



HFS Top 10 Microsoft AI Services 2019

Excerpt for KPMG

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“Microsoft is emerging as the most ‘enterprise friendly’ AI ecosystem. As enterprise clients grow more comfortable with AI initiatives using the Azure technology stack, the services market is quickly developing around client demand. HFS expects this market to pick up significantly in the coming year as AI services and technology as a whole see greater adoption and as Microsoft and its services partners make more concerted efforts to bring more relevant and timely AI solutions to large enterprises.”

– *Reetika Fleming, Research Director*

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Introduction, methodology, and definitions

Introduction

- Artificial intelligence (AI) may be a buzzword, but is undoubtedly also cementing itself as a key change agent in the way enterprises do business. Its capacity to derive deep insights from unstructured data, to learn and improve from its own activity, and to optimize business operations means that despite still being a nascent technology, its value to organizations is clear. And few are better positioned to deliver the power of AI to enterprises than Microsoft, a technology giant with extensive cloud delivery and hosting infrastructure, ground-breaking AI R&D, and longstanding experience working with large enterprises.
- This HFS Microsoft AI Services Top 10 Report examines the part service providers are playing in the nascent AI landscape. We assessed and rated the Microsoft AI services capabilities of 14 service providers across a defined series of innovation, execution, and voice of the customer criteria. The report highlights the overall ratings for all 14 participants and the top five leaders for each sub-category.
- This report also includes detailed profiles of each service provider, outlining their overall and sub-category rankings, provider facts, and detailed strengths and weaknesses.
- References are on occasion made to service providers' broader AI capabilities, but this report's primary focus is on service provider's capabilities as specific to Microsoft AI solutions.

A comprehensive AI tech stack and robust B2B pedigree are driving enterprise adoption of Microsoft AI services

Microsoft boasts several key characteristics that are striking a chord with enterprises looking to leverage cloud AI technologies and services, including:

- **Historic ties to the enterprise space.** Many Microsoft AI enterprise clients already have longstanding and mature relationships with, and investments in, Microsoft, specifically through products like Office 365, Dynamic 365, and Azure. They're already Microsoft consumers, so synergies already exist in terms of pace of work and familiarity with MS technologies. Because so many enterprises already use these products, they trust Microsoft enough to turn to it for a more nascent technology like AI. Microsoft takes data security very seriously and is capable of securing clients' data estates through its cloud computing and cloud infrastructure capabilities. Microsoft was also an early advocate of explainable AI, which makes its AI offerings more attractive as transparent and auditable AI becomes a growing priority for enterprises.
- **A comprehensive range of AI offerings.** Microsoft has been universally lauded for its comprehensive, end-to-end AI cloud technology stack, ranging across data ingestion, intelligence, prediction, and visualization capabilities and spanning from the front to back office. Service providers also singled out its packaged cognitive services and experience with both desktop services and collaboration tools at the enterprise level. Its stack includes text analytics; natural language processing, natural language generation, and natural language understanding capabilities; and translation services.
- **Flexibility and technology agnosticism.** Beyond its range of proprietary offerings, under new management Microsoft has prioritized technology agnosticism. This newfound dedication to what one service provider calls "open cloud and platform strategies" allows its clients to migrate to Azure with ease and to use a wider range of AI tools available on the market. Microsoft now has "a more tool-agnostic developer perspective than ever before". This is evidenced in Microsoft's growing integration of open-source technologies like TensorFlow for best client outcomes.
- **Strong delivery capabilities.** This broad technical expertise and enterprise knowledge makes for strong delivery capabilities. Working closely with clients for diverse industries, Microsoft has amassed deep function and process knowledge, driving faster time-to-market and on-target results for clients. Working across the full range of AI technologies, Microsoft is also skilled at using and combining them creatively to come up with solutions to the trickiest of client challenges. Moreover, its granular knowledge of its buyers means it is adept at helping enterprise scale up AI deployments, allowing it to be more than a passive supplier in service engagements. Microsoft is also lauded for its willingness to co-ideate with clients and service providers to come up with optimal outcomes tailored to different enterprises' particular needs.
- **Robust AI R&D.** Microsoft boasts over 25 years' worth of research and development (R&D), particularly through Microsoft Research. It has positioned itself as a market leader in technologies including computer vision, IoT, speech recognition, and NLU. It's also not one to rest on its laurels: it keeps a close eye on new developments and trends in the AI space, as exemplified by its recent investments in autonomous technologies in and beyond the automotive space, as well as edge capabilities and ambient AI.

Microsoft AI tech stack overview

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Microsoft Azure: All Microsoft AI capabilities are native within Azure, Microsoft's flagship cloud computing service. Azure enables clients to develop, launch, and maintain applications and services, of which AI is just one sub-category. Azure is run on Microsoft-managed, globally distributed data centers. Azure is used by approximately 90% of Fortune 500 companies.

Developer tools and DevOps

Infrastructure-as-a-service

Azure AI: Microsoft is building out advanced cognitive and intelligent capabilities and services under the Azure AI umbrella. Its core components are:

AI applications and agents: Microsoft is building out a suite of applications—Microsoft Cognitive Services—that can interact naturally with users by mimicking intelligent conversation using NLP, NLG, and NLU technologies. Features include pretrained AI models for computer vision, speech recognition, translation, intelligent web search, emotion and sentiment detection, and the Azure Bot Service for accelerated bot development. These tools can be easily integrated into users' applications and deployed across iOS, Android, and Windows devices. Enterprise users include HP and UPS. Microsoft Cortana Intelligence, a cognitive assistant service, also sits in this part of Azure AI.

Machine learning: Microsoft is helping users develop their own machine learning capabilities, including deep learning solutions, enabling client computers to better use and act on internal business data without explicit training, and cognitive services to augment human employees. The ML platform has 5 key components: pretrained ML models, ML frameworks, ML services, supporting infrastructure, and support for flexible deployment (via cloud, edge environment, or a hybrid approach).

Knowledge mining: Microsoft offers services that help enterprise clients gather insights and form business intelligence from across their enterprise data from sources including documents, video footage, and audio recordings, covering both structured and unstructured data sets. Cognitive skills such as "Azure Search" extract data from Excel, Word, and countless other sources to create useful metadata which allow business clients to make more informed business decisions.

Service providers covered in this report

accenture

Atos

Capgemini

Cognizant

EY

HCL

Infosys

KPMG

LTI

Mphasis
The Next Applied

NTT DATA

TATA
TATA CONSULTANCY SERVICES

Tech
Mahindra

wipro

Research methodology

The Microsoft AI Services Top 10 Report assessed and scored service provider participants across execution, innovation, and voice of the customer criteria. The inputs to this process were detailed RFIs we conducted with 14 service providers, client feedback from reference checks and HFS network clients, briefings with leaders of Microsoft AI Services and alliance practices within service providers, HFS surveys with 659 Global 2000 enterprises, and publicly available information sources. Specific assessment criteria and weighting include:



33.3%

Ability to execute

- **Depth and breadth of offerings** including capabilities across the HFS AI services value chain, use case identification, experience with and development of solutions across Microsoft AI technology stack
- **Scale** including deployments, clients, Microsoft AI trained resources and certified talent, and commercial traction and growth
- **Delivery of value** including the ability to drive value through end-to-end process transformation, change management, and governance expertise



33.3%

Innovation capability

- **Microsoft AI strategy and roadmap** including vision and credibility of strategy, integration with broader intelligent automation strategy, and identifiable investments in the Microsoft AI tech stack
- **Focus on business outcomes and process transformation** including the ability to deliver outcomes, models for co-innovation around process transformation, and transformation consulting
- **Technology innovation** including depth and breadth of internal AI-related IP and external partnerships across the Microsoft ecosystem



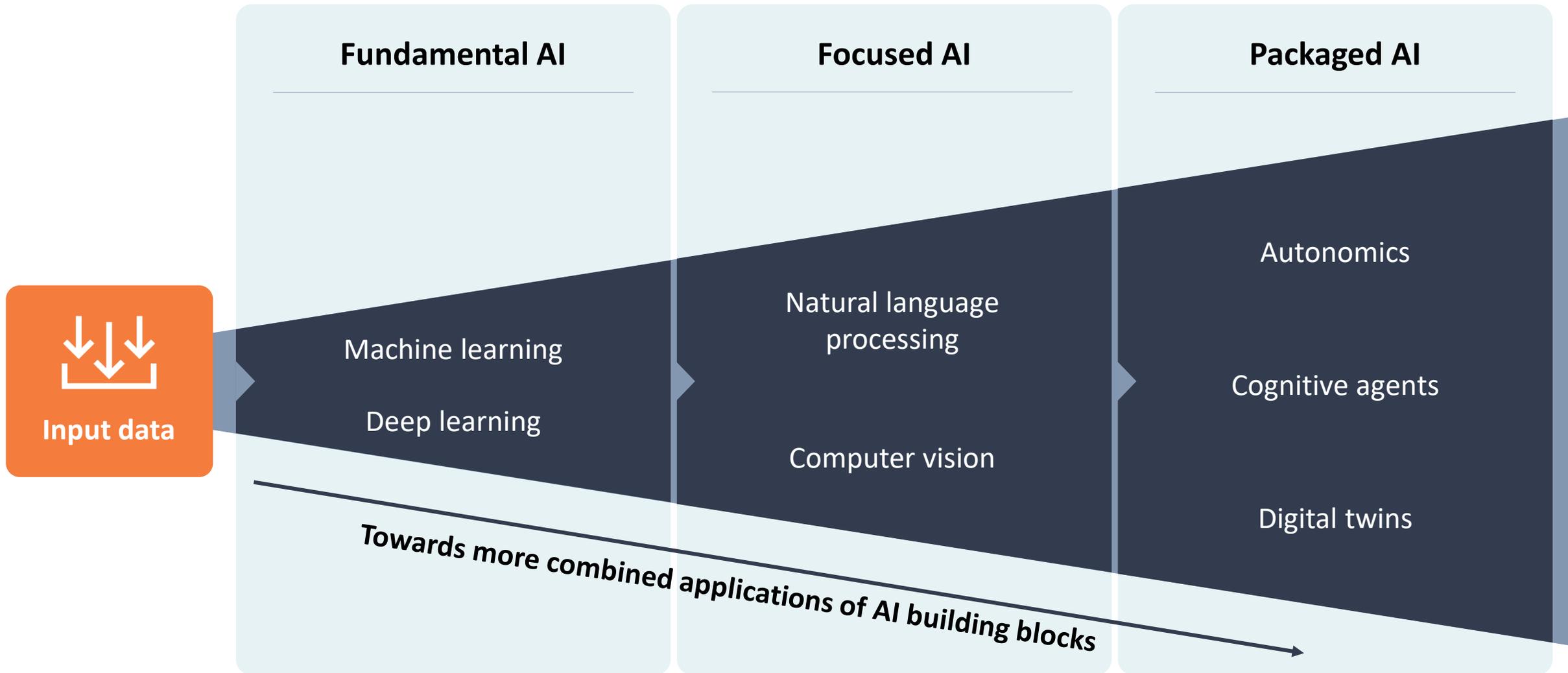
33.3%

Voice of the customer

- **Direct feedback from enterprise clients** via reference checks, surveys, and case studies critiquing provider performance and capabilities

- As the HFS [Enterprise Artificial Intelligence \(AI\) Services 2018](#) report outlines, **artificial intelligence (AI)** is many things: It is hyped, it is undefined, it is becoming pervasive, and it is fostering emotional and at times, heated discussions. However, many of those discussions are focused on consumer-facing issues such as self-driving cars, drones delivering Amazon purchases, or robotic home helpers. The broader market is not yet recognizing the nearer-term impact of AI on B2B and Enterprise operations. AI aims to automate intelligent activities that humans associate with other human minds through a combination of reasoning, knowledge, planning, learning, natural language processing (communication), and perception (aka cognitive). There are many subcategories of AI, each suited to execute particular types of tasks, as outlined in the [HFS Dummies' Guide to Enterprise AI](#).
- **AI Services** is the provision of planning, implementation, management, operations, and optimization services in support of enterprise utilization of AI software, processes, and resources to achieve digital transformation and defined business outcomes.

The building blocks of AI *(illustrative)*



The HFS AI services value chain

Plan

- Advisory on autonomics, cognitive computing, and AI
- Workshops on IA vendor landscape and implications
- Automation opportunity assessment
- Business case development for automation deployment
- Operating model evaluation
- Automation roadmap
- Compliance and risk assessment
- Security implications
- HR and talent management strategy
- Governance policy
- Rollout strategy

Implement

- Program management for process automation
- Process automation and customization
- Solution and technical design
- Process recording, mapping, and updating
- Data extraction from heterogeneous systems
- Leverage repository of pre-built components and utilities
- Predictive analytics
- Specialist development modules
- Enterprise systems integration

Manage

- Governance management
- Maintenance of automated processes
- Optimization of BPO contracts and SSC delivery
- Upgrade support
- IA help desk
- Ongoing integration
- Support and maintenance
- Testing and QA
- New release and upgrade coordination
- Training and certification
- Acceptance testing
- Change management

Operate

- Infrastructure management
- Application management
- IT help desk management
- BPO
- (Ro)Bot-as-a-Service
- Real time analytics
- Identify any required changes in service delivery or process to account for changing business requirements (e.g., M&A, divestment, new investments in IT)
- Mandatory regulatory adjustment ramification management and resolution

Optimize

- New feature value identification and benefit analysis
- Ongoing adds and upgrades, migrations, and consolidation
- Integration of big data analytics and insights
- Best practice understanding, documentation, and end-user adoption, content creation, and curation
- User community participation

Executive summary

- **Microsoft is emerging as the most “enterprise friendly” AI ecosystem.** Many Microsoft AI enterprise clients already have longstanding and mature relationships with, and investments in, Microsoft technologies. Because they’re already Microsoft consumers, synergies already exist in terms of pace of work and familiarity with Microsoft, especially cloud migration efforts to Azure. Along with familiarity, enterprise clients are choosing to work in Microsoft’s AI ecosystem because of its comprehensive range of AI offerings across data science and conversational AI, robust AI R&D, and a new focus on technology agnosticism.
- **Microsoft AI alliances are gradually coming together, with market leaders making strategic commitment to future growth.** Most large service providers, including IT services firms and consulting houses, have established or expanded their Microsoft alliances to include AI-specific strategies. Joint go-to-market activities with Microsoft are taking the form of:
 - capability development (POC and pilot funding, talent development);
 - market awareness creation and sales planning (joint account planning, campaign work such as Microsoft’s “Make AI Real” workshop series); and
 - technical collaboration (joint research, IP creation).

Service providers such as Accenture, KPMG, and Cognizant are instrumental across all three of these alliance activities. By contrast, Microsoft AI-specific alliance development is more of a development area for mid-tier IT services firms such as Mphasis and LTI, making it challenging for them to collaborate and coordinate with Microsoft on various fronts.

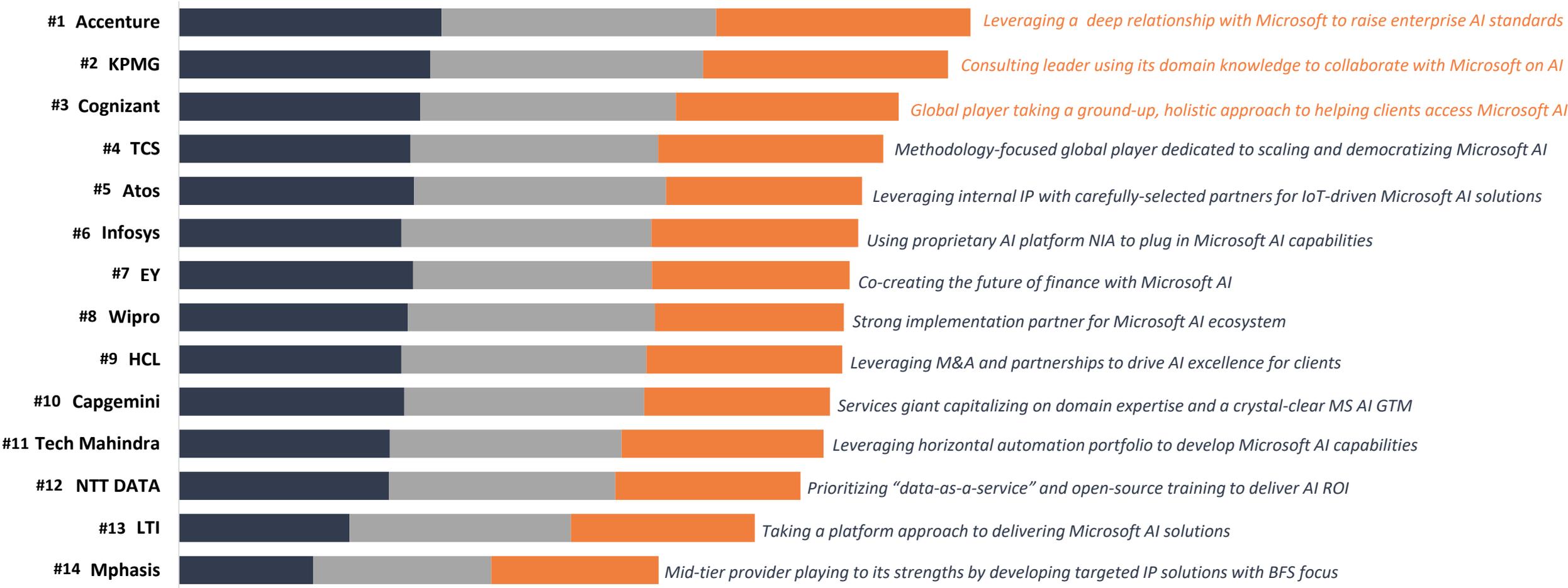
- **The overall Top 10 leaders are** Accenture, KPMG, Cognizant, TCS, Infosys, Atos, Wipro, EY, HCL, and Capgemini. These service providers have demonstrated a credible execution capability for Microsoft AI services, focused on driving innovation in this emerging market, and have the voice of the customer shaping their performance in our study.

- **A niche in the making within a much larger, dynamic AI marketplace.** Microsoft AI services is a still-developing market niche, growing as a subset of the broader AI services industry. Service provider capabilities are still evolving, with the most headway made in the last two years. Similarly, client organizations are gradually getting more comfortable with exploring Microsoft's AI technologies through a combination of internal and external resources. Microsoft AI services is perhaps the most mature and organized subset compared with other cloud AI majors such as Amazon, IBM, and Google. HFS expects this market to pick up significantly in the coming year as the AI services industry as a whole sees greater adoption and Microsoft and its partners make more concerted efforts to bring more relevant and timely AI solutions to large enterprises.
- **Many solutions in development, getting ready for Azure AI marketplace.** Services buyers seek Microsoft AI solutions that solve their specific business problems and that are relevant to their industries. Clients in our research, for example, highlighted their service providers' experiences in a certain industry vertical or targeted use cases that led the providers to the creation of pre-built assets and IP. These are valuable starting points for a lot of enterprises that are just getting started with AI and seeking a partner that has solutions available on Azure. This is going to be the way forward for service providers, as Microsoft creates more of an AI marketplace for specific industry verticals and business functions.
- **Market adoption for Microsoft AI services is primarily POC and pilot based.** Most service providers report having engagements that are at the exploration stage or that they are actively piloting with clients. A significantly lower number of these engagements are live in production. Many service providers are gaining experience with the constantly changing MS AI technology advancements through self-funded POCs for chosen clients, and Microsoft is investing in the success of these initial engagements. We do see consistent expectations across both clients and service providers to significantly mature capabilities in the next 18 months toward more packaged AI initiatives for specific industry verticals and use cases.

- **Talent development is a net-new effort across the industry.** Finding, developing, and retaining talent is a challenge for AI as a whole. Microsoft AI-specific talent is even more scarce. This is already becoming the real testing ground as service providers gear up to address market demand. The majority of Microsoft AI resources, including data engineers, data scientists, and solution architects, is being pulled from common talent pools across technology platforms. However, leading service providers are training existing data, analytics, and AI teams on MS AI, with a few hyper-focused on growing the number of certified professionals for Azure ML and MS Cognitive Services. This is one of the biggest investment priorities for both Microsoft and service providers such as Accenture and Cognizant that view the technology vendor as strategic to their AI growth.
- **Co-innovation—with Microsoft and with end clients—is the name of the game.** Service providers that prioritize ways of engaging with Microsoft on both account planning and product engineering will pull away as leaders in this emerging market. Clients are similarly seeking external partners that are willing to co-innovate with them in specific areas such as intelligent underwriting, retail virtual agents, cruise line guest experience improvement, and sensor-driven smart inventory management. This is where service providers are adding most value for end clients—creating highly-specific IP solutions on top of the more broad-based Microsoft AI tech stack.
- **Diverse range of capabilities with service provider landscape.** Clients in our research highlighted the consulting and advisory strengths of providers such as EY, Accenture, and KPMG that have been crucial in getting Microsoft AI initiatives off the ground under good guidance. Meanwhile, providers such as Cognizant, TCS, and Infosys bring impressive depth and resources in foundational AI areas including big data, cloud, analytics, and data estate modernization. Having said that, we see service providers gradually expanding their capabilities across the AI services value chain.

The HFS Top 10 Microsoft AI service providers results

HFS Top 10 Microsoft AI services 2019



■ Execution ■ Innovation ■ Voice of the Customer

Source: HFS Research 2018

HFS top five Microsoft AI service providers by individual assessment criteria

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HFS ranking	Ability to execute			Innovation capability			Voice of the customer
	Depth and breadth of MS AI service offerings	Scale	Delivery of value	MS AI strategy and roadmap	Focus on business outcomes and process transformation	Technology innovation	
#1							
#2							
#3							
#4							
#5							

Source: HFS Research 2018

Microsoft AI services provider profiles

KPMG: consulting leader using its domain knowledge to collaborate with Microsoft on AI

Dimension	Rank	Strengths	Development opportunities
HFS Top 10 position	#2	<ul style="list-style-type: none"> • Strategic vision for AI. KPMG is very aware of AI’s benefits and nascence, and it is determined not to sell AI to clients without getting them to see the bigger picture around the technology. “Our premise is that AI isn’t something you buy, it’s something you build,” KPMG states. To this end, KPMG is developing an enterprise AI architecture incorporating taxonomies for industry and process domains in the front and back offices. It’s also developing an Ethics of AI program with Microsoft to ensure enterprises grasp how AI will change the economy and business operations. • Driving market education for Microsoft AI. KPMG is invested in allowing its clients and itself to play with AI technologies. KPMG was an early adopter of Microsoft’s AI School and is planning 24 technical- and business-focused AI client workshops in fiscal 2019. • Critical partner for Microsoft’s AI strategy. The KPMG-Microsoft alliance is moving the needle on multiple aspects of Microsoft AI adoption, and the technology giant considers KPMG as a strategic partner for its success. In the last year, KPMG created its Digital Solution Hub to build and sell solutions together with Microsoft AI engineers, with co-located teams in Redmond, Berlin, and Singapore. 	<ul style="list-style-type: none"> • Ramping up AI M&A. KPMG hasn’t been as aggressive as some of its competitors on making AI-specific acquisitions. However, given the number of innovative startups in the market bringing new solutions to the table and the rate at which they’re being acquired by its largest competitors, KPMG must keep an eye on bringing best-of-breed emerging tech to clients. • Expanding Microsoft AI focus across more verticals. KPMG is heavily focused on three verticals—financial services, healthcare, and government. It has already started growing its presence in more industries like consumer goods. It can now look even further—AI stands to impact all industries, so bringing in clients from a wider mix of verticals would be a good strategic move. • Co-ordination across global member firms. KPMG is legally and organizationally structured as a network of a number of member firms. This has naturally created some variance in landing global offerings with Microsoft. KPMG must continue to invest in its industry-leading Ignite platform to explore how to drive more consistency in rolling out solutions globally.
Ability to execute			
Depth and breadth of offerings	#2		
Scale	#4		
Delivery	#1		
Innovation capability			
MS AI strategy and roadmap	#1	Key clients and practice details <ul style="list-style-type: none"> • KPMG has a proprietary AI platform called Ignite, which can pull in APIs from different vendors. It is currently replicating Ignite in an Azure environment. • KPMG has invested upward of \$10 million into establishing its Microsoft Data and AI practice and KPMG’s Digital Solutions Hub. • KPMG is a Microsoft AI Inner Circle program partner, which provides KPMG with exclusive access to AI training, AI workshops, and tools like Azure Databricks and Azure Cognitive Search. • KPMG has certified over 100 data scientists in Azure AI and trained approximately 2,000 D&A consultants in data, analytics, and AI Microsoft services to date. KPMG was also an early adopter of the Microsoft AI school. • KPMG has generated upward of 20 AI pilots with clients, some of which are a result of its collaboration on Microsoft’s 2018 “Make AI Real” campaign. • KPMG and Microsoft also have a global alliance program spanning all major geographies to support the partners’ joint GTMs in over 40 countries. 	Client case study highlights <p>Some highlights of KPMG’s Microsoft AI-based solutions include:</p> <ul style="list-style-type: none"> • Genomics analytics. Currently in pilot phase with life sciences clients, this Microsoft AI-powered interactive dashboard enables clients to align varying sequences and build phylogenetic trees to visualize the relationships between gene sequences. It also allows clients to analyze clusters of similar sequences, and model plausible virus mutations to anticipate outbreaks and proactively work on cures. • KPMG Intelligent Underwriting Engine. This solution combines KPMG’s proprietary “Always-On” signal repository and a backend cloud platform to deliver an automated underwriting process for insurance clients. The solution is powered by machine learning and delivers improved risk, premium, and policy outcomes, all through an intuitive digital interface. It is currently in pilot stage.
Focus on business outcomes and process transformation	#2		
Technology innovation	#2		
Voice of the customer	#2		

About the authors



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Reetika Fleming is Research Director, Insurance, Smart Analytics, and AI at HFS Research. She studies the broad use of data and analytics within enterprises, with a new research focus on machine learning and AI techniques to improve business decision making. Her research extends into defining future business operations for property and casualty, life, and annuities and reinsurance companies.

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