to blossom on their foundations independent of the core.
4. **Marketplaces** thrive when they optimize matching of supply and demand and yet also provide trusted and reliable mechanisms to assure delivery and compliance in those transactions.
5. **The dynamics** of the Ecosystem Economy will shape marketing strategy and operations, both inside and outside the firm, including collaborations between brands and agencies.



KEY ACTIONS / QUESTIONS FOR YOU

1

What are the platforms and ecosystems that you or your organization own or participate in? What's at the core? How digitally enabled are they?

2

Where are the opportunities to develop integration partnerships and open elements of the services you participate in?

3

Think through the collections of capabilities that you have that aren't linked yet — is there an opportunity to create a platform?

Trend 3.

The Great App Explosion

The annual marketing technology landscape, produced by chiefmartec.com since 2011, has been a source of heated debate. It's a single slide with logos of the many different marketing technology products that Scott and his collaborators were able to find and organize into categories. It has grown exponentially over the past decade.

The 2011 martech landscape had around 150 solutions. By 2014, it had grown to nearly 1,000. The next year: 2,000. Then 4,000. The most recent edition released in the spring of 2020 had a whopping 8,000. That's an eye-popping 5,233% growth over the decade.

Each year, the graphic would trigger cries by industry analysts and overwhelmed marketers that the martech industry was bound to consolidate. It was ridiculous to have thousands of vendors!¹⁵ Yet every year, the landscape continued to grow. How was this even possible?

In truth, there has been significant consolidation in the martech space. Hundreds of companies have been acquired or driven out of business by their competitors. And the largest marketing technology vendors who have achieved scale as public companies — Adobe, HubSpot, Oracle, Salesforce, etc. — have achieved dominant market share in many martech categories.

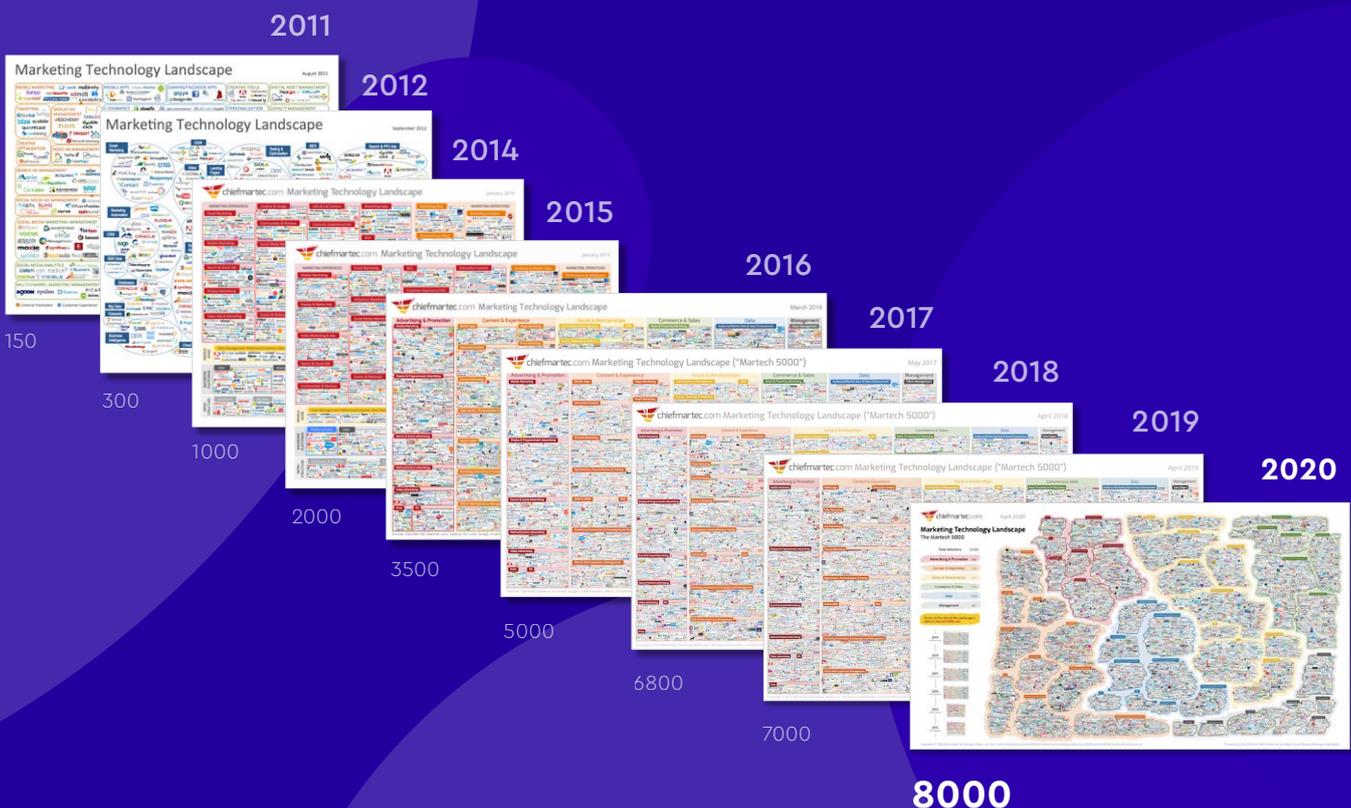
Yet still the total number of martech solutions on the market grows. Why? How?

8,000

Solutions by the spring of 2020

5,233%

Growth over the decade



¹⁵ It's worth noting that while thousands of martech vendors generated quite a stir in marketing circles, our industry has had tens of thousands of specialized services vendors — the quintessential boutique agency — without causing nearly as much consternation.

THE NEW ECONOMICS OF SOFTWARE

First, we must recognize that the economics of launching a software product these days are a fraction of what they once were. Cloud platforms such as Amazon AWS, Google Cloud, and Microsoft Azure let any entrepreneur working out of their home spin up world-class, global infrastructure for running a software-as-a-service (SaaS) app in a matter of minutes. They only pay for what they use, at costs measured in infinitesimal slivers of cents, which scale smoothly with the growth of their business.

Software entrepreneurs can leverage free open source frameworks. They can add major swaths of functionality to their products simply by inserting a few lines of code from API-based

service platforms, such as Twilio and Stripe, which instantly give them state-of-the-art communications features and a robust payments engine. They can tap engineering expertise on-demand from developer communities, such as Github and Stack Overflow, and freelance marketplaces, such as Fiverr and Upwork.

Most apps can be launched with very little capital today, which has resulted in a wave of bootstrapped SaaS businesses. And when startup money is needed, it is available from a plethora of sources beyond traditional venture capital: accelerators such as YCombinator, crowdfunding sites such as Kickstarter, new “alt VC” organizations such as TinySeed and Earnest Capital, revenue-based financing, and more.

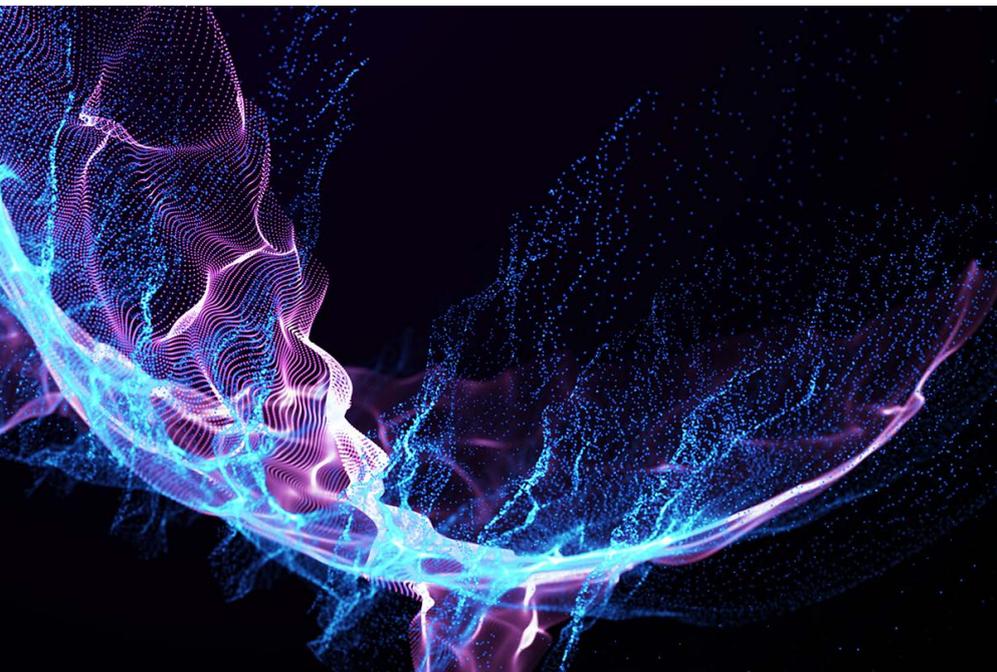
There are effectively zero barriers to entry to getting into the software business.

It's also easier than ever to buy apps. Many apps can be purchased by business users with a credit card and immediately used in a web browser. Freemium and free trial apps make it even easier to get started: try an app out and see if you find it useful. More complex and expensive products take longer to buy and configure, but even those deployments have far less friction today than previous on-premise solutions in the era that preceded the cloud.

The demand for apps is nearly unlimited. Marketers are constantly looking for innovations that will give them a competitive edge — a new tactic, a new channel, a new customer experience. They're continually striving to optimize their operations with more specialized tools and digital services that are tailored to their needs. It's a kind of digital arms race.

The biggest hurdle to app adoption in marketing has been integration. You could assemble a stack of “best-of-breed” apps — software passionately focused on serving one specific need better than anything else in the market — but getting them to interoperate was challenging.

However, that dynamic is changing rapidly thanks to the rise of app platforms in the cloud. As explained with the trend of platforms, networks, and marketplaces, software platforms provide a common foundation for apps that are integrated or built on top of them — to work together.





Katherine Strieder

Chief Product Officer, GroupM Data
and Technology at GroupM
WPP

MARKETERS WILL NEED TO ADOPT THE TECHNICAL AND CONSULTATIVE DEPTH OF SOFTWARE COMPANIES

Marketing as we know it today will have fundamentally changed by 2030. Digitalization of our environment will have progressed into every facet of people's lives. Many devices available today and to come in the future will be connected, providing constant consumer engagement and response points that ideally take the consumer on a useful journey to meet their end goal.

A simple example today is a DIY hardware brand which offers an authenticated online and mobile user experience. The brand can enable the user online to suggest products of interest and guide the user to the nearest store with product in stock. (And think of how helpful this can be when every store seems to be out of toilet paper!) The user can then use the brand's mobile app (and it's geo location data) to find the product in store down to the aisle and bay. This is possible today and can turbo-charged in the future, with more data points, more digital encounters with the user and more digital feedback from the user.

These types of enhanced experience require a network of platforms and applications to work cohesively at scale across markets. Successful execution includes data integration, architecture to support real-time decisioning and rendering of the digital experience and operational know-how for best in class implementation.

Marketers and supporting agencies need to think about the strategic vision driving their software development and ensure the north star is the consumer experiences they desire to deliver. They need to develop the same consultative operational support that any tech vendor provides. These practices are already mature in other industries so it's about observing and acquitting talent.

It's a pivotal time of reinvention in our industry as we support brands and consumers around the world. We have a lot to explore and create over the next decade.



App platforms standardize data models, services, and user interfaces to create coherence and consistency across everything plugged into them. Think of your iPhone or Android smartphone and how effortless it is to add new apps. We're not quite there with B2B app platforms, but in the decade ahead, we will be.

This gives businesses the best of both worlds: unified digital infrastructure, anchored by stable app platforms, and near infinite means of innovating and differentiating through specialist apps — or custom apps they build themselves — layered on top of that foundation.



In May 2020, Pandium released a State of Product Integrations at the SaaS 1000 report that examined integrations, public APIs, and "app centers" offered by the 1,000 fastest growing SaaS companies from 2019.

They found that nearly every SaaS company now integrates with other SaaS companies in the cloud — the median was 15 integrations each. In the martech category, 61% had an "app center" (from a simple directory to a transactional marketplace) featuring available integrations. 89% of them provided APIs to their customers.

All these elements combine to multiply the number of apps in the world. In fact, the larger and more consolidated cloud platforms, service platforms, and app platforms become, the further they accelerate development of more specialist apps and custom apps built on top of them.

THE GREAT APP EXPLOSION

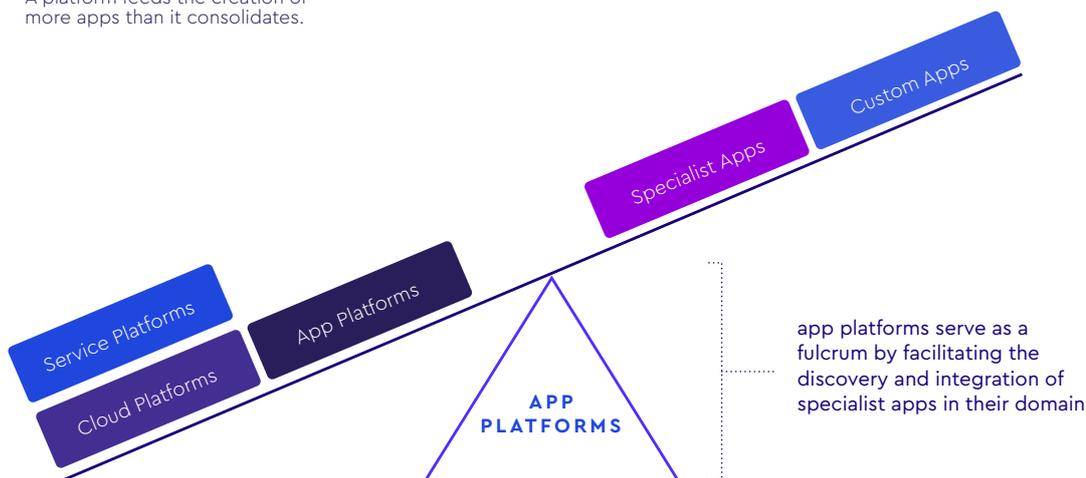
In a Worldwide IT Industry 2020 Predictions report published a year ago, IDC estimated that "over 500 million digital apps and services will be developed and deployed using cloud native approaches" by 2023.

By 2030, there will be billions and billions of apps in the world.

This is The Great App Explosion.

WHAT IS A PLATFORM?

A platform feeds the creation of more apps than it consolidates.



To get a sense of the scale of The Great App Explosion already underway, consider that two years ago there were already over 100 million software project repositories in GitHub.¹⁶ By 2030, there will be an estimated 45 million developers in the world.¹⁷ If we count apps built by "no code" tools — and why shouldn't we? — it's easy to appreciate how billions of apps can be created.

¹⁶ <https://venturebeat.com/2018/11/08/github-passes-100-million-repositories/>

¹⁷ <https://www.slashdata.co/free-resources/global-developer-population-2019-community-edition>

Of course, most of these apps won't be stand-alone software businesses. The vast majority of them will be custom apps built by companies for their own internal needs. The next largest set will be those built by businesses for their customers — not as stand-alone software businesses either, but as outward-facing, digital facets of their products and services.

For example, a direct-to-consumer (D2C) brand will build their own custom web apps to serve customers on their site. But they will also develop custom mobile apps, chatbots for messenger platforms, voice assistant skills, widgets for affiliates to embed on other websites, API services for partners in their supply chain, and so on.

More and more businesses will be "digital natives," 100% powered by a kaleidoscopic tapestry of apps built, bought, or rented, all interconnected through APIs in public and private clouds. At the same time, the line between purely digital businesses and those with some kind of presence in the physical world will blur. Digital touchpoints will proliferate through physical spaces and objects, and everything will be orchestrated digitally.

THE ATOMIZATION OF APPS

By 2025, IDC estimates there will be 41.6 billion Internet of Things (IoT) devices connected in the world, including wearables, sensors, appliances, vehicles, TVs, speakers, and more.¹⁸ Each of these hardware devices runs its own software apps

on the "edge" of the cloud. Some are so tiny as to be considered not just micro-apps but nano-apps.

This atomization of apps will not only geometrically explode the number of apps in the world. It will imbue everything in our lives with software intelligence. Asymptotically, everything will be an app.

5G networks, with an order of magnitude greater bandwidth, will make it feasible to deliver these apps instantaneously on-demand. App Clips in Apple's recent iOS 14 release are an example of this kind of install-less software experience.¹⁹ As mobile bandwidth continues to increase — 6G networks later in the decade are predicted to have terabit-per-second speeds²⁰ — the size of apps and their media payloads (think augmented and virtual reality) that can be instantly deployed will grow by orders of magnitude.

For brands and agencies, this application of the world represents an unprecedented canvas for creativity. Customer experiences can be crafted across a myriad of digital touchpoints, a suite of apps and micro-apps all working in concert to amaze and delight.

These richer brand experiences will begin earlier in the customer journey, as even ads become micro-apps that are capable of intelligence and interactivity. Indeed, the difference between an "ad" and a free, just-in-time digital service beamed contextually to a device or media platform that a consumer is engaged with will be hard to distinguish. They

will power interactive content and visual commerce everywhere.

More and more marketing assets will be software. As such, marketing operations and broader revenue operations — RevOps — will take on more characteristics of DevOps,²¹ the hybridized discipline of software development and deployment in the cloud. Customer journey lifecycles and software development lifecycles will increasingly intersect and blend.

One of the most important aspects of this hybrid RevOps/DevOps mission will be managing the gargantuan volume of data flowing in and out of all of these apps.

19 <https://techcrunch.com/2020/06/23/ios-14s-app-clips-will-save-you-from-always-needing-an-app-for-that/>

20 <https://www.networkworld.com/article/3305359/6g-will-achieve-terabits-per-second-speeds.html>

21 <https://en.wikipedia.org/wiki/DevOps>



Niel Bornman

CTO Data and Product, WPP

MARKETERS WILL NEED TO ADOPT THE TECHNICAL AND CONSULTATIVE DEPTH OF SOFTWARE COMPANIES

All digital marketing experiences will become micro applications and seamlessly scale to the types of applications we see today. Experiences that today allow you to play the first level or envisage an item of furniture in your living room, will become more lifelike, more relevant, more context aware and easier to interact with. It won't even be noticeable that is happening.

AI will also be more prevalent in these experiences, either to tailor the delivery or enhance the experience in real time, reading the environment in which it's operating, or acting on behalf of the consumer to decide what's needed and appropriate.

Quoting Arthur C. Clarke, "Any sufficiently advanced technology is indistinguishable from magic." With AI at the edge, integrated into handheld devices, and taking part in every interaction we have, on our behalf, with our best interests at heart, it will feel like magic.

KEY TAKEAWAYS: THE GREAT APP EXPLOSION

1. **Software will continue to become easier and cheaper to create**, and there will be more and more digital touchpoints in people's lives where it can be deployed. Customers will expect more app-like experiences from brands, in both consumer and B2B markets.
2. **The landscape of commercial martech tools** will continue to grow, as major marketing platforms enable and expand their ecosystems of plug-and-play specialist apps.
3. **Agencies will have increasing opportunities** to build their own martech apps for these marketing platforms as a way to collaborate more deeply with clients through their martech stacks and differentiate with new software-powered service offerings.
4. **The proliferation of connected devices** and exponential growth in bandwidth will enable more marketing assets — including previously static advertising formats — to have some level of software intelligence and interactivity built in. This will inspire a whole new wave of advertising and marketing creativity.
5. **As marketing manages more and more software assets in its domain**, orchestrating all these elements will require the combination of DevOps and RevOps practices and thinking in marketing operations, at both agencies and brands.



KEY ACTIONS / QUESTIONS FOR YOU

1

At the creative ideation stage, include your software development team to take part in the art of the possible.

2

What skills do you need in the team to create and deliver intelligent app or micro-experiences at scale? Think through the changes in people, process and tools needed to support the change. Plan for increasing demand for this type of creativity.

3

Where will the data needed to inform and drive these experiences come from? How will that data be permissioned and managed?

Trend 4.

From Big Data to Big Ops

It's been said that data is the new oil. A better analogy is that data is the new oil paint.



Oil paints range from \$4 to \$400 a tube, from common to rare oils and pigments. They've got inherent value. But it's by applying those paints on canvas, in inspired acts of creation, that orders of magnitude greater value can be achieved, transforming matter into masterpieces.²²

Data by itself has value too, which we can observe through prices in data marketplaces. But it's by integrating that data into the design and delivery of remarkable customer experiences that marketers create orders of magnitude greater value for their organizations.

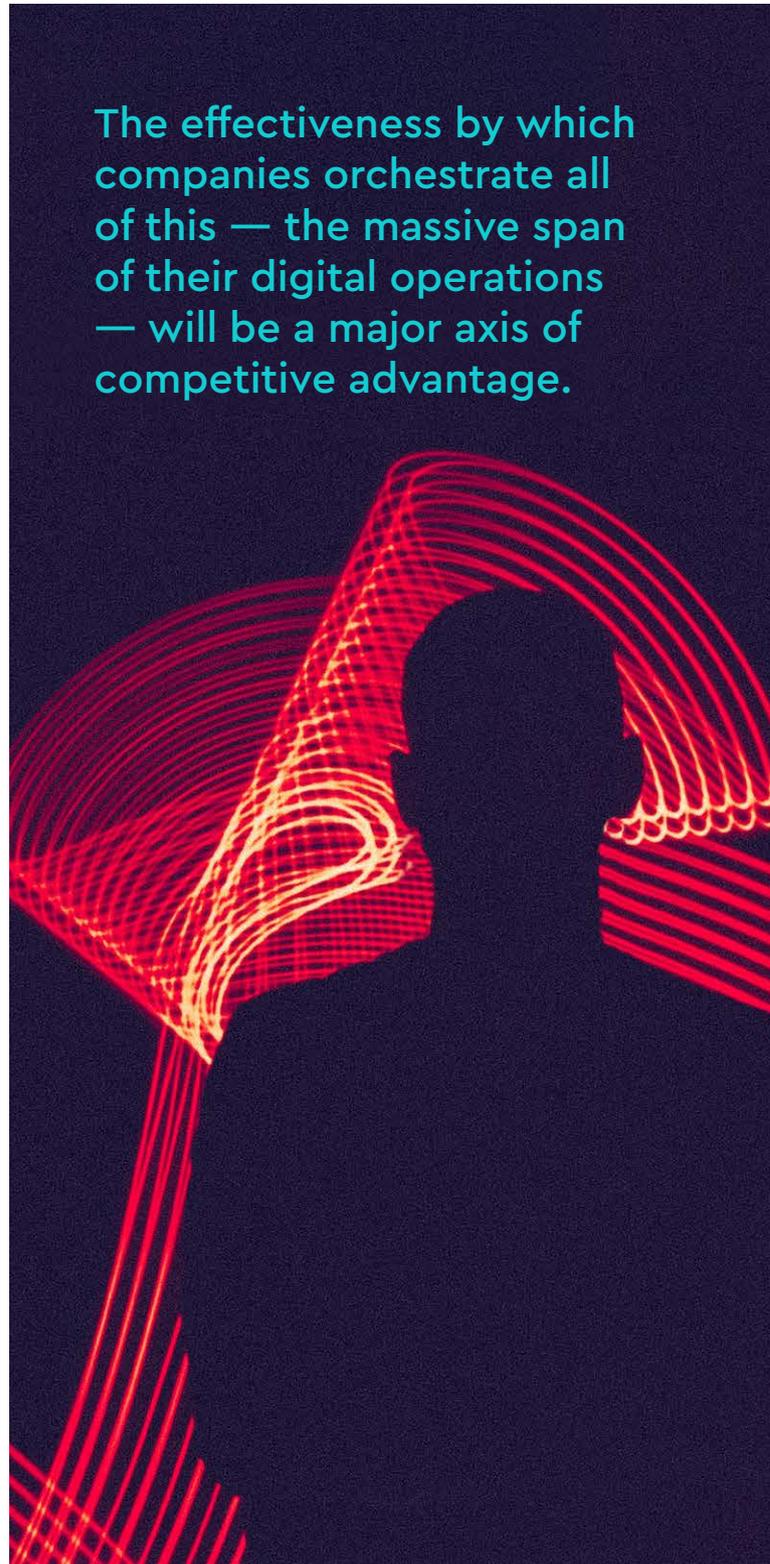
Designing and delivering customer experiences in a digitally-native or digitally-transformed business is a function of an enormous number of apps, automations, bots, decision models, dynamic processes, workflows, skills, people and more — a myriad of human and software "actors" — that must all work in concert together.

Each of these actors operates on data, and their performance is influenced by which data they have access to and its quality. But by operating on data, they're often altering it too — either updating existing data or contributing new data that they collect, derive and generate. Because so many software-automated or software-mediated processes are now running in parallel in a digital organization, (many with a certain degree of independence), yet all of them interacting with the firm's collective universe of data, complex interaction effects emerge.

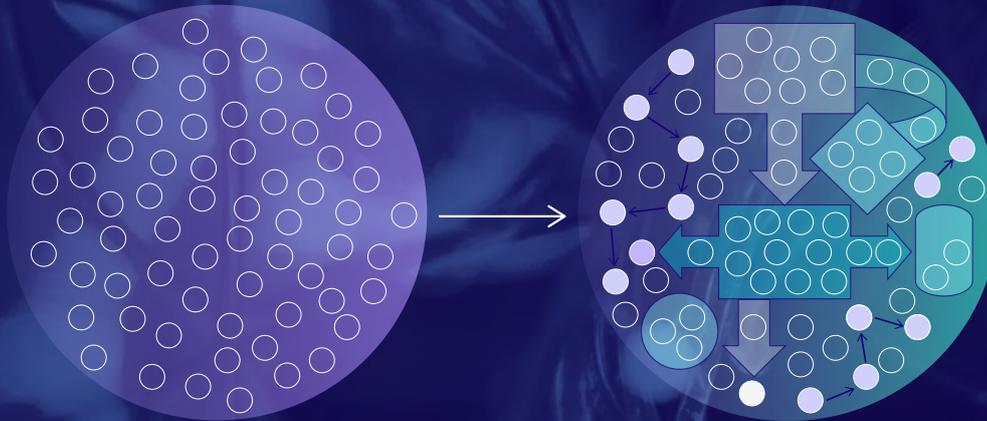
Based on the trends we've already examined — The Great App Explosion, which is being fed by more decentralized "no code" citizen creators leveraging platforms and networks — we can expect that complexity to grow exponentially in the decade ahead.

The effectiveness by which companies orchestrate all of this — the massive span of their digital operations — will be a major axis of competitive advantage.

The effectiveness by which companies orchestrate all of this — the massive span of their digital operations — will be a major axis of competitive advantage.



²² The most expensive painting sold to date was Leonardo da Vinci's *Salvator Mundi*, bought at an auction in November 2017 for \$450.6 million. [https://en.wikipedia.org/wiki/Salvator_Mundi_\(Leonardo\)](https://en.wikipedia.org/wiki/Salvator_Mundi_(Leonardo))

THE DECADE OF BIG OPS**BIG DATA**

scale & complexity of data collected, stored, and analyzed

BIG OPS

scale & complexity of apps and automations interacting with data

The scale of data in business will continue to grow too, but the mechanics of piping and storing it will be relatively easy and commoditized with cloud platforms. Data competitiveness will be a function of two things:

01

The source of your data: its accuracy and freshness; its provenance and legal permissions; and its exclusivity

02

How effectively you distill and activate that data in your business operations and customer experiences and its exclusivity

The 2010s were about big data, wrangling the enormous scale and complexity of data flowing into organizations at an accelerating velocity. The 2020s will be more about "big ops" — the orchestration layer on top of that universe of data and its growing scale and complexity.

Just as big data described an exponential growth in the volume, velocity, and variety of data being piped in and out of organizations, big ops describes a similar scaling of the volume, velocity, and variety of automated or software-mediated processes rippling across marketing operations, sales operations, service operations, and overarching revenue operations.

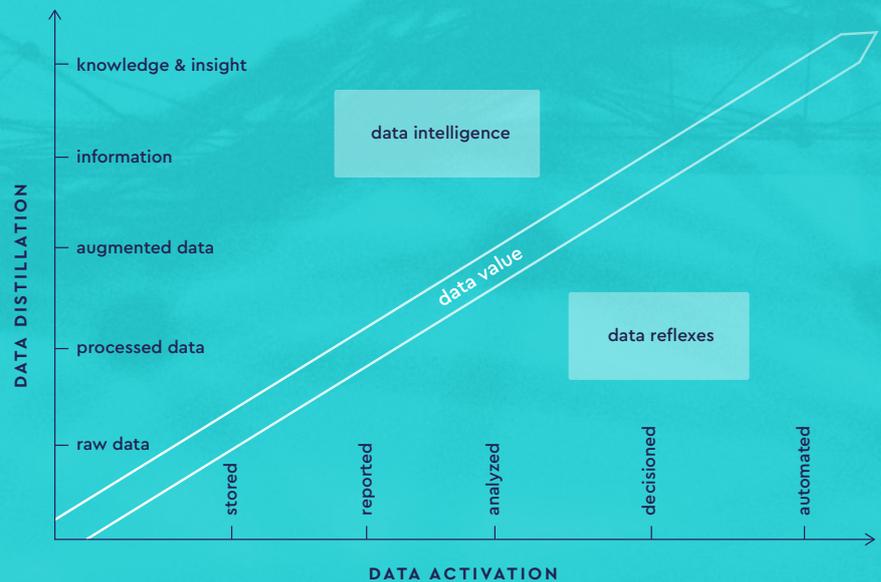
It's the 21st century philosophy riddle: if data is generated, but nobody ever does anything with it, did it even exist? (The answer: we'd be better off if it didn't. Data that is collected but never used has less than zero value. It's a liability, with costs of storage and risks of theft.)

Research this year by IDC and Seagate²³ estimated that 44% of all data available to enterprises goes uncaptured, and out of the data that is captured, 43% remains unused. Barely one third of the total is put to work today. The rest is "dark data." The first mission of big ops is bringing all the relevant data into the light.

²³ The Seagate Rethink Data Survey

DATA INTELLIGENCE & DATA REFLEXES

Capturing available data and putting it to some use is a start, but the "putting it to use" part has a wide range of possibilities that affect its impact. Data grows in value in two dimensions: (1) the degree to which it is distilled into information, knowledge, and insight; and (2) the degree to which it is activated in the organization, from reporting to decision-making and, in a big ops environment, driving automated reactions.



The first dimension is your data intelligence. The second is your data reflexes.

These two dimensions intersect to determine how valuable data ultimately becomes. Data may be distilled to insights, but are they fed into the right decisions at the right time? Data can be merely processed, yet can it immediately trigger a helpful automated response for a customer?

Harnessing data in big ops — developing your data reflexes — relies on data connectivity and data coordination, wrapped by data management and data governance; capabilities that are still in the early stages of maturity for most firms.

Across the myriad of data sources in our organization, are the right data sets connected to an ops process? Can it access relevant data in a timely manner? And with data compliance and data ethics growing in importance, are the "wrong" data sets — those for which a particular ops process should not have access — properly restricted (data governance)?

Such data connectivity is the backbone of big ops.

But the real complexity is in data coordination, managing the interdependencies and parallel activity among ops processes and the data they're working with.

Which ops actors get the first pass at new data? As they validate and process it — format, clean, and augment it — are subsequent actors operating on it properly sequenced? With many actors working with the same data sets, how are conflicting data updates resolved? As other actors continue to enrich and distill that data into higher level insights, are processes upstream iteratively rerun to refresh their models and outputs?



Just as distributed databases are often “eventually consistent” — with caveats and constraints that must be considered in application logic — big ops environments will face a meta version of this challenge as they strive for eventually consistent operations across all internal decisions and customer-facing experiences. Centralized software platforms, as well as blockchain and ledger databases, will help orchestrate this complexity. But governance provided by big ops leadership will be crucial to designing and running this digital operations layer effectively.

These are ops challenges more than data challenges.

COMPETING ON EFFECTIVE DATA USE

As organizations build big ops competencies, they will be in a better position to extract value from additional sources of data that originate beyond the walls of the firm. Marketing organizations will need to invest in the data skills (data literacy) of their people to ensure the skills of the few are second nature to the wider organization over this timeframe, “no code” and platforms strategies will accelerate this understanding. Agencies will continue to plug skill gaps with data literate experts and areas of increasing investment for the industry as a whole.

The decade ahead will see significant growth in data alliances between companies — sharing second-party data — securely brokered by trusted ecosystem data platforms such as Crossbeam and InfoSum.

Data marketplaces for third-party data will also grow. Gartner predicts that by 2022, 35% of large organizations will be either sellers or buyers of data via formal online data marketplaces up from 25% in 2020. From now through to 2025, the number of market providers and data products within data marketplaces and exchanges are expected to grow by 25% a year.²⁴ Although with increased regulatory pressure, the governance and permission management surrounding the data will be a further complexity for big ops to manage.

An emerging source of data is “zero-party data” that prospects and customers directly manage

about themselves and share with companies in a more controlled fashion. Acquiring this data at the right time, for the right purpose, and at the right cost — and adhering to the contracts by which it is provided — will be a key facet of big ops ahead.

Since the same set data will vary significantly in value depending on how effectively a firm is able to operationalize it, there will be increasing opportunities for data arbitrage around these exchanges.

For agencies, there are opportunities to both connect clients with the right second-party and third-party data providers, as an integral element of marketing campaigns and programs, but to also create their own specialized data networks and marketplaces.

Big ops will make big data more powerful than ever. However, while that holds tremendous upside for businesses and customers, it will also amplify problems with bias in data sets. Data that misrepresents people, either through its incompleteness or inaccuracy, will ripple across digital operations faster and with more significant consequences.

A crucial element of big ops will be implementing checks and balances to guard against data discrimination and enforcing policies of good data ethics. While technology will help with this mission, leveraging AI to detect operational patterns and anomalies that may indicate data bias or misuse, the weight of good judgment will rest on human shoulders.

KEY TAKEAWAYS: FROM BIG DATA TO BIG OPS

1. **Big Data was a revolution for handling the enormous volume, variety, and velocity of data** flowing through organizations today. Big Ops will be about managing the growing volume and variety of apps, automations, processes, and workflows operating in brands and agencies on top of that universe of data.
2. **Organizations that excel at distilling data** into insights (data intelligence) and activating it in real-time in their operations (data reflexes) will achieve a competitive advantage.
3. **Marketers will need to become more data and ops literate** as an integral part of designing and managing marketing campaigns and programs. Regulations and ethics will limit how much personal information available; marketers will have to find creative ways to target and personalize.
4. **Data alliances and trusted data ecosystems** will play an ever larger role in marketing operations — and will require greater governance for data regulation and compliance.
5. **Given the amplifying effects Big Ops will have on the data it processes, the challenges of identifying and resolving issues with data discrimination, data bias, and data ethics** will become increasingly important for agencies and brands. New AI-based tools will emerge to address these concerns.



KEY ACTIONS / QUESTIONS FOR YOU

1

What is your business data strategy? What is your marketing data strategy? Are they aligned? How do you plan to manage the data needed to deliver the insights and activations for the experiences needed by your brand?

2

How is data governed and managed in your organization? Do those managers understand the future needs of marketing? Put the changes needed on the strategic plan.

3

Review the models you're using, both internal and vendor supplied, creating a catalog to track their use cases and assess the risks of automating their results.



Trend 5.

Harmonizing Humans + Machines

A survey of marketers conducted in May 2020 found that 59% were concerned that AI and machine learning would limit their personal growth — up from only 14% in 2019.²⁵ Will AI lead us into a dystopian future where machines take over marketing, with few roles left for us humans to play?

The fear of a dystopian scenario isn't totally unfounded. We are approaching a tipping point where a large number of jobs in the economy as a whole will be displaced by AI and automation. The effects of autonomous vehicles on employment in the transportation industry, for instance, will be hugely disruptive. But rapidly advancing machine learning will steadily encroach on many "knowledge worker" tasks as well, across every industry and discipline, including marketing.

To riff on Warren Bennis's quote about the factory of the future: the marketing department of the future might have only two employees, a human and a dog. The human will be there to feed the dog. The dog will be there to keep the human from fiddling with the marketing automation software.

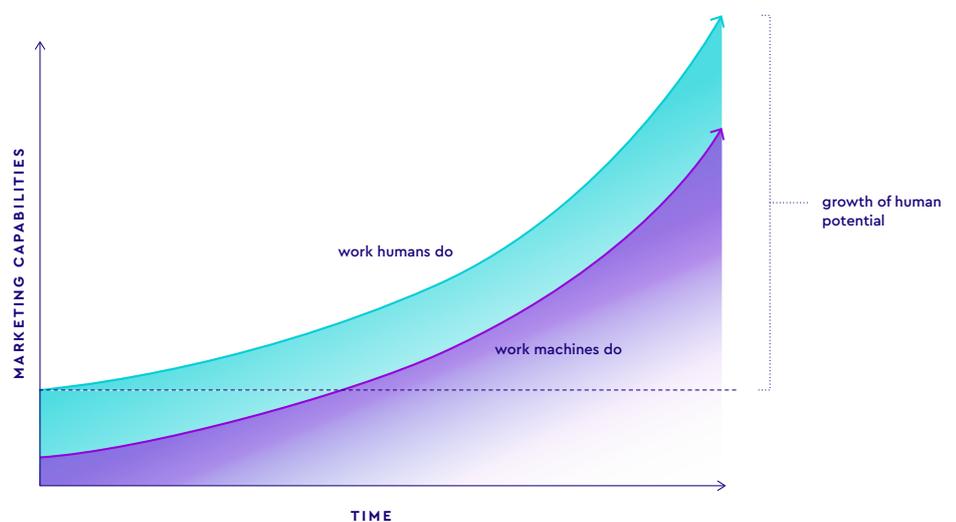
However, we don't believe that scenario will happen in this decade. On the contrary, we think AI will give marketers the time and the tools to reach new heights in their profession.

MODEL MAKERS & MODEL BREAKERS

While machine learning is advancing quickly, its applications still tend to be narrowly defined. For certain marketing tasks, such as optimizing multivariate testing of content or optimizing ad spend, machine learning powered software can do a much better job than a human marketer at analyzing all the data in its model to determine the optimal decision.

But the big caveat is "in its model." Humans still largely determine the models and what data sources are fed into them. Humans also retain the unique advantage of being able to consider what is not in the model that should override the conclusions of the algorithm, finding solutions when models break, and recognizing outliers as potential seeds for new

Greater automation and AI assistance will give marketers more time and new tools to focus on customers, creativity & innovation



or revised models. Humans think outside the box (the model).

Two skills that marketers will develop in this decade: model making and model breaking.

Humans also decide when and where to deploy these models, setting the context in which they run. For multivariate testing of content, for instance, a human decides what content is going to be optimized and the parameters of variations, either providing explicit alternatives or setting boundaries on automatically generated ones. The human sets the goals for the optimization — a hierarchy of preferred actions and the characteristics of ideal customer conversions on them.

Many of these human-led decisions are about connecting the dots across a number of different

tactical automations in the service of a larger strategy. For instance, aligning the automation for ad spend optimization for a campaign with the automation for multivariate testing optimization on the landing pages for that campaign. The Great App Explosion will grow the total number of such tactical automations under the umbrella of ops, raising the importance of orchestration.

Software will coordinate some of these tactical automations by using other automations at the next level up. However, as you go higher up, you encounter greater abstraction and ambiguity. Humans are much better at dealing with that than machines. This will limit how far automation goes before human perspective and judgment take over higher order challenges.



Di Mayze

Global Head of Data, WPP

One of the biggest challenges that marketers will face in the next ten years is the battle against bias in the datasets they're using. There are numerous recent examples of an AI/ML model being used and producing unintended consequences. This is a situation that will get worse before it gets better as marketers use off-the-shelf models without truly understanding their sources.

We really are still at the beginning of our journey towards using data creatively and currently have a heavy reliance on a few models built by a few large organizations. The use cases that marketers apply to these models have not previously been tested, and as such, are often supplied without warranty or liability for the consequences. This will fall to the marketer and the brand.

As a result, the next ten years will see an increasing focus on the sources of data, the models created around it, and the ethics surrounding the use of that data. Further regulation, beyond GDPR and CCPA, will extend into the use of these models. National governance often lags the capabilities of the technology.

Brands and marketers will be held responsible for the models being used and any bias within them. As a result, we need to increase the levels of data literacy and education in our teams — and be vigilant for the consequences.

There is a happier note though as we pass through these challenges: we are at the beginning of getting creative with data. There is so much to explore. Curious data people will drive new kinds of innovation and creativity that we've never seen before.

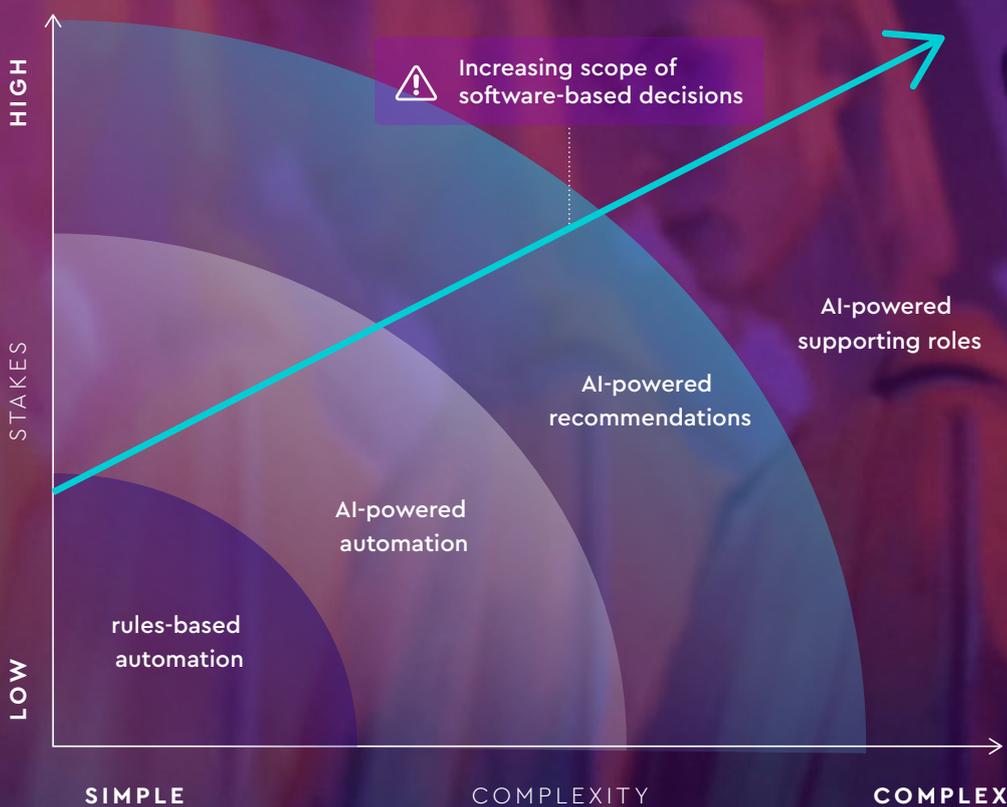
AI-AUGMENTED STRATEGY

Translating marketing strategy into automated big ops "programs" in such an environment will require expert human skill. And at the highest level, humans will continue to set overarching marketing strategy, synthesizing the myriad of the diverse inputs that go into its formation.

Marketers will complement the raw algorithmic horsepower of machine learning with strategic, contextual, and integrative thinking. Learning how to apply those talents effectively with a continuous wave of new technologies in the mix will be an important part of marketing career development moving forward.

Machine learning tools will increasingly suggest insights, interpret context, and apply meaning, putting more information at a marketer's fingertips with which to inform strategy and decisions. The sophistication of these tools on top of AI-based models will continue to widen in scope, giving marketers greater understanding of larger and more diverse sets of data.

Improvements in AI will automate more decisions — and recommend options for high stakes and /or high complexity decisions best left under human control



Simulation will become increasingly common as a strategy tool, with marketers looking to understand different scenarios and gain insight into future actions. Presently marketers use variations of A/B testing and machine learning to experiment and optimize with real people (at some risk to an individual customer's experience). In future we'll use simulations with synthetic agents first, to test drive our brand and marketing creative, content, and communications.

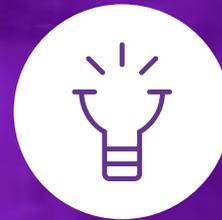
Simulations are more than predicting trend lines or goal oriented machine learning. With the increase in computing power, millions of scenarios can be simulated to provide directional insight into what might happen in the real world with increasing levels of granularity.

CREATIVITY & AI

There are other human talents that will continue to be central to marketing's success beyond the realm of our machines. Broad-based creativity and imagination. Empathy with other humans for understanding and persuasion. Intuition from experience. Collaboration within the organization and across the boundaries of the firm with agencies, clients, and partners. The pursuit of meaning and purpose and effectively communicating it to others. Moral and ethical leadership.

The challenge for AI is that great marketing resonates with culture at a point in time. This isn't something AI is good at, as culture is entangled with a lot of complex dynamics in psychology, society, and contextual human experience that are hard to represent holistically in data. It's even hard for humans to do this!

Marketing as a craft and an art will continue, certainly throughout the 2020s, continually evolving based on culture and communication mediums available. At the same time, however, AI will increase in its abilities to assist humans in the creative process, using machines as force multipliers for human talent.





Perry Nightingale

SVP Creative AI, WPP

Creativity can fall into two categories: information-based and expression-based.

Information-based creativity uses an existing corpus of information to draw new results, drawing value from doing something in a new way. For example, using electricity to close a car window, rather than a handle. This is also known as "design." The animal kingdom is readily able to do this, e.g., using a tool in a new way.

It's this form of creativity for which machines are best suited: given a starting point, test and learn — e.g., rearrange items on a web page — and draw a new conclusion.

Expression-based creativity is being able to think of something entirely new. This often stems from our lived experience, our culture and upbringing, influencing what and how we think about the world. This is also known as "art." These are the elements that go into great marketing: having cultural context, having a viewpoint, smart observations, and being able to think freely. Further examples here are the next hit song, a smash TV series, the desire to go to Mars.

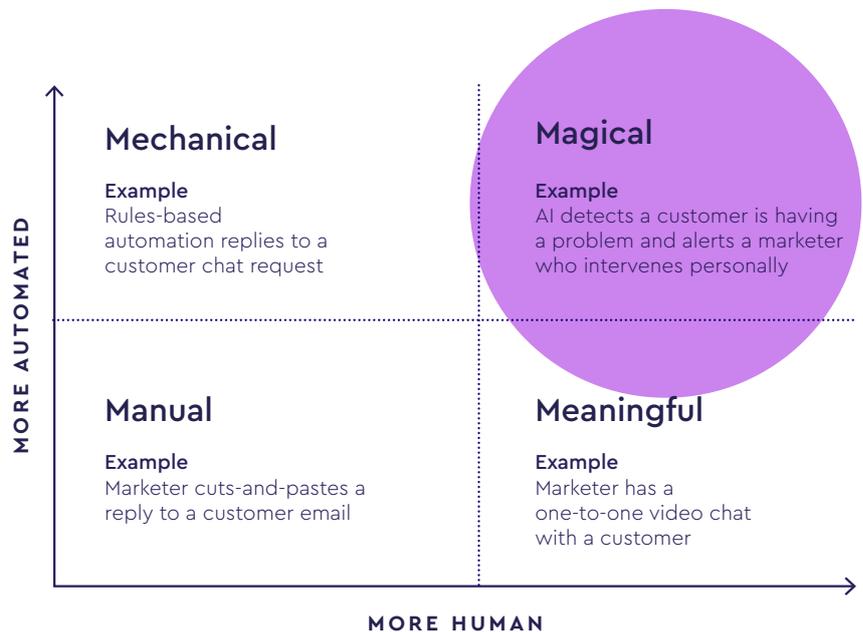
Machines struggle with this form of creativity. Perhaps one day they will achieve it, but not likely in the next ten years! So we'll see lots of advancement on the design side of creativity, helping people to solve for the next iteration, based on large amounts of existing information, but relying on the human brain to provide the final spark.

Creative applications use AI today to perform basic tasks that would traditionally take time and skill for a human to execute, such as precisely cropping people and objects in photographs. AI doesn't choose the subject or what to crop — or, more importantly, why. But AI makes the selection accurately, deftly blending and interpolating at the boundaries, and it does it near instantaneously. While this is a simple example, there will be hundreds of more AI use cases like this within the decade that every marketer will have at their fingertips.

"Compose an original uptempo music track for my 30-second commercial in a New York City techno style."²⁶ Or, "Turn this doodle into an Impressionist-style painting as a background for a poster graphic."²⁷ The prototypes of these capabilities are already available today.

It's the creative arts parallel to "no code" development.

AI will also support the creative process with increasingly powerful search and analysis tools. "Show me all assets where Brand X appeared with a mountainous landscape and a lake in the foreground" is something a creative director might want to know. Yesterday, that was a difficult question to answer, requiring staff to laboriously hunt through files and directories. Today, search engines on DAM platforms make this much simpler, as AI automatically classifies objects and people in all creative assets. Tomorrow, image and video classification engines will enable even more novel and complex searches



to be conducted on-the-fly. Further, AI computer vision will automatically confirm brand compliance as these assets are deployed in context in the wild.

So many marketing activities that have been expensive, inefficient, or impractical for humans to do manually will be made cheap, fast, and easy with AI-powered software — but still applied at the direction of marketers. Marketers will take advantage of these capabilities to free up more time to focus on their uniquely human contributions and to render ideas that were previously out of reach due to a lack of time, skill, or budget.

It will be the age of "augmented marketers."

Different activities harness strengths of automation or our humanity — experiences that leverage both can seem "magical"

²⁶ Jukebox from OpenAI, <https://openai.com/blog/jukebox/>
²⁷ Neural Doodle, <https://github.com/alexjc/neural-doodle>

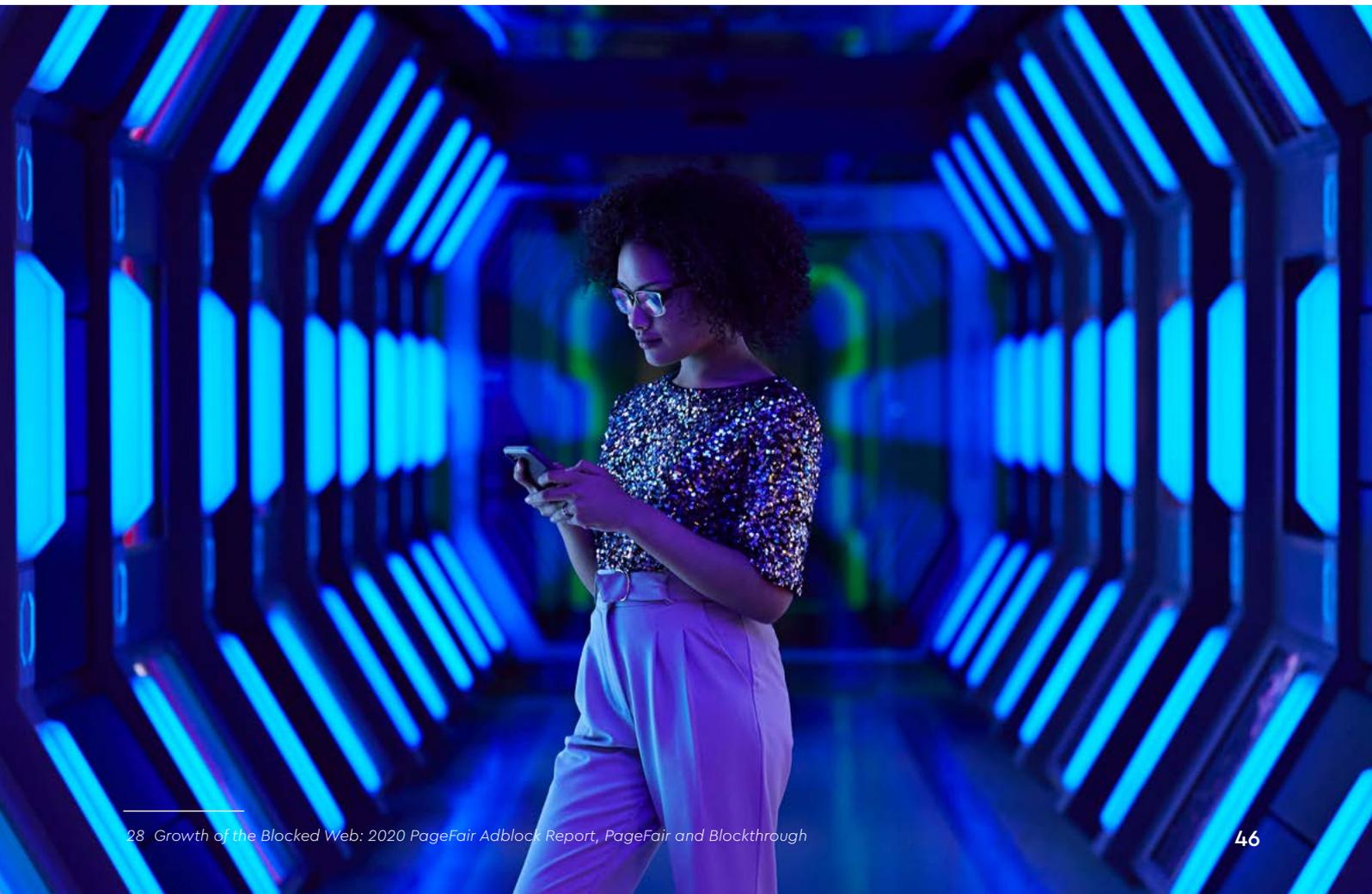
AUGMENTED CUSTOMERS

But it's not just marketers who will be augmented by machines. We believe this decade will see a significant explosion in software being used by consumers and B2B customers to give them greater control and leverage over their relationships with brands and vendors.

Price comparison apps such as Honey and coupon finders such as Shopular reduce the search costs for consumers to find the best deals. Crowdsourced review sites such as Yelp, Tripadvisor, and Angie's List help them evaluate who they will buy from — not based on what marketers at those businesses say, but what other customers report. Such review sites are becoming a part of B2B buying as well, such as G2 for comparing software and services.

Yet even brands with the best deals and the best reviews can have their marketing deflected by consumer-side software. One example of this has been ad blocking software, where hundreds of millions of users installed blockers on their computers and mobile devices²⁸ that short-circuit even highly-targeted marketing campaigns.

Marketers will need to understand the technologies their customers are wielding so that they can successfully engage with them through their software-based assistants and gatekeepers. Marketing will be as much about "customer tech" as it is martech, as the interactions between companies and customers will be augmented by machines on both sides. Interplay between buyers' and sellers' software will be a source of new, complex risks and opportunities.



²⁸ Growth of the Blocked Web: 2020 PageFair Adblock Report, PageFair and Blockthrough

Three modes of buyer/seller interactions that will need to be architected in marketing and sales operations of digital business are:



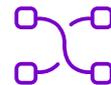
Human-to-human:

phone calls and video calls, one-to-one emails and videos, in-store or at-event meetings, on-location visits, and live discussions via chat and messaging platforms (often as a hand-off from a bot). These modes of interaction between brands and customers will remain important, especially in services and relationship-driven businesses. But while humans will play the leading roles on both sides, software will play a significant supporting role too — orchestrating these interactions and providing decision support to both buyers and sellers. Sales representatives will be coached in real-time by AI-powered software making personalized recommendations and offering tailored sales enablement content. Meanwhile, customers will have their own AI-powered “advisors” helping them evaluate their options and negotiate for the best deal.



Human-to-machine:

ecommerce and AI chatbots, where human buyers primarily interact with software on the seller's side — the online store or bot conversation experience. Humans on the seller's side play a supporting role in those interactions, by designing and managing these experiences and intervening when customers need assistance. But in this mode too, buyers will lean on their own software to optimize their purchases and increasingly oversee fulfillment and ongoing vendor relationship management.



Machine-to-machine:

buyers will delegate purchasing to their own AI-powered agents at a high level, which will “negotiate” with software agents on the seller's side through APIs or with an AI that scrapes and automates the seller's human-facing interface. We can call this “bot commerce.” This will require a different kind of “experience” design and optimization by marketers. Instead of just UX (user experience) design for humans, it's BX (bot experience) design for the variety of software agents interacting with a brand. Search engine optimization (SEO) is an example of this kind of marketing that plays to an audience of machines, as a way of reaching customers.

	Buyer Human	Buyer Machine		Seller Machine	Seller Human
HUMAN-TO-HUMAN Sales & Service 	LEADING ROLE Enjoy the experiential and social dimensions of buying process. Collaborate with multiple participants in the buying decision. Tune in to subtle trust signals.	SUPPORTING ROLE Research purchases: specs, prices, reviews, availability. Schedule appointments and engage with human sellers via digital channels. Augmented memory.	↔	SUPPORTING ROLE Leverage martech for personalized engagement, recommendations, and revenue optimization. Use experiential technology to deliver "wow" moments.	LEADING ROLE Earn trust through helpful, personal engagements with individual customers with empathy and humor. Develop and nurture relationships.
HUMAN-TO-MACHINE Ecommerce 	LEADING ROLE Explore products, services, and sellers through digital channels and experiences. Engage in social networks (public and private) as part of the buying experience.	SUPPORTING ROLE Serve as buyer's digital advisor: evaluate sellers, find alternative sellers and substitute products, track deals, monitor seller delivery and service performance.	↔	LEADING ROLE Online store experiences and commerce services via multiple channels (mobile, web, chat, voice assistant, in-app, TV, kiosks, etc.), personalized to buyers	SUPPORTING ROLE Design differentiated and highly usable/accessible digital buying experiences. Monitor buyer activity for signs of difficulty and be ready to step in to help.
MACHINE-TO-MACHINE Bot Commerce 	SUPPORTING ROLE Configure buyer bots with parameters for pricing and preferences. Establish rules for "ethical buying" — seller characteristics that override price and availability.	LEADING ROLE Find and evaluate sellers electronically, searching for best purchase options — on price, availability, reviews — and ethical buying rules. Computational buying	↔	LEADING ROLE Be discoverable by buyer bots (SEO to BBO). Win bids through highly tuned data operations that calculate best competitive offers. Computational selling.	SUPPORTING ROLE Configure seller bots with parameters for competitive bidding. Monitor sales and performance. Establish rules for "ethical selling" to avoid algorithmic biases.

DATA = MACHINE-TO-MACHINE MARKETING

Whether serving in leading or supporting roles, software on the buyer's side will grow to wield enormous influence over business outcomes. Marketing to machines will be a key dimension of marketing operations in this decade. And how do you best market to machines? Through data. Publishing the right data, the richest and most useful data, that's discoverable, timely, accurate, and available in the channels and formats they prefer. This is one of the missions of big ops.

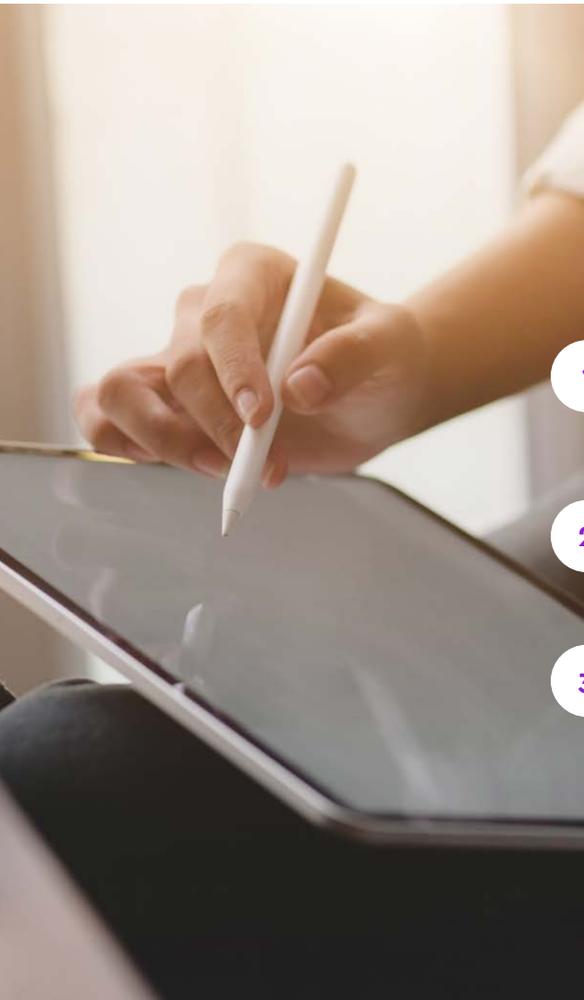
Harmonizing the collaboration between humans and machines will be one of the most exciting and innovative aspects of marketing over these next ten years. It will introduce new complexity to marketing's environment, but martech software will evolve to help manage that complexity. This period of constant innovation will also ensure there is no lack of opportunity for humans to add value in the continually shifting discipline of marketing.

The way machines will take your job in marketing is if you fail to keep up in learning how to use them.



KEY TAKEAWAYS: HARMONIZING HUMANS + MACHINES

1. AI will not eliminate the need for humans in marketing in this decade. However, AI will shift the allocation of marketers' time to higher-level work on strategy, innovation, creativity, collaboration, and deeper customer empathy and understanding.
2. Most AI applications in marketing will leverage machine learning with relatively narrowly defined models that are highly dependent on the data fed into them. It will be a human responsibility to oversee those models and the data sources they rely on.
3. Marketers will have to continually embrace and learn new AI-powered tools that expand their capabilities. This harmonization of human strengths and talents with sophisticated software tools will usher in the era of the "augmented marketer."
4. Marketers won't be the only ones leveraging AI. The age of the "augmented customer" will change marketing dynamics, as consumers and business buyers adopt more and more advanced software to optimize their purchases and engagements with brands.
5. Increasingly, brands and agencies will implement strategies for marketing to machines — engaging with autonomous software agents operating on behalf of customers through data and APIs — to support "bot commerce."



KEY ACTIONS / QUESTIONS FOR YOU

1

What data do you have in the organization that could benefit or gain insight from applying machine learning? Where can AI services be applied to gain further insights (e.g., vision, language, reasoning)?

2

Are you aware of where AI is already being used, either directly or in the tools you have? Where can you take advantage of the advances in the tools and models?

3

How are you educating your organization in the use and application of AI to support and enhance marketing? How are your people thinking creatively about the application of AI?

Conclusion

The Age of the Augmented Marketer

Each of these five trends in marketing technology and operations on their own will have a significant impact on the practice and profession of marketing. But combined, they will transform our industry.

The common axis of that transformation will be the astounding power that individual marketers will have at their fingertips to create, experiment, analyze, and innovate like never before.

"No code" tools to build experiences and orchestrate front-stage/back-stage workflows. Platforms, networks, and marketplaces to harness incredible diversity of software and talent. Expanding ecosystems of integrated martech products and the ability to embed intelligence and interactivity into nearly every asset that marketing creates via The Great App Explosion. Exponential growth in digital reflexes, empowered by the shift from big data to big ops. And harmonizing humans and machines with ever more advanced AI assistants.

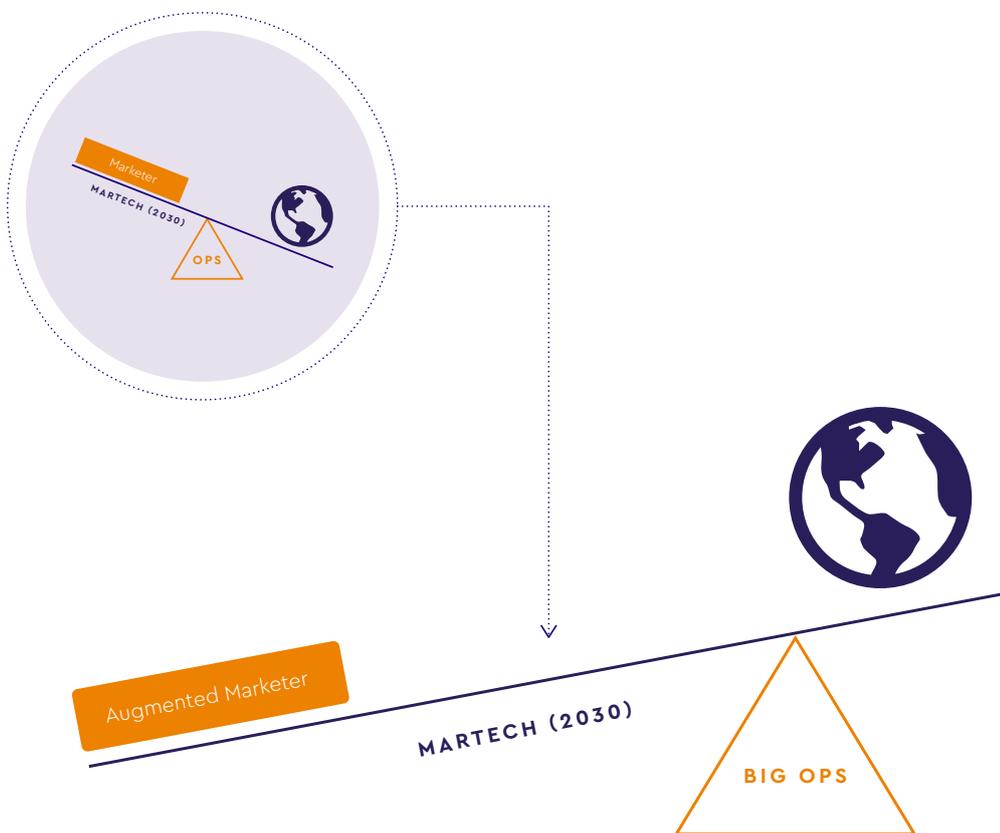
It's going to be an amazing decade in marketing: The Age of the Augmented Marketer.

It is the dawn of The Age of the Augmented Marketer.

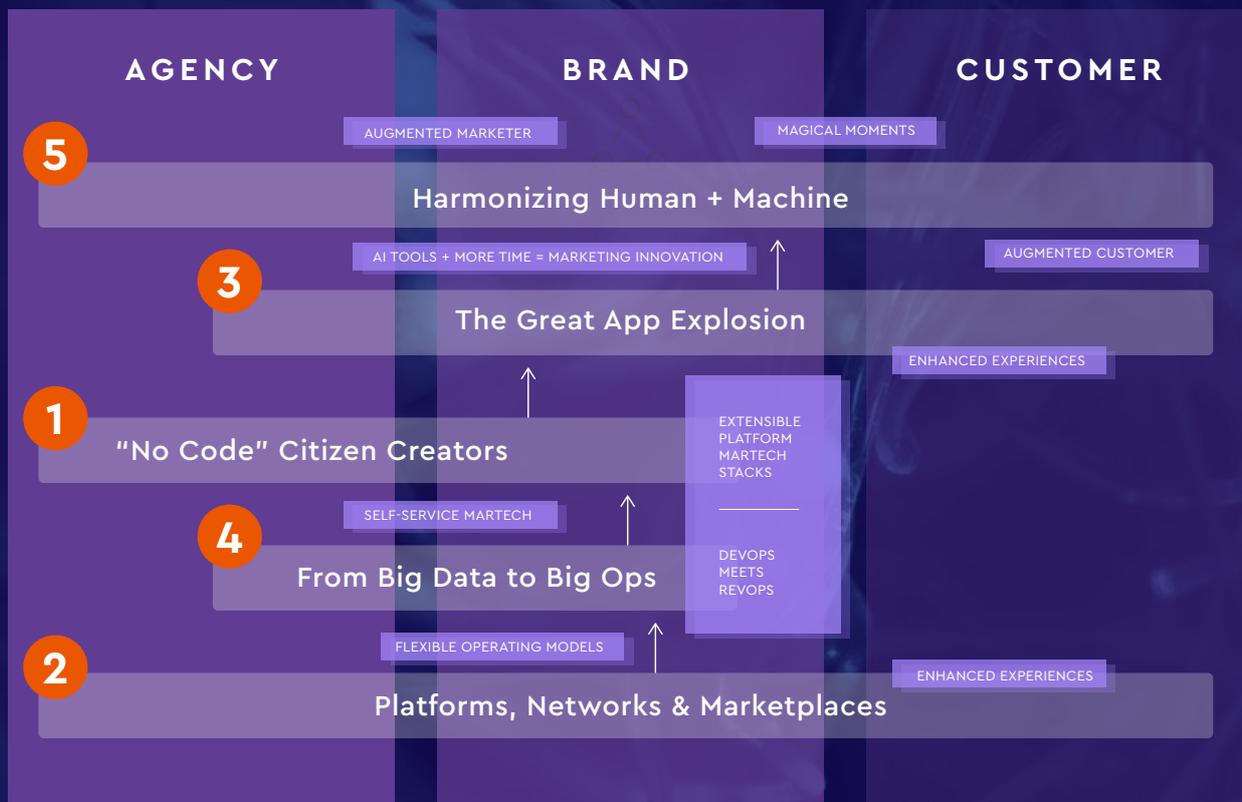
Early in the previous decade, Internet pioneer Marc Andreessen wrote an op-ed for The Wall Street Journal claiming that software was eating the world.²⁹ Indeed, software has permeated nearly every aspect of our lives and businesses.

The Age of the Augmented Marketer will see that software-eats-the-world phenomenon grow by orders of magnitude. The total number of "apps" in the world — any digital product or capability, from giant platforms to tiny micro-apps and microservices — will grow by 1,000X or more.

Software won't just assist marketers. Software will be the clay from which marketing is created.



29 The Wall Street Journal, "Why Software is Eating the World", Marc Andreessen, August 20, 2011



Five martech trends that will shape marketing in the 2020's, each feeding into the others and amplifying them

Software is the "star stuff"³⁰ within all five of these martech trends. And it's through the fluidity of software connected in the cloud that they feed into one another, amplifying their effects. Yet above this panoply of software, marketers will remain firmly in control of their destiny and the outcomes of their work.

While rapidly advancing AI will accelerate or automate many tasks that marketers spend their time on today, we believe marketers will apply the time they recover toward more valuable pursuits — more meaningful time spent with customers, more creative experimentation, and more energy directed into business innovation.

By leveraging ever more sophisticated, AI-powered tools, augmented marketers will achieve new levels of creativity and productivity in crafting magical moments for customers.

It's going to be an amazing decade in marketing: The Age of the Augmented Marketer.

³⁰ "The nitrogen in our DNA, the calcium in our teeth, the iron in our blood, the carbon in our apple pies were made in the interiors of collapsing stars. We are made of star stuff.", Carl Sagan, Cosmos

About the Authors



Scott Brinker is the editor of the chiefmartec.com blog, the founding program chair of the MarTech conference, and the VP of platform ecosystem at HubSpot. His book *Hacking Marketing* is an international bestseller.



Jason Baldwin is the global head of product management at WPP.

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