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## 2019 Technology Industry Outlook

Cloud platforms can provide a gateway to powerful AI tools that fuel agility and innovation

Deloitte Center *for*  
Technology, Media &  
Telecommunications

## Interview with Paul Sallomi

As we enter 2019, innovation and agility have become essential competitive ingredients for any organization, regardless of industry. According to Paul Sallomi, global technology, media, and telecommunications industry leader and US global technology sector leader, companies need to take even greater advantage of cloud platforms that make powerful artificial intelligence (AI) tools and services available to broad ranges of users. These tools are helping accelerate experimentation, “democratize” innovation, boost agility, and power organizations’ digital transformation journeys.





# Where do you see opportunities for growth in 2019?

In our *2018 Technology Industry Outlook*, I emphasized the importance of **cloud computing** and **flexible consumption** models to organizations' competitiveness. In 2019, these capabilities will likely become even more indispensable as companies strive to transform their business models and operations.

Until recently, IT leaders typically have viewed the avoidance and reduction of costs as the primary benefits of cloud-based flexible consumption ("pay as you go"). However, over the last year, two new and highly strategic factors appear to be driving the rapid growth of service-based IT: *increased business agility* and *"democratization" of innovation*. These advantages signal an exponential expansion of cloud's value proposition: everything-as-a-service (XaaS) solutions make it faster and easier to experiment and innovate—dramatically shortening the journey toward enhancing customer experience. And, XaaS capabilities are making it cheaper and easier for broad ranges of users to access cutting-edge technologies and services, such as AI- and Internet of Things (IoT)-based solutions. Now, large, medium, and small enterprises can harness powerful capabilities once limited to a select few.

Deloitte's most recent Flexible Consumption/XaaS Survey<sup>1</sup> bears this out. Survey respondents<sup>2</sup> rated "access to newest technology" as their No. 3 **XaaS** objective. In addition, for companies in which more than three-quarters of the enterprise IT is XaaS, and in companies that have been using flexible consumption more than three years, "accelerated innovation" has overtaken "reduced costs" as a key priority for their XaaS initiatives.

Thanks to cloud-based flexible consumption models, companies no longer need to shoulder the risk and cost of buying complex technologies and acquiring scarce expertise. Instead, they can leverage the investments and expertise of the world's biggest technology companies and savviest startups.

Nowhere does this trend appear to be more apparent than in the area of **artificial intelligence**, where large software companies are integrating AI capabilities into cloud-based enterprise software and bringing them to the mass market.

The market is responding favorably: according to Deloitte's *State of AI in the Enterprise, 2nd Edition*,<sup>3</sup> the most popular path to acquiring AI capabilities is enterprise software with integrated AI. Overwhelmingly, this software is cloud-based, either through public or private cloud deployments. Fifty-seven percent of our AI survey respondents globally use it now, and an additional 37 percent plan to use it within the next two years.

In 2019, flexible consumption models should continue to boost both cloud and AI adoption.

For example, 60 percent of enterprises are expected to move their IT systems to cloud by 2019 as a part of their digital transformation initiatives.<sup>4</sup> As the primary value proposition of cloud continues to shift from "cost/efficiency" to "innovation acceleration," **multicloud** strategies should play a crucial role in this transformation. A recent executive survey suggests that 67 percent of executives are either using a hybrid model (a mix of on-premise and public/private cloud) or considering it as a future option.<sup>5</sup>

In the area of artificial intelligence, enterprise implementations will likely continue to increase in the coming year. In our 2018 AI Survey, 58 percent of respondents claimed they had undertaken six or more full AI implementations—up from 32 percent the previous year. The number of machine learning, deep learning, and natural language processing implementations all grew over the past year, with deep learning posting the largest jump (16 percent).

2019 is also the year for enterprises to begin exploring one other emerging technology category: **blockchain**. As people and devices increasingly become connected, identity/privacy protection has become a prime concern. Both blockchain and biometrics promise to provide a robust way to secure and manage user identities.<sup>6</sup> Companies may even combine these technologies to make their offerings more secure.<sup>7</sup> In parallel, blockchain provides a robust, incorruptible, and encrypted method of recordkeeping that is easily verifiable. Consortiums such as R3 are likely to play an important role in establishing the roots of blockchain.<sup>8</sup>



# Which strategies are tech companies using to facilitate growth?

As the pace and complexity of new technology developments continue to increase, **partnerships**—both internal and external—have become essential.

In Deloitte's 2018 Flexible Consumption/XaaS Survey, we came upon one worrisome finding: only 24 percent of respondents said their organization has a comprehensive, enterprise-wide strategy for adopting XaaS. Without a sound strategy, complexities can be magnified, increasing the likelihood that companies may encounter issues related to cost overruns, poor interoperability, and security breaches.

In this environment, partnerships can become critical. Companies may need to place greater trust in vendors to provide capabilities—including security—that they're not equipped to handle themselves. External partnerships can also open new markets for platforms and products and help companies overcome traditional barriers of expansion and scale with the help of core competencies that each partner possesses.<sup>9</sup>

For example, enterprises should consider making partnerships with XaaS providers part of their innovation strategies to accelerate the development of new offerings and business models. **XaaS** providers can give companies of all sizes access to new technologies, platform-as-a-service tools to develop proofs of concept, analytics that can crunch huge data sets, and IT infrastructure to scale offerings quickly. By including flexible consumption in their innovation strategies, companies can decide which parts of their innovation portfolios they want to build and manage themselves and where it makes sense to leverage providers' investments and expertise.

From an internal perspective, it's important that businesses build relationships with their own IT departments. Too often, disconnects between the business and IT breed "shadow IT" challenges that short-circuit XaaS initiatives.

Unfortunately, despite IT departments' efforts to meet business leaders' evolving needs, Deloitte's recent XaaS study indicates that **collaboration** between IT and the business involves more friction than is ideal: 55 percent of respondents reported that their IT department responds too slowly to business needs, forcing business users to select XaaS alternatives.<sup>10</sup>

On a positive note, however, Deloitte's 2018 CIO Survey revealed that 70 percent of surveyed CIOs believe their roles will shift from being stewards of technology to becoming partners in shaping business strategy.<sup>11</sup> Heading into 2019, CIOs should play an even larger role in helping the business weigh the risks of technology investments against their potential ROI.

Recent **tax reforms**—particularly in the United States—will likely shape technology companies' strategies in 2019 as well. As a result, many technology companies are looking to "repatriate" their cash back to the United States, with a goal of enhancing shareholder value. Successful deployment of cash could serve as a significant growth engine for these companies; more than \$1 trillion of overseas cash could be repatriated by the top 16 US technology behemoths alone.<sup>12</sup>

This infusion of repatriated cash may very well spur a sizable increase in **mergers and acquisitions** across the technology sector in 2019.<sup>13</sup> Tech companies made acquisitions totaling \$278 billion by the middle of 2018—a 50 percent increase over the same period in 2017. Interestingly, 9 out of 10 major transactions were US-driven—including the Dell-VMware and Broadcom-CA transactions.<sup>14</sup>

As increasing clarity emerges in global taxation, technology companies are also likely to assess global operations—including supply chain, treasury, distribution, sales and marketing, and finance—to better align processes and functions against new tax requirements.

Tech companies will likely also continue investing in and nurturing smaller companies—not only to accelerate growth, but also to fend off competitors and add niche capabilities.<sup>15</sup>



# What should businesses be mindful of as they plan for growth?

Global **regulatory uncertainties** will likely continue to cast a shadow over the US technology sector in 2019:

- The European Union's General Data Protection Regulation (GDPR) requires tech companies to make architectural and engineering changes to be compliant. This is due to the large amount of user data they hold either directly or through their cloud solutions for enterprise customers.<sup>16</sup>
- India is expected to be working on a policy that would require data generated in India to remain within the country. The data localization law would require US cloud providers to ramp up their data centers/storage in India—leading to increased cost.<sup>17</sup>
- In the United States, the recently passed CLOUD Act (Clarifying Lawful Overseas Use of Data) states that US law enforcement agencies can demand that user data be handed over to them, irrespective of where it is stored. This poses a challenge for the tech companies that have promised to protect the personal information of subscribers to their cloud services—even those from other countries.<sup>18</sup>

Technology companies may have a particularly daunting task in 2019 as they try to address their customers' **privacy concerns**. This challenge is growing due to the skyrocketing number of people embracing social media. For example, 69 percent of American adults use social media—a 14-fold increase in about a decade. However, only 9 percent of these users are “very confident” that social media companies protect their data. This could be an issue for social media companies looking to monetize users' data.<sup>19</sup>

Another major area of concern is **cybersecurity**—a risk and reality of the digital era that should be proactively managed. To remain competitive, companies can't stop innovating due to cybersecurity worries. Yet, some are doing just that. According to Deloitte's 2018 AI Survey, 18 percent of respondents said their companies had halted an in-progress AI initiative due to cybersecurity concerns, and 22 percent decided not to start an AI program due to cybersecurity worries.<sup>20</sup> In many cases, companies could be well-served to leave cybersecurity management to large cloud providers and other vendors that have more extensive experience and resources.

As we enter 2019, **data** silos continue to prevent many companies from gleaning critical insights regarding their customers and business. To address this issue, organizations should place a renewed focus on breaking down silos with tighter cross-organizational alignment. Without this approach, companies may struggle to take full advantage of critical technologies such as AI.

One potential solution to the data issue relates to **talent**: because 90 percent of the world's data was created in the last two years

alone, companies have a growing need for a chief data officer (CDO).<sup>21</sup> By 2019, a CDO position will be present in 90 percent of large organizations, and their involvement will grow extensively.<sup>22</sup>

When it comes to talent in the tech sector, one thing is certain: the “shelf life” of skills is getting shorter and shorter. As a result, **retraining** has become crucial: companies should invest more in educating and training workforces for the digital era. According to Deloitte's recent AI Survey, 30 percent of respondents said they face a major (23 percent) or extreme (7 percent) skills gap.<sup>23</sup>



# Endnotes

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21. Kimberly A. Whitler, ["Why companies are turning to chief data officers to generate more value out of data,"](#) *Forbes*, July 28, 2018.
22. ["Gartner estimates that 90 percent of large organizations will have a chief data officer by 2019,"](#) Gartner (press release), January 26, 2016.
23. We analyzed companies in our study based on the number of implementations and their sophistication in implementing and managing AI. We found that the segment that was the most sophisticated and had launched the most pilots said they had a more acute skills gap.





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