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AI READINESS IN HEALTHCARE:

CLEAR VISION, HAZY OUTLOOK

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Healthcare organizations have developed a clear vision of what they want from technology. They have established strong data management processes. But in order to get ready for artificial intelligence in their enterprises, they have more work to do. Specifically, healthcare organizations need better integrate emerging technology ideas into their business strategy. Doing so will enable organizations to reimagine entire workflows, rather than just apply tech advances in isolated areas.

Healthcare companies globally have strong technology outlooks, but room to improve in strategy, infrastructure, and operations, according to an Infosys survey of 250 healthcare business leaders. This begins in strategy, where companies have clear goals for business and for technology but show weakness in aligning the two. Integrating tech ideas into operations requires influencing business decisions. Done properly, this leads to companies using technology to enhance agility. Healthcare companies have a mature approach to data, and are ready for advanced digital technologies, but must demonstrate how new tech drives business value, particularly in their approach to artificial intelligence.

By evaluating survey respondents on their tech strategy, maturity and operations, Infosys has developed a Healthcare AI Readiness Score, which rates companies into three tiers of technological capability. By industry specialization, healthcare provider organizations achieved the strongest scores on the index, with 31% of providers landing in the high tier. Across all industries, the very largest healthcare organizations – those with revenue of more than $3 billion – outperformed smaller organization. Some 49% of respondents from the largest group of companies scored in the highest tier.

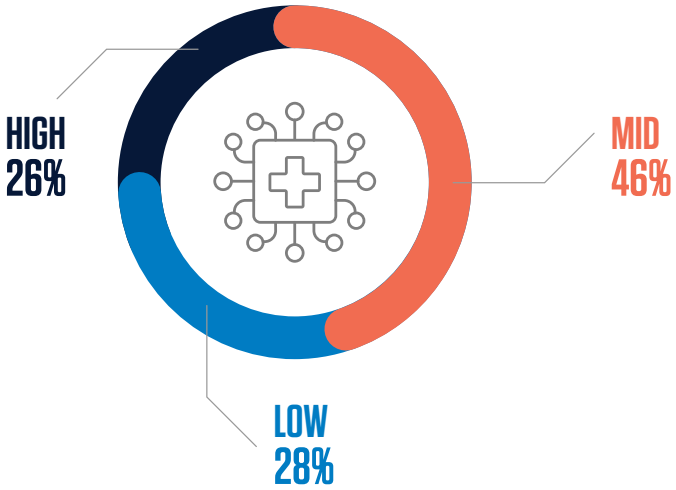
Further analysis of these groups shows that different challenges grow more prominent with each tier group. For example, respondents in the lowest tier must address data quality challenges before taking on challenges in the middle tier and high tier such as cloud-native development, training and IT's influence on corporate strategy.

Strong tech warrants better follow-through from healthcare leaders

Companies across the board exhibited a clear vision of how technology can benefit healthcare firms, their patients and partners. But the respondents exhibited room for growth in terms of technology implementation, influencing business strategy with technology ideas, and putting tech to work to make enterprises more agile.

Healthcare enterprises have a clear idea of what they want from technology, but need more time to focus on implementation.

The survey of 250 healthcare executives included leaders from payers, providers, and pharmacy benefit managers. The executives worked in information technology (30%), data & analytics (17%), and other functions (53%). Some 52% were at the VP level or equivalent, 39% at a senior director or director level, and 9% were C-level or president.



Source: Infosys Knowledge Institute

Figure 1: Infosys Healthcare AI Readiness Score tiers

Some 54% of respondents in all areas indicated their enterprises had clear and well-communicated digital vision for technology investments. This is a critical first step. However, healthcare companies face a long journey on the way to making this vision a reality. Similarly, 46% of respondents said that IT and business strategy are tightly aligned, and just 10% said IT and business were loosely connected with IT focused on technical considerations. (The remaining 44% described IT and business as moderately aligned.)

But in putting the strategy into practice, most respondents said their companies fell short of top-tier performance. IT investment decisions for 67% of companies were driven by maintain existing tech or implementing tech to support established patient care or service delivery standards. In terms of shaping strategy, 67% of respondents again said IT involvement was limited to support functions and enhancing existing models. Some 70% of respondents said their companies were not willing to adapt IT strategies for disruptive opportunities.

"Healthcare enterprises have a strong grasp on how to use digital technologies and solutions to make existing processes more efficient. However, this process focus limits the opportunities for healthcare providers and payers to put technology to work in more transformative ways," says Venky Anant, global head of healthcare for Infosys. "This is even more critical in 2024 with the emergence of tools with potentially enterprise-spanning impact, such as generative AI."

It's a safe or prudent move to begin using a new technology such as generative AI in an area of comfort or familiarity. Indeed, generative AI may offer a novel solution to a known problem or substandard process. For example, generative AI can be applied to enhance batch billing processes by automating a first wave evaluation of invoices to identify those likely to be rejected or containing anomolies. But it could also be applied to bring healthcare billing cycles closer to real time as seen in consumer and other industries. It's good to look at fixing broken processes, but it's better to reimagine processes across the entire healthcare ecosystem.

Healthcare providers exhibit a more courageous approach

Healthcare providers surveyed demonstrated a comparatively brave approach to technology. A higher proportion of provider respondents (39%) were willing to explore new technologies that could lead to competitive advantage. That compares with 33% of the whole survey base. Similarly, business leaders from providers more frequently described their organization as willing to adapt its IT strategy and embrace disruption as catalysts for change. Three in 10 companies surveyed agreed with this posture, but 36% of provider organizations took this disruptive stance.

The first use of AI for most healthcare companies will involve improving existing processes.

"Healthcare providers are on the front line of care delivery and see the benefit of advanced technologies in delivering better outcomes and richer care. It's logical that providers would be bolder in embracing new technology," says Vadi Guttal, VP and business head for the Infosys Helix healthcare platform.

Payers and others play it safe

In contrast, payers surveyed took a moderate tack to technology and business innovation strategies. This was most clearly shown in their approach to business-tech alignment. Nearly half of payer respondents (48%) described tech strategy as moderately aligned with business goals. More than half of payer respondents (52%) said their organizations took an opportunistic approach to changing market conditions and only 28% said they were willing to embrace disruption for the sake of innovation.

Pharmacy benefits managers (PBMs) were similarly cautious and reported smaller appetites for technologydriven innovation. More than three-quarters of PBM respondents said maintenance, upgrade and service delivery requirements guided IT investment decisions. In 84% of PBMs, IT strategy centered on support and enhancing existing models as opposed to testing new ideas or partnerships.

To be fair, all healthcare organizations appear to be shy about using tech to innovate and quickly try new technology. Human lives are often at stake, and healthcare in the US is rigidly guided by processes. These two tech strategy values registered the most conservative or cautious responses in the survey.

Further, incumbent healthcare technologies tend to be very customized, and therefore difficult to replace or interconnect with new systems. For example, a large US healthcare payer has developed with its partners a billing management application customized for its own use across geographies. These tools have been developed and customized to match regulations and existing processes. This is a safe approach but limits the potential scale of the technology. If another organization wanted to use the billing application, it would have to customize the tool for its own use.

Bigger organizations, better strategy

The size of enterprise makes a difference when it comes to technology strategy in healthcare. Large companies in the survey (those with more than $3 billion revenue) demonstrated more sophisticated technology strategies across the board.

More than half of large organizations were willing to make technology changes rapidly and involve IT leaders in trying new and innovative models of care. Sixty percent say IT investment decisions are driven by exploring and adopting cutting-edge technology, compared with one-third of respondents across the whole survey. And three-quarters of the large companies described their IT and business strategies as tightly integrated. Only 23% of small companies (revenue less than $1 billion) and 38% of midsized (revenue between $1 billion and $3 billion) claimed tightly integrated business-IT strategy.

"Larger corporations, by virtue of their scale, already engage in the sort of platform thinking that is beneficial to an IT strategy that is closely tied to business goals," says Madhu Venugopal, chief growth officer of Infosys Helix. "Small technology improvements just don't have impact in big healthcare organizations."

Tech maturity: Good with data, ready for digital, but not highly evolved

In terms of technology maturity and infrastructure, healthcare businesses are confident in how they manage data, survey respondents say. Considering the array of digital systems populating healthcare processes and institutions, the ability to manage and analyze complex data is a remarkable feat. Healthcare respondents also indicate that their institutions are well prepared for new digital solutions ranging from digital health records to telehealth and mobile healthcare applications.

Data is the focus of most healthcare technology operations at present.

Perhaps this is driven by reaction to circumstances. The complex web of stakeholders involved in patient care makes data and data systems complex. The COVID-19 pandemic required health care personnel to embrace digital and distance-based technology in new and innovative ways, such as embracing telemedicine.

Tech infrastructure is the sole maturity domain where payers surveyed performed better than the survey average.

The majority of payers surveyed (52%) indicated they have modernization efforts under way. Only 11% described their infrastructure as delivering limited capabilities, compared with 13% of all respondents.

This reactive maturity concept also explains the areas where healthcare organizations achieve fair, but not excellent levels of tech maturity. Said simply, nothing has forced health care organizations to be excellent at systems integration, data integration, cloud-native architecture, automation, and artificial intelligence.

Providers demonstrate greater maturity

As with technology strategy, healthcare providers again stood out for greater tech maturity. This is true in each domain surveyed: system integration, cloud native architecture, data integration, analytics capability, automation & AI, data security, and infrastructure. It's particularly noteworthy in terms of AI and automation. Some 41% of healthcare providers indicated that they are using automated self-learning AI models in their analytics workflows. That compares with 32% of all respondents.

To be sure, providers' standout maturity is only relative to others in healthcare. Relative to industry-standard tech stacks, providers are not highly evolved. This is particularly reflected in their systems integration and data security. Most providers say they have established interoperability, but their systems fall short of a unified tech ecosystem.

Analytics is the focus of tech in healthcare

Based on the survey data, it's possible to infer that technology in healthcare is most often used to analyze and manage healthcare data. That's because this is where respondents indicated the strongest performance. Some 78% of all respondents use scalable cloud data solutions or high-performance analytics platforms to manage the growing volume and increasing complexity of healthcare data.

Even pharmacy benefits managers, who typically demonstrated weaker tech proficiency in the survey, excelled at analytics. And large companies, the best performing group in the survey, reported that their analytics functions were fully in the cloud or in high-performance platforms. The sole group to struggle with analytics were small healthcare enterprises. More than half (51%) of respondents from organizations with less than $1 billion revenue said that their existing tools struggle with larger data sets

Using tech to manage and analyze data is certainly useful, but it's a limited view of what 21st century technology can deliver.

Good or great at tech ops

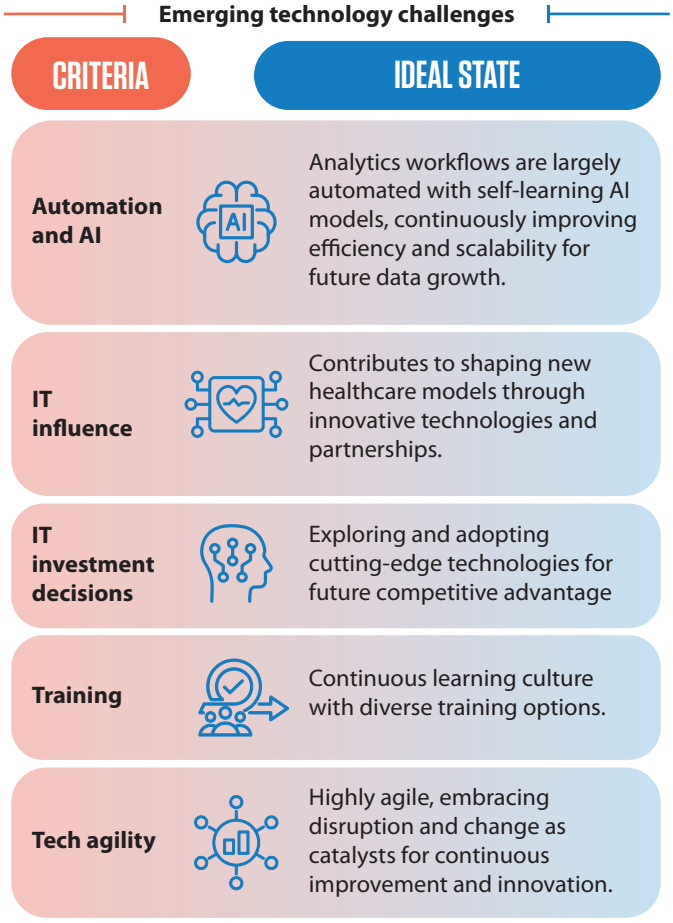
Most healthcare organizations report good or great performance with their current tech operations. About 22% reported low tech operations capabilities.

Data again was the focus of healthcare operations, with 78% of respondents expressing confidence in their data quality via comprehensive systems or real-time validation of data. Healthcare providers stood out again for confidence in their data, with 49% using real-time validation and active monitoring to enhance and ensure data quality.

In terms of preparing their workforces for the future, healthcare payers and very large companies achieved top results. Some 38% of payers and 51% of very large companies have established employee training systems that offer development opportunities with a continuous learning culture and diverse training options. Like with data, small companies lag in training, with the majority (51%) offering only limited training opportunities.

Challenges on the tech horizon

Healthcare businesses generally have made good progress in putting technology to work on their existing processes, as survey results show. But a closer look at healthcare tech performance using the Infosys Healthcare AI Readiness Score system shows where the next healthcare tech challenges will develop. Automation and AI, tech investment decisions, training for the future, using technology for agility and expanding IT's influence on corporate processes and strategy are shaping up to be critical areas for future technological differentiation. This holds true for companies with the top scores and those with lower performance. At each tier, we find that different challenges take center stage, but these five critical items prove more challenging for companies of all competency levels.



Source: Infosys Knowledge Institute

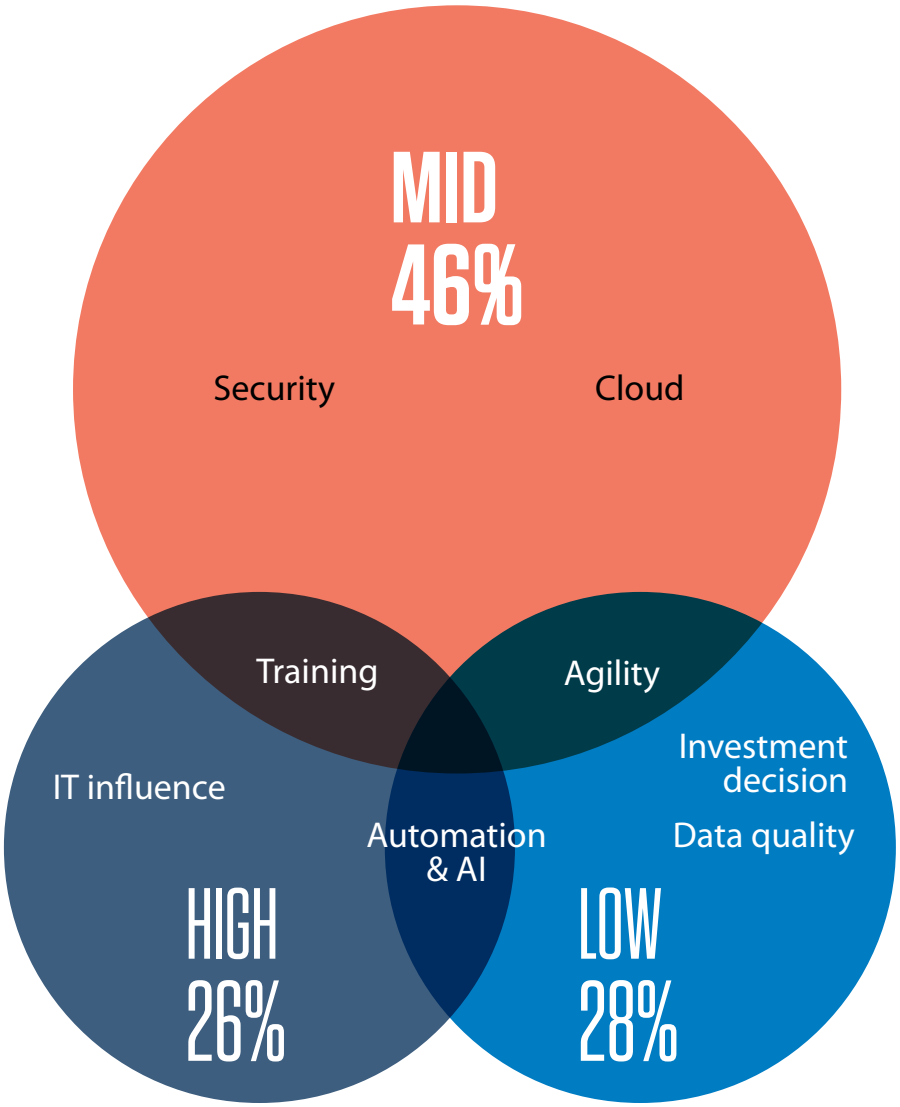
Figure 2: The Infosys Healthcare AI Readiness Score studied these emerging technology challenges and identified these ideal states.

Automation and AI, of course, can be seen as challenging just as it is an emerging field, and one that requires special attention in highly regulated healthcare and life sciences domains. IT influence and investment decisions both reside at the place where the boardroom and the server closet come together. And in a fast-changing world, healthcare companies must develop methods to leverage technology for enhanced agility and for fostering continuous training and learning culture.

But for companies in the low tier of the Infosys Healthcare AI Readiness Score face some more basic obstacles before applying technology in transformational ways. This starts with addressing data quality by developing governance policies and constantly testing to ensure accuracy. Healthcare companies are confident in their ability to manage and integrate data, but the 28% of respondents in the AI readiness score's low tier of less than 50 on a scale of zero to 100 face challenges from inconsistent data.

To address this they must develop comprehensive data quality systems and accelerate into real-time data validation methods. Hand-in-hand with getting data quality right, low-tier companies have to overcome challenges related to investment in technology systems, our survey shows. Without data quality and investment in tech systems each feed into the two other most prominent challenges for the low tier in the AI Readiness score: agility and automation & AI. Quality data and proper investment in technology, companies can't be more agile or reap the benefits of automation and AI.

"As companies and their advisers begin to deploy artificial intelligence at scale, they are realizing the immense value of data quality and proper data management," says Sunil Senan, global head of data, AI and analytics at Infosys.



Source: Infosys Knowledge Institute

Figure 3: Challenges by AI Readiness score: A Venn diagram

The middle tier is the largest cohort in the Infosys AI Readiness score, and it shares challenges in common with the low and high tiers, as well as a few of its own. Technology for agility remains a tougher challenge for the 46% of respondents who achieved a score between 50 and 85, on a scale of 0-100. In addition developing more robust cybersecurity, and making the most of cloud-based integrations challenged the middle tier performers to a greater degree. Using technology for training, and building a future-fit workforce is the challenge that registered as prominent for the middle tier and top scorers.

For our top performers in the Infosys survey, the emerging challenges are forward-looking and boardroom adjacent: training, automation & AI, and IT influence. "Increasingly, technology decisions and architecture play a leading role in business strategy – not as a support service, but as a driver of critical-path enterprise decisions," Infosys' Ananth says.

AI pursuit follows familiar path

Healthcare companies have joined the throngs looking to put artificial intelligence to work, our survey found. More than half have an AI function deployed somewhere in their organization. But they are focused on traditional technology processes. This is potentially a missed opportunity. Healthcare looks to focus AI on tech and information systems, data management and customer service. That's not where the pain is, and that's not where the gain is likely to be be found.

Across the board, healthcare enterprises are aiming to get AI to work where they use technology the most: on their data. As previously reflected, healthcare companies further say they are confident in managing their data.

Putting a novel capability to work where they are most comfortable with tech seems reasonable, given healthcare organizations' general conservative approach to new technology and the black box concerns tied to AI and generative AI. But data is not the place where healthcare enterprises experience the biggest challenge or where they want to apply AI. Scaling automation across the enterprise was the toughest challenge facing healthcare organizations, our survey found.

Broadly, healthcare organizations hope AI will enhance customer service through better personalization or faster service. But they express reticence at applying AI to their core functions. Payers say they are highly unlikely to use AI for enrollment, eligibility, and claims processing. Pharmacy benefit managers are less likely to use AI for policy and formulary management work.

Providers, however, show a little more courage around AI, similar to their approach to technology more generally.

Finding talent is the top challenge, and distrust is the top risk for healthcare companies pursuing AI.

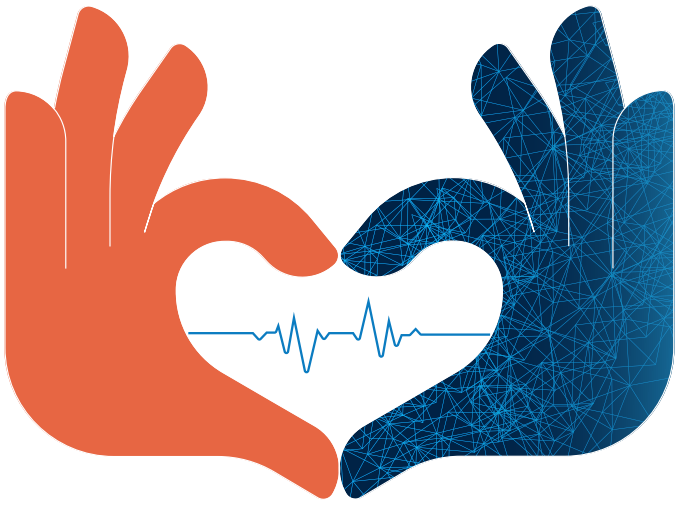
Four out of five providers say they believe AI will be highly or moderately relevant in clinical support. Nearly all of providers see AI applied to data as the most relevant domain at the moment.

The greatest challenge to getting AI to work for healthcare companies is finding skill, talent and expertise, the survey found.

In articulating top risks of AI adoption, healthcare respondents demonstrate some distrust in AI. They are most worried about dependency on tech and reliability/accuracy when it comes to AI. The healthcare organizations ranked explainability and algorithmic bias lower. For AI specialists working in healthcare, explainability and bias represent more immediate risks tied to AI implementation.

Across the board, healthcare is approaching AI as a tool to apply to existing information and processes, rather than a tool to drive transformation of the business. Only 18% of respondents said AI would deliver practical innovation advantages in the next six months.

As companies move from experimenting with AI and generative AI to scaling up practical uses, we again see the critical value of aligning digital advances with business strategy. Healthcare enterprises who strive to harmonize business and digital strategies will be the first to realize superior value from their technology endeavors.



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Acknowledgements:

Upendranath Reddy, Rana Mukherjee, and Sujatha Sridhar contributed to this report

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