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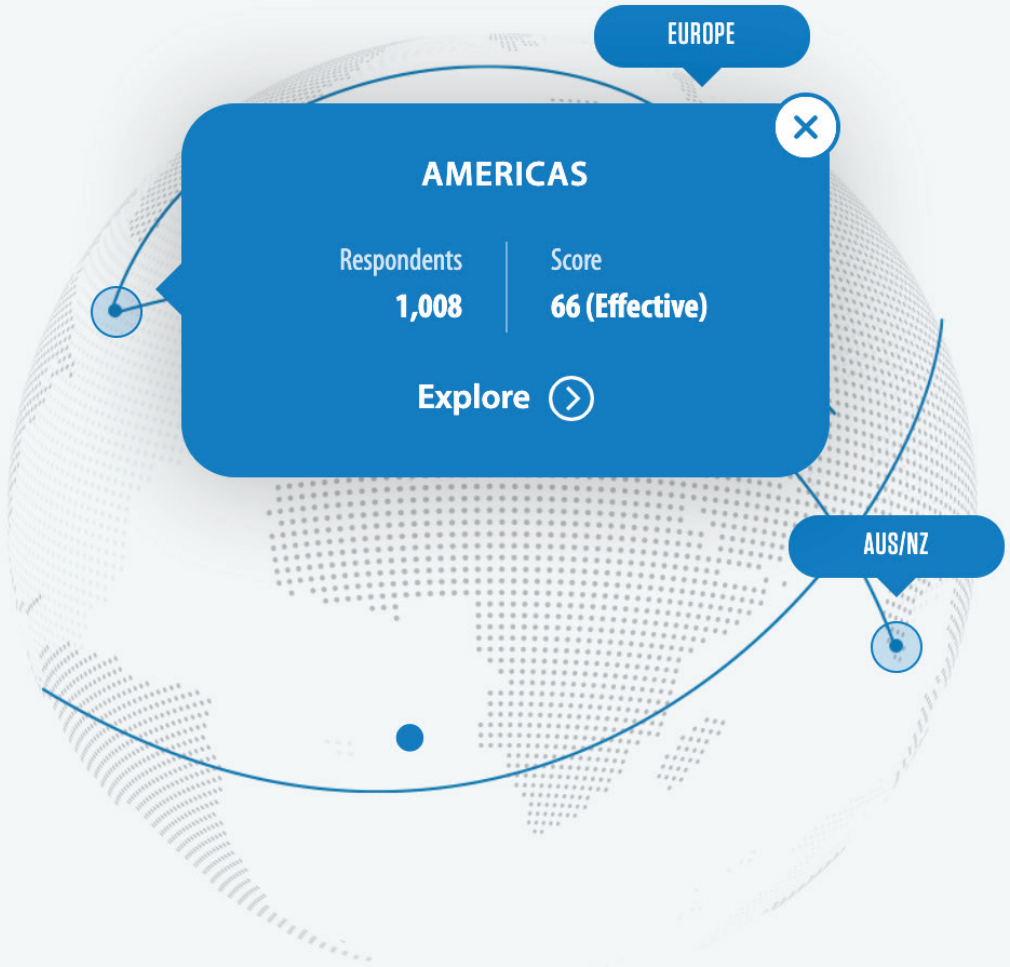
HEALTHCARE AND LIFE SCIENCES

INTEROPERABILITY DRIVES CLOUD ADOPTION, ACCELERATED BY PANDEMIC



$414 Billion in Profits can be Gained Using Cloud for Business Growth: Infosys Research

EXPERIENCE CLOUD RADAR

Introduction

More than any other industry, healthcare and life sciences (HLS) businesses adapted to new realities and new processes to respond to the COVID-19 pandemic. Cloud computing played a significant and growing role in those adaptations. And while the outbreak may have catalyzed cloud adoption, companies in these industries will continue to push further in the cloud in the next two years, the Infosys Knowledge Institute discovered in its Cloud Radar survey.

Most in this industry cluster work in healthcare, a sector that has emphasized speeding up the deployment of new tech systems, automating capabilities and managing costs more than other business types during the pandemic. They have put virtual care models in place to offer patients telehealth options that eliminate geographic limitations. With the rise in cloud-enabled telehealth, consulting group McKinsey & Company predicts that as much as $250 billion of current U.S. healthcare spending could be allocated to virtual care.[1]

In the life sciences sector, organizations have also made substantial changes. Secure cloud services have allowed them to create a more agile and efficient at-home workforce procured from a larger, more dynamic talent pool. As they focus their efforts on combating COVID-19, the cloud enables life sciences workers to continue their research and development, conduct clinical trials and engage with patients safely and effectively.

"Cloud can also help organizations engaging in mergers and acquisitions to expand into new geographies, quickly integrate new components and inject agility into their operations."

Subhro Mallik

Senior Vice President,
Global Head – Life Sciences, Infosys

Growth in cloud adoption

According to the Cloud Radar survey, cloud adoption across all industries has doubled every two years since 2018 and is on track to do the same by 2022. However, the HLS sectors lag slightly behind. HLS underperformed in their ability to improve digital capabilities and scale their cloud efforts quickly; but, with the urgency around COVID-19, they made speeding up deployment a top goal – which they achieved at a greater scale than other industries studied.

For example, Britain's National Health Service needed to enable telemedicine capabilities across the nation quickly. They used a virtual workspace and online video consultation solution from London-based Q doctor to rapidly put that system in place. In the U.S., the Oklahoma State Department of Health deployed in 48 hours an application for healthcare workers to follow up with people reporting COVID-19 symptoms.

Artificial intelligence (AI) and machine learning (ML) tools have enhanced healthcare speed and reach during the pandemic by enabling enhanced information sharing and analytics. Further, these tools, when used properly, can do so while protecting patient identities. AI and ML can remove identifying information from patient data for research purposes, utilize natural language processing for call center response prioritization and make supply chain decisions using predictive analytics.[2] Analytics-enabled capacity planning tools also allow organizations to balance important resources – such as staff, hospital beds and equipment – with patient demands.

"Inpatient data is swelling across internet-connected clinical devices and clinically enabled consumer devices such as home monitors, implanted medical devices and wearables. Tech-savvy organizations can tap into these volumes of information with the cloud and map it to value-adding, holistic analytics for AI algorithms."

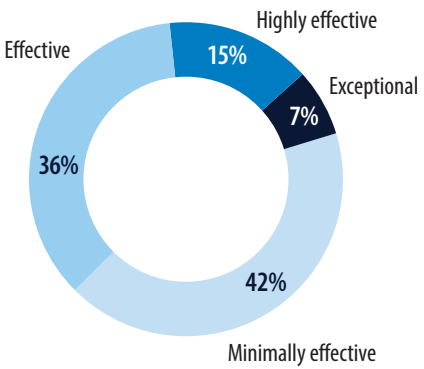
Venky Ananth

Senior Vice President,
Global Head – Healthcare, Infosys

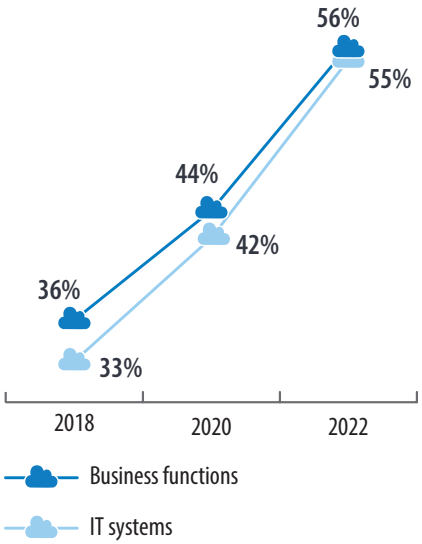
The Cloud Radar survey validated the cloud's impact on key business outcomes. For instance, those enterprises that were more effective at cloud adoption were more profitable. The study also revealed that specific cloud-driven speed and capability advances could contribute to profit growth. Further, companies could amplify performance using sophisticated hybrid cloud orchestrations and multiple cloud vendors and service providers. But those benefits are possible only when companies shift more than 60% of IT and business functions to the cloud. Fewer than one in five companies surveyed have reached that level.

For HLS, only one in seven companies (14%) have achieved this optimal level to see benefits. Consequently, Infosys rated 42% in the HLS cluster as minimally effective in the cloud and only 7% as exceptional cloud performers. These performance associations show there is much room for improvement.

Performance cohorts

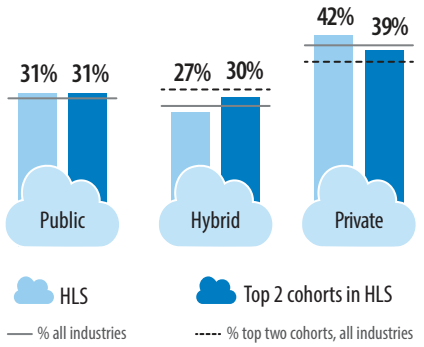


Progress to cloud



HLS businesses generally prefer using the private cloud to best manage business needs, including deployment speed, remote accessibility, regulatory compliance and cost management. Understandably, 42% of HLS firms prefer to use the private cloud, given the amount of personal information acquired and industry regulations in place. And yet top-performing HLS companies show a preference for hybrid cloud arrangements that exceed others in the industry and the adoption level of top performers overall.

Cloud type



"With an ever increasing volume of data, a cautious approach to spending, smaller budgets and high-profile security concerns, computing in the life sciences industry has become incredibly complex. This situation makes cloud adoption even more imperative. Cloud will help life sciences businesses reduce time to insight thanks to enhanced access to data and increased operational agility."

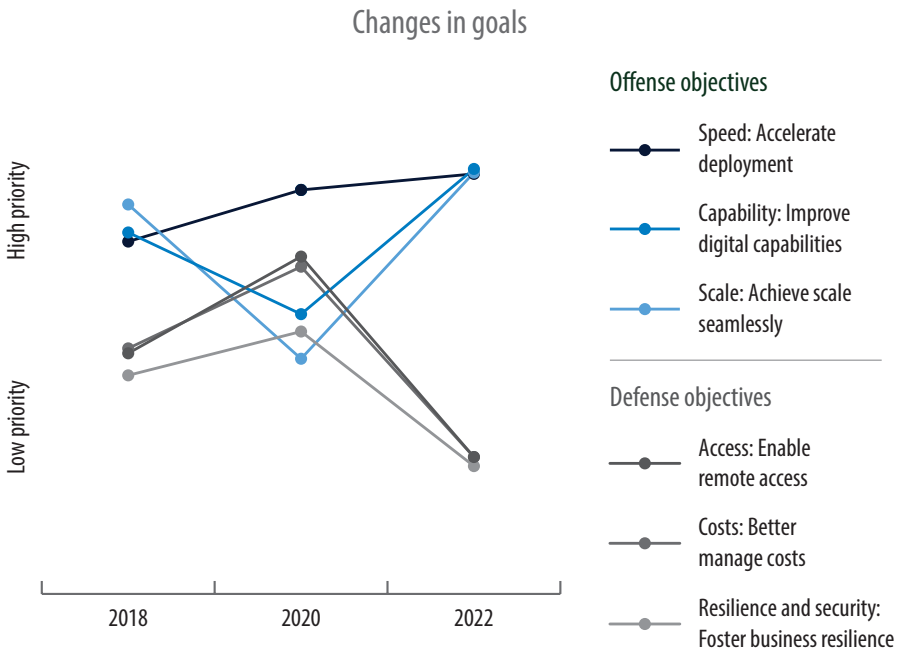
Subhro Mallik

Senior Vice President,
Global Head – Life Sciences, Infosys

Shift from defensive to offensive priorities

The pandemic caused many industries to take a defensive stance to enable remote access, manage costs and foster resilience across the business. While these defensive moves had little influence on business results, they did lay the groundwork for more offensive and impactful strategies for their future. Offensive cloud strategies allow enterprises to go beyond cost savings; they help them achieve massive scale, integrate more capabilities and provide real-time, deeper insights that impact the top line and create differentiation. The healthcare sector is ahead of the trend, emphasizing the offensive priorities of speeding up deployment and automating capabilities better than others during the pandemic.

Comparatively, the HLS cluster follows overall industry trends and sees its defensive priorities drop as well. As the virus spread in 2020, their deployment speed jumped higher than other industries to meet demands, but their ability to scale quickly and improve their digital cloud capabilities dropped significantly and lower than the overall average. Yet, the future looks promising for HLS industries as scale and digital capabilities are forecasted to skyrocket by 2022.



Healthcare and life science companies continued to prioritize speed as their top cloud goal through 2020. In the future, these enterprises are forecast to emphasize cloud capability and scale goals as much as speed.

"The pandemic has accelerated digital adoption in healthcare with a sharp focus on patient and physician enablement. Cloud-based applications and systems deliver easy and secure access to healthcare information and care coordination in cost-efficient ways."

Shaji Mathew

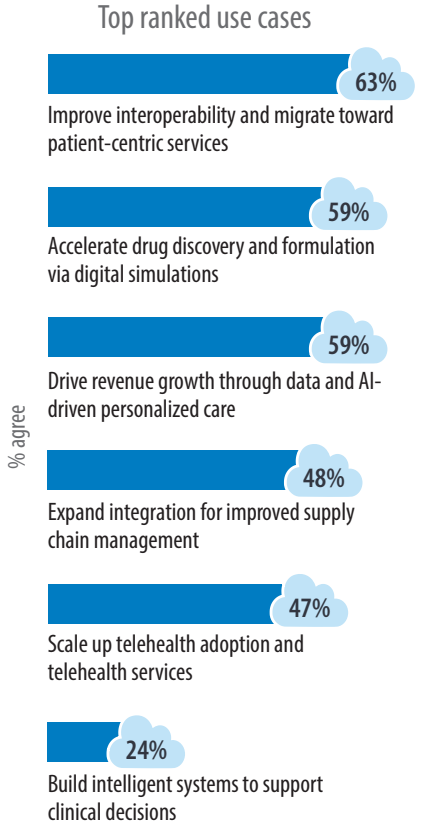
Executive Vice President – Service Offering Head, Financial Services, Healthcare, Insurance & Life Sciences, Infosys

Emerging use cases for cloud

While HLS organizations may be behind the cloud adoption curve, these sectors are pursuing high-impact use cases to generate greater returns. Respondents said their top three industry-specific use cases for cloud adoption are to improve interoperability and move toward more patient-centric services (63%), speed up drug discovery and formulation through digital simulations (59%) and drive revenue growth through AI-driven personalized care (59%).

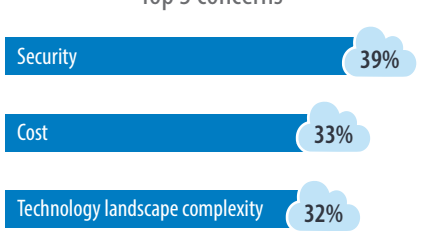
Infosys industry experts note that with almost two-thirds of respondents looking to use the hybrid cloud to build a patient-centric business, HLS sectors clearly realize the opportunities cloud-based services can provide in ways of improved interoperability and data migration.

Additionally, moving to the cloud will facilitate synchronized collaboration between researchers, institutions, data managers and patients. Cloud-migrated data holds the potential to boost R&D by harnessing deep data mining and real-time analytics to further research and speed up tasks, such as determining eligible participants for case studies and clinical trials. The hyperscalers have committed to maintaining data integrity due to strict regulations and monitoring of compliance.



Industry concerns about cloud

There are many reasons why enterprises should move their systems to the cloud, yet some still hesitate to evolve to an entirely cloud model. In the HLS industry cluster, respondents attributed this to three top concerns:



Security: The first half of 2020 saw a nearly 50% increase in healthcare cyber breaches. But much of that was due to the lack of investment in appropriate technology and system upgrades, which exposed organizations to more attacks.[3]

"About 43% of all data breaches occur in the healthcare and life sciences industry, which highlights the vulnerability of legacy applications and on-premises infrastructure. Cloud-native security controls and standardized processes can address this challenge."

Subhro Mallik

Senior Vice President,
Global Head – Life Sciences, Infosys

Cost: HLS firms also worry over the costs involved in transitioning to the cloud because it may require overhauling their legacy systems to make them cloud-ready.

Technology landscape complexity: Because healthcare systems are often outdated in the HLS sectors, introducing sophisticated technology can overwhelm prevailing IT systems.

These top concerns by the HLS industry cluster feed one another. To break the cycle, enterprises must adopt a cloud strategy that dedicates the resources needed to evolve into an enterprise for the future.

Conclusion

The HLS industry cluster continues to trail other industries in their cloud adoption programs. However, the COVID-19 pandemic has forced them to accelerate cloud adoption to continue their services and remain relevant. Speed and resilience were naturally a top priority during the pandemic as HLS organizations prepared to enable remote operations. Now that these firms have their cloud basics in place, they can explore more sophisticated applications of the cloud. Examples of that include highly interoperable, patient-centered digital medical record systems, virtual clinical drug trials and proactive telemedicine care that anticipates patient needs. While each of these would be possible without cloud, they are all greatly enhanced through deep cloud adoption and well-orchestrated cloud services.

Healthcare and life science enterprises advanced their cloud capabilities rapidly in the face of unprecedented disruptions. In the future, the tools they learned to deliver care and cures in the midst of adversity will be re-tasked to enhance speed and improve interoperability.

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