



IDC MarketScape

IDC MarketScape: Worldwide Artificial Intelligence in Enterprise Marketing Clouds 2017 Vendor Assessment

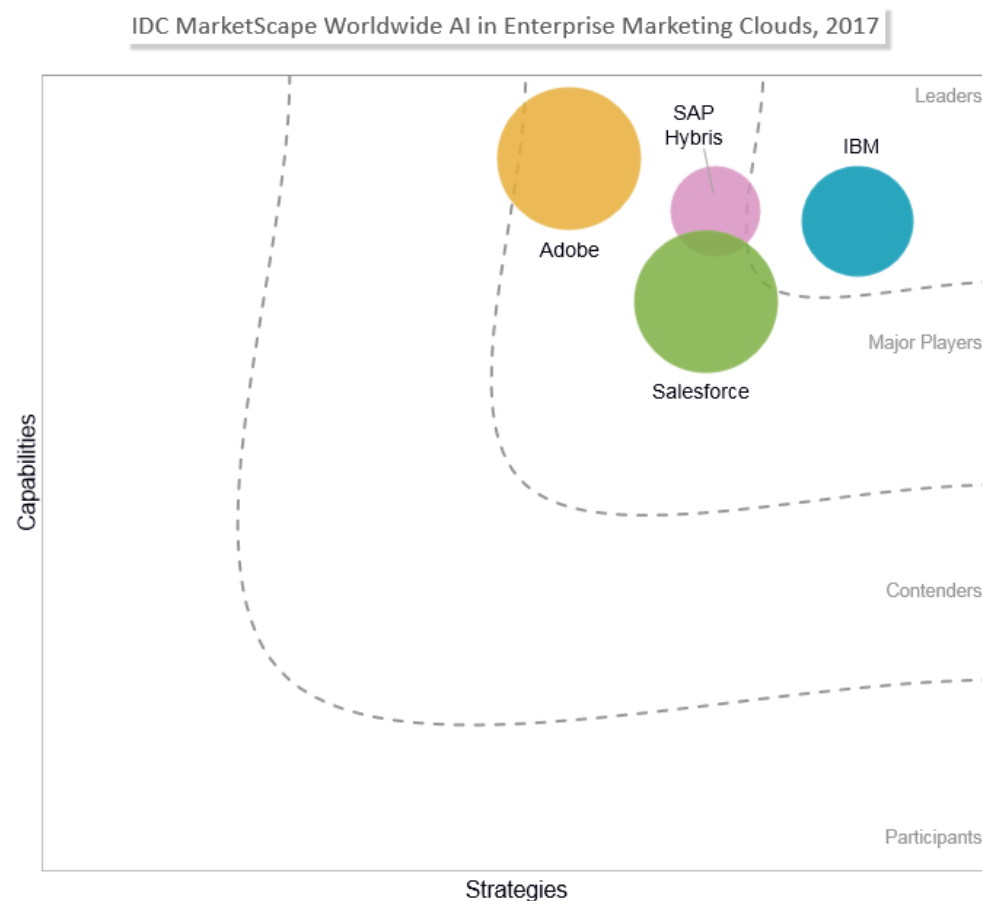
Gerry Murray

THIS IDC MARKETSCAPE EXCERPT FEATURES IBM

IDC MARKETSCAPE FIGURE

FIGURE 1

IDC MarketScape Worldwide AI in Enterprise Marketing Clouds Vendor Assessment



Source: IDC, 2017

Please see the Appendix for detailed methodology, market definition, and scoring criteria.

IN THIS EXCERPT

The content for this excerpt was taken directly from IDC MarketScape: Worldwide Artificial Intelligence in Enterprise Marketing Clouds 2017 Vendor Assessment (Doc #US43319817). All or parts of the following sections are included in this excerpt: IDC Opinion, IDC MarketScape Vendor Inclusion Criteria, Essential Guidance, Vendor Summary Profile, Appendix and Learn More. Also included is Figure 1.

IDC OPINION

IDC invited 11 vendors to participate in this study. These are Adobe, Blackbaud, Google, IBM, Infor, Marketo, Microsoft, Oracle, Salesforce, SAP, and SAS. Only six were able to do so and it became clear that there are two distinct segments:

- **Artificial intelligence (AI) platforms:** This segment includes vendors with general-purpose cognitive/AI software platforms (IBM, SAP Hybris, Salesforce, and Adobe). AI-enabled platforms offer AI/ML processing and use-case development environments to both internal engineers and third-party developers or, in Adobe's case, intend to open their platform to outside developers.
- **AI-enabled marketing applications:** This segment includes vendors that embed AI capabilities within their applications but do not offer a general-purpose AI development platform to third parties. (Blackbaud and Marketo are included in the Vendors to Watch section but not assessed against the platform vendors.)

IDC's MarketScape methodology is designed to compare only vendors in one segment at a time. Therefore, we elected to include only the platform vendors in our IDC MarketScape figure; IDC may conduct a study of AI-enabled marketing application providers in 2018.

Both approaches have value for marketers. For many marketers, depending on needs and preferences, AI-enabled marketing applications will be preferable to bringing in another application into marketing. Marketo and Blackbaud offer easily accessible AI/ML-enabled use cases for marketers (or fund-raisers in Blackbaud's case). These are good solutions because they are quick and easy to set up and operate and they deliver measurable improvements in key activities. Adobe, IBM, Salesforce, and SAP Hybris have AI development platforms that enable them to build broader portfolios of use cases as well as support development work by partners and even some customers. Marketing organizations that want AI and ML to not only permeate marketing but also all customer-facing application environments should consider the platform providers.

Marketers interested in either AI approach should be aware of the wide gap between the vendors featured in this IDC MarketScape and other vendors. Vendors of either category should be considered ahead of others that are not included. All of these vendors are more advanced in the degree to which their artificial intelligence and machine learning (ML) capabilities are commercially available in their marketing clouds. There is a wide gap between having AI/ML capabilities and commercial availability in marketing clouds – specifically, use-case development, UI/UX integration, partner programs and certifications, and pricing; training for internal staff, partners, and customers; documentation; and customer support. Customer support is particularly important as the type of questions that pertain to AI and ML models are very different than the typical inquiries that customers have about operating marketing systems.

Defining AI

The term *AI* is troublesome in that it is used to describe a wide range of machine learning, but true "artificial intelligence" does not yet exist. Augmented intelligence or even machine intelligence might be better terms, but we're not going to litigate the issue in this study. In the context of this document, we use the term *AI* to describe a variety of capabilities from self-optimizing recommendation algorithms to newer automated language, image, and sentiment processing capabilities. We take this approach because the former is typically a first step for both providers and customers with respect to implementing machine learning and because AI, in whatever form, is merely a means to an end for marketers. Does it matter whether a wildly complex machine intelligence or 1,000 monkeys typing random numbers is driving continuous improvement in your conversion rate? Not really, as long as it is reliable. That is not to say marketers can be ignorant of the back-end models. On the contrary, they need a baseline understanding of how each type of AI model processes different data and how that data needs to be represented to the machine in order to achieve the best results. There are many different types of AI. Some of the most common examples are:

- **Deep learning:** This is neural network models running on GPU architectures that support applications such as identifying a logo, product, or person in an image and tagging it accordingly.
- **Machine learning:** Machine learning is the process of creating a statistical model from various types of data that perform various functions without having to be programmed by a human. Machine learning models are "trained" by various types of data (often, lots of data). Marketing use cases can be as simple as content recommendations on a website based on user profiles and session behavior or as complex as real-time audience segmentation and next-best-action models.
- **Ambient computing:** While not AI per se, this is the use case that is driving consumerization of AI through products like Amazon Alexa and personal assistants on smartphones. Natural language processing and generation are the key AI technologies behind this service.
- **Conversational systems:** Conversational systems are a subset of cognitive/AI platforms that are specialized for the development of intelligent digital assistants and conversational chatbots. Conversational AI platforms use content analytics, information discovery, and other technologies to communicate with human beings via email, web, and messaging. These systems are growing in importance in messaging apps as they connect to commerce systems and become more capable of personalizing both content and transactions.
- **Artificial intelligence:** Artificial intelligence is the study and research of providing software and hardware that attempts to emulate a human being. A generalized AI capability does not exist and may not be a good idea. If and when it does exist, most likely, it will be a collection of many separate capabilities with an executive function to govern it all, much like the human brain, but it remains to be seen.

IDC MARKETSCOPE VENDOR INCLUSION CRITERIA

To be included in this study, vendors were required to have marketing application software revenue of at least \$100 million and the ability to demonstrate that marketers are using their AI/ML-enabled use cases. Eleven major vendors were invited to participate in this study, but only six were ready and able to do so. While all of the declining vendors have ML and AI capabilities, they cited two main reasons for not participating: a lack of AI/ML-enabled use cases for marketing or a lack of organizational readiness to respond to IDC's request for information or, in some cases, both.

Why Now?

AI and ML technologies are evolving even more rapidly than marketing technology (MarTech) itself. Core MarTech capabilities such as campaign management, data management, and reporting are maturing after a decade of intense innovation. AI is bringing new capabilities to these systems such as conversational commerce and greatly enhancing others such as segmentation, targeting, and analytics. IDC expects that many of these capabilities will be pervasive by the end of 2018, meaning that nearly all marketing applications will have some form of AI/ML embedded into it. It will become a de facto market requirement. As such, it will also become a de facto organizational competency for marketers. The earlier your organization gets started, the better you'll be able to leverage the increasingly powerful capabilities and efficiencies AI/ML can provide to your marketing operations and customer experiences.

Customer experience is at the heart of the new pressure on marketers. Customers expect highly personalized service on demand, and every time a brand beats those expectations, it resets the bar for all other brands. That is a vicious cycle for marketers that demands continuous improvement in the definition, design, and even the philosophy of marketing and all its people, processes, systems, and data. Operationally, it mandates that marketers be capable of increasingly granular decision making at greater and greater speed and scale. There is simply no choice but to put machines to work to provide "one in a million moments" for millions of customers every nanosecond of every day.

Just as the internet and smartphones before it, AI will change everything about marketing and the way buyers and brands relate to one another. There are many vectors of change for both sides of the market. Three of the most important are:

- **Decision overload:** Marketers must process vast and rapidly expanding data sets in time frames that are shrinking to zero for a growing number of customers with increasing expectations. This demands that massive volumes of short cycle decisions about what offers to make to which customers in what channels at what time must be made autonomously.
- **AI everywhere:** AI will become interwoven with every data stream generated by every device across all business, industry, and consumer applications. It will become a de facto consumer experience.
- **Cognitive consumers:** The AI revolution is not an exclusively sell-side phenomenon. It is coming to every smartphone, home, vehicle, and public space on the planet. This will dramatically change the way consumers interact with brands as intelligent agents take over more of the search, influence, recommendation, and transaction activity on behalf of their owners. It will also have radical implications for privacy, consent, and intent.

AI and the Path to Mentor Brands

The most successful marketers in the new world of AI will be those that leverage their position at the center of their customer universe to deliver value beyond targeting and messaging. As a marketer, you know and will know more about more people than ever before, but so will your competitors. The challenge is to differentiate your brand by providing more value earlier in the relationship than your competitors. How? By using all that data and the industrial strength analytics and AI at your fingertips to deliver value over the top of your products and services. A good portion of all marketing programs in the future will be based on data-as-a-service models, which are intrinsically more scalable than other forms of content. The key will be the ability to identify and propagate things like best practices and

benchmarks, references and recommendations, steps to success, adjacent value opportunities, and product and personal affinities among your customer base. These programs will bond prospects to the brand before they buy, not because of the lifestyle images they show in ads but because of the personalized advice and guidance they provide to individuals. The most successful practitioners of this approach will emerge as "mentor brands" that customers rely on for key stages of their decision process and personal and professional lives. These are relationships for which customers will pay a premium and advocate. However, they cannot happen without the enhanced decision-making power of AI and ML. As a result, it is critical for marketers to get started with AI so that they can master the ability to create and sustain mentoring relationships with customers.

Marketing Use Cases for AI and ML

There are many use cases that offer light implementation and operational profiles. Others require more data, data science, time, and cost as shown in Table 1. Note that just because a vendor does not have an "AI enabled" capability does not mean it is unable to support the use case by other means such as standard analytics tools.

Implementing and Operating AI/ML-Enabled Marketing Use Cases

Vendors have all done a great job of commercializing AI and ML capabilities within specific use cases. As a result, many capabilities are being "baked into" existing applications and familiar interfaces. This is the ideal way for marketers to acquire these capabilities. However, marketers should not equate easy to use with easy to understand. The primary way marketers interact with AI and ML is by feeding their first-party data sets into models built by vendors. For the most part, this works well and starter use cases can be initiated with a few hours or days of training. However, as new data becomes available or when marketers become comfortable with experimenting by adding new customer attributes to the model, performance is not always as expected. In these situations, new questions arise about how AI engines work. Many marketers may need help ramping up on basic concepts like probability, data representation, and featurization. Some will not know the right questions to ask. Therefore, new support resources are needed beyond frontline call center staff. The best practice is for a team of data scientists to be deployed by the vendor between frontline staff and the model builders to work with customers on these issues. When evaluating an AI/ML solution, inquire not only about the available use cases and development platform but also about how the AI support resources are set up.

VENDOR SUMMARY PROFILE

This section briefly explains IDC's key observations resulting in a vendor's position in the IDC MarketScape. While every vendor is evaluated against each of the criteria outlined in the Appendix, the description here provides a summary of the vendor's strengths and challenges.

IBM Watson Marketing

IBM is positioned as a Leader in this IDC MarketScape on AI in enterprise marketing clouds. IBM's Watson is the most famous AI engine on the planet, thanks to its game-changing appearance on the TV show *Jeopardy* in 2011. However, that is several lifetimes ago in the rapidly accelerating world of AI. IBM CEO Ginny Rometty committed \$1 billion to Watson development back then, and the fruits of that labor are quickly finding their way to market. IBM is clearly one of the world's pioneering developers of AI and ML capabilities with use cases being established across industries, media, problem sets, and roles. As IBM likes to put it, Watson can see, hear, read, and feel (sense), and you can add write and talk to the list. As with all AI, it's easy to get carried away generalizing about the

power of these capabilities, so it's important that IBM is very disciplined about applying this technology to well-defined use cases for specific roles, including marketing.

Strengths

The Watson brand is extremely valuable within IBM, and there is intense stewardship of everything around it – most importantly, a specific set of criteria that every technology must meet to earn the Watson badge. To be considered cognitive and Watson-worthy, an application must demonstrate four core capabilities: understanding, reasoning, learning, and interacting. Watson applications must ingest data and algorithmically reason through it to discover patterns and relationships, predict outcomes, and prescribe actions; continuously learn and improve through experience; and create interactive man-machine relationships as an expert advisor or a personal assistant. There are more than 1,000 researchers at IBM focused solely on artificial intelligence.

IBM provides an expanding number of marketing use cases powered by machine learning and Watson including:

- **Chatbots/virtual assistants:** These enable developers and business users to quickly build cognitive chatbots and virtual agents for deployment across any channel or device.
- **Virtual sales rep/qualifying engine:** Expert Personal Shopper leverages natural conversation to guide customers to the right product, information, and insights recommendations.
- **Social sentiment analysis:** This helps users achieve a holistic view of consumers, products, markets, and competitors from millions of online sources.
- **AI-enabled recommendation engines:** Rules advisor recommends the most effective content for specific audiences based on click rate and certainty predictions from every customer interaction.
- **Cognitive commerce/merchandising:** Insights Assistant identifies abnormal business conditions (revenue and margin) with supporting evidence and recommended actions.
- **Cognitive content marketing/dynamic content:** Watson automates content tagging.
- **Attribution analysis:** Attribution Modeler helps marketers to optimize their marketing mix across online and offline channels.
- **Competitive intelligence:** IBM Dynamic Pricing enables online merchandisers to optimize their response in real-time to changes in competitive prices, product demand, and market conditions.
- **Lead scoring:** Models can rank customers based on demographic and behavioral data to determine their likelihood to respond to an offer or campaign.
- **Cross-selling/upselling:** Models identify the best offer/product to be promoted to an individual to maximize revenue per customer.
- **Audience segmentation:** Variety of segmentation and machine learning models reveal key predictors then recommend segments to improve tests, relevancy, and marketing investments.
- **Virtual marketing assistant:** Watson Marketing Assistant helps marketers manage campaign automation by allowing them to interact naturally with a cognitive assistant through NLP.
- **Cognitive location awareness:** It identifies locations of relevance to each user (e.g., user's home and work locations) so marketers can reach them at these locations.
- **Cognitive weather events:** WeatherFX allows targeting based on weather conditions at the consumers specific location.

- **Interactive ads:** Watson Ads allows consumers to interact with Watson through digital advertising that engages them with conversation, prompted questions, and insights.
- **Cognitive next best action:** Marketers can blend current (and past) behavior, profile data, predefined rules, and cognitive self-learning to orchestrate personalized experiences.

AI Development Platform

IBM Watson Developer Cloud is one of the most mature AI development platforms in the world. It offers not only a wide range of AI functions but also scores of tools including starter kits, tutorials, sample code, demos, APIs, SDKs, documentation, testing, communities, and expert assistance. It's so easy to build basic applications that some of our nontechnical IDC colleagues have run natural language processes with no training. Of course, the developer kits go way beyond that and are designed to support the widespread adoption of Watson services within all sorts of commercially available software including marketing apps. Developers can build apps free of charge; of course, fees eventually apply for production releases. IBM service teams can also work with customers to design/build applications. Table 3 details the IBM Watson Developer Cloud capabilities.

TABLE 3

IBM Watson Developer Cloud Capabilities

Capability	Availability
Knowledge models and ontologies	Yes
Automated content aggregation	
Unsupervised machine learning	Yes
Dialog management	
Knowledge base extraction	Yes
Question and answer processing	Yes
Knowledge base curation	Yes
Supervised machine learning	Yes
Natural language processing	Yes
Sentiment analysis	Yes
Natural language generation	Yes
Semi-supervised learning	
Image and video analysis	Yes
Speech recognition	Yes
Ontology-based reasoning	Yes
Knowledge graph traversal	
Other (specify)	

Source: IBM, 2017

Challenges

IBM's main challenge is that its AI technology and brand are actually stronger than its marketing brand in many respects. Watson is almost universally recognized as one of the flagship brands of the AI world. The Watson halo over all of IBM's products is getting brighter every day. The key for IBM is to produce, package, and price its various cloud solutions including marketing in a way that, over time, offers more compelling operational and economic advantages than the competition. Ultimately, the next decade is a battle over the front end and the winning vendors will have two distinct attributes:

- Their applications will be on par or better than competitive offerings across the board.
- The shared services like AI and analytics as well as data management, workflows, and a host of other capabilities will provide the technical underpinnings needed to sustain the continuity of service for customers across every touch point they have with brands.

IBM has more work to do on the former than the latter, but both must receive full organizational commitment from the top down to gain market dominance, and large enterprises seek to rationalize and optimize all their customer-facing infrastructure.

Consider IBM Watson Marketing When

If you are a Watson Marketing customer, it's time to assess how well you are leveraging the powerful AI use cases already available to your marketing team. Make AI mastery a priority; it's a great topic for a series of lunch and learns. Start asking new questions of IBM about how models work, the data they can ingest, and the attributes that you might look to add to improve performance. Experiment and measure, and you'll be impressed with the incremental performance improvements as well as the insights and recommendations that will enable your staff to deliver more value to customers faster than ever.

If you are not a Watson Marketing customer and you believe that customer experience extends across departmental applications, you should look closely at IBM's shared services including AI, analytics, and Universal Behavior Exchange, which are foundational to orchestrating touch points across systems. Of course, weigh the functional marketing requirements of your campaigns against the capabilities of Watson Marketing. You might also experiment with Watson AI services. Although logging into a development cloud may seem intimidating for most nontechnies, it is as newbie-friendly as it gets and will give your staff a good feel for the power of AI services.

APPENDIX

Reading an IDC MarketScape Graph

For the purposes of this analysis, IDC divided potential key measures for success into two primary categories: capabilities and strategies.

Positioning on the y-axis reflects the vendor's current capabilities and menu of services and how well aligned the vendor is to customer needs. The capabilities category focuses on the capabilities of the company and product today, here and now. Under this category, IDC analysts will look at how well a vendor is building/delivering capabilities that enable it to execute its chosen strategy in the market.

Positioning on the x-axis, or strategies axis, indicates how well the vendor's future strategy aligns with what customers will require in three to five years. The strategies category focuses on high-level decisions and underlying assumptions about offerings, customer segments, and business and go-to-market plans for the next three to five years.

The size of the individual vendor markers in the IDC MarketScape represents the market share of each individual vendor within the specific market segment being assessed.

IDC MarketScape Methodology

IDC MarketScape criteria selection, weightings, and vendor scores represent well-researched IDC judgment about the market and specific vendors. IDC analysts tailor the range of standard characteristics by which vendors are measured through structured discussions, surveys, and interviews with market leaders, participants, and end users. Market weightings are based on user interviews, buyer surveys, and the input of a review board of IDC experts in each market. IDC analysts base individual vendor scores, and ultimately vendor positions on the IDC MarketScape, on detailed surveys and interviews with the vendors, publicly available information, and end-user experiences in an effort to provide an accurate and consistent assessment of each vendor's characteristics, behavior and capability.

For this IDC MarketScape assessment, current capabilities were over weighted at 60% versus 40% for future strategy to reflect our overall approach of valuing use cases that marketers can implement today.

Market Definition

Marketing applications software automates a wide range of individual and collaborative activities associated with the various components of the marketing process, including strategic marketing activities over more operational, campaign-related activities to catalog-based ecommerce and trade promotions management. Functionality includes the following: ad management/placement, brand management; campaign planning, execution, and management; collateral management/distribution, direct/database marketing, electronic catalog/ecommerce solutions, email marketing, social marketing, sentiment analysis, segmentation, predictive analytics, event/trade show management, focus groups/media testing, lead generation/qualification/distribution, list management, marketing resource management, media and analyst relations, mobile device marketing, personalization, primary research, surveying, trade promotion management, upsell and cross-sell programs, web activity analysis, and web advertising.

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Related Research

- *SAP Hybris LIVE: Global Summit Underscores Key Role of eCommerce in Digital Transformation and Customer Experience* (IDC #US43203217, November 2017)
- *IDC FutureScape: Worldwide CMO 2018 Predictions* (IDC #US43148817, October 2017)
- *Market Analysis Perspective: Worldwide Sales and Marketing Software, 2017* (IDC #US43101417, September 2017)
- *SAP to Purchase Gigya: Perfect Timing for Improved Privacy, Identity, and Consent Services* (IDC #lcUS43105517, September 2017)
- *Blackbaud SKY: A Cloud Platform for the Greater Good* (IDC #US43071317, September 2017)
- *Google Cloud and Marketo Partnership: Brilliant!* (IDC #lcUS43008317, August 2017)

Synopsis

This IDC study provides an assessment of artificial intelligence (AI) and machine learning (ML) in enterprise marketing cloud platforms and evaluates key criteria for buyers to consider.

"Marketers must start implementing AI- and ML-enabled applications to thrive in a world of exploding data, shrinking time frames, and rising customer expectations," stated Gerry Murray, research director of IDC's Sales and Marketing Technology service. "There are plenty of good starter use cases to get familiar with the skills, data, and processes needed to make effective use of AI models. The sooner brands get started with the tactical use cases, the faster they will be able to move on to more sophisticated models for delivering outstanding customer experiences."

About IDC

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