



The New CIO Mandate in Life Sciences

To lead digital transformation, CIOs at pharmaceutical and medical device companies need to adopt new workstyles and mindsets, including C-level relationship-building and the ability to both catalyze innovation and find the talent to execute on it.

KEEP CHALLENGING™

Executive Summary

With the dramatic changes in the healthcare ecosystem due to the Affordable Care Act – combined with other trends, such as the rise of generic medicines, continued regulatory pressure and rampant consumer adoption of mobile and digital technologies – life sciences companies are under pressure to change how they do business. Forward thinkers are striving to adopt a more service-oriented approach that extends their value beyond simply developing and selling a drug therapy or medical device; these organizations are emphasizing more direct engagement with patients and customers across the expanded healthcare ecosystem through innovative clinical, marketing and customer service initiatives. In addition to these efforts, life sciences businesses need to pay more attention than ever to optimizing the clinical trials pipeline, process efficiency and cost savings to stay competitive in a world where blockbuster products (and their attendant revenue and profit boost) are few and far between.

To meet industry goals of delivering promising new therapeutics and personalized medicine, as well as the higher quality patient experiences and health outcomes required in a value-driven industry, life sciences organizations are turning to digital technologies.

In late 2015, we conducted a survey to better understand where life sciences companies are in their digital transformation, the strategic role CIOs are playing, and the skills, capabilities and mindsets they need to adopt in the digital age (see Methodology, page 14). With their cross-enterprise perspective, life sciences CIOs are well poised to lead the endeavor; however they need to expand their current work styles and skill sets to do so. Among the key findings revealed by our research:

- **Most digital efforts are focused on marketing initiatives**, reported by nearly a quarter of respondents (22%), followed by customer service (16%) and clinical development/clinical trials (16%). The areas in which marketing is most willing to adopt new digital capabilities includes engaging with customers through mobile apps, developing digital promotional materials and enabling community platforms for healthcare professionals, all of which were cited by over one-third of respondents.
- **Life sciences CIOs are stepping up to the challenge**, with 40% leading their company's digital programs. In far fewer cases, it's the chief digital officer (16%), CMO* (12%) or CEO (12%) leading the digital charge, CIOs told us.

** In this white paper, we use the term "CMO" to refer to the senior marketing executives/leadership within the organizational and operational construct, whether at the brand or enterprise level.*

- **In addition to being a digital strategist, a key competency for CIOs is being a “transformational leader,”** according to 86% of respondents. This requires developing the skills to both identify digital opportunities and then articulate the vision for digital change and mobilize the commitment to excel.
- **Relationship-building skills and social savvy are another top competency,** noted by the vast majority (90%) of life sciences CIOs. CIOs need to influence others both inside and outside the organization. The CIO-CMO partnership is particularly critical compared with other industries we studied; in fact, half the respondents indicated this relationship was even more important than the one with the CEO.

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- **The ability to foster innovative ideas is a third top skill area,** according to 88% of respondents. This is a particular challenge, as respondents also noted that innovation is impeded by the ongoing requirement to seek cost and operational efficiencies.
- **Life sciences CIOs also need to become “chief talent officers,”** according to 84% of respondents, taking the initiative to find creative ways to fill the skills gaps created by the digital economy, rather than waiting for human resources to take care of it.

While the list might seem daunting for many life sciences CIOs, who may be accustomed to a highly regulated and even rigid environment, the change will be worth it. For one respondent, digitization has enabled consistent messaging across channels, higher levels of customer loyalty and retention, increased cross-selling and conversion, and the ability to reuse successful assets. “The money on the table is indeed significant,” he says. “Traditional life sciences companies must decide whether they will lead the charge by becoming a digital transformer, or let this shift of value happen around them, and accept being a digital follower.”

What it Means to “Be Digital” in Life Sciences

No matter the industry, “being digital” goes beyond developing a few mobile apps, launching a Web portal or moving a system or application to the cloud. It is both simpler and more complex than that: It requires making digital a core element of how the company operates and seamlessly blending physical and digital components to deliver new value to key stakeholders, whether they are patients, care providers, payers or pharmacies.

In our study, top digital opportunities named by respondents had to do with connecting the business more closely with the value chain, as well as developing new sources of value, such as digital medicine and “value beyond the pill” (see Figure 1). We see the highest interest in the following categories:

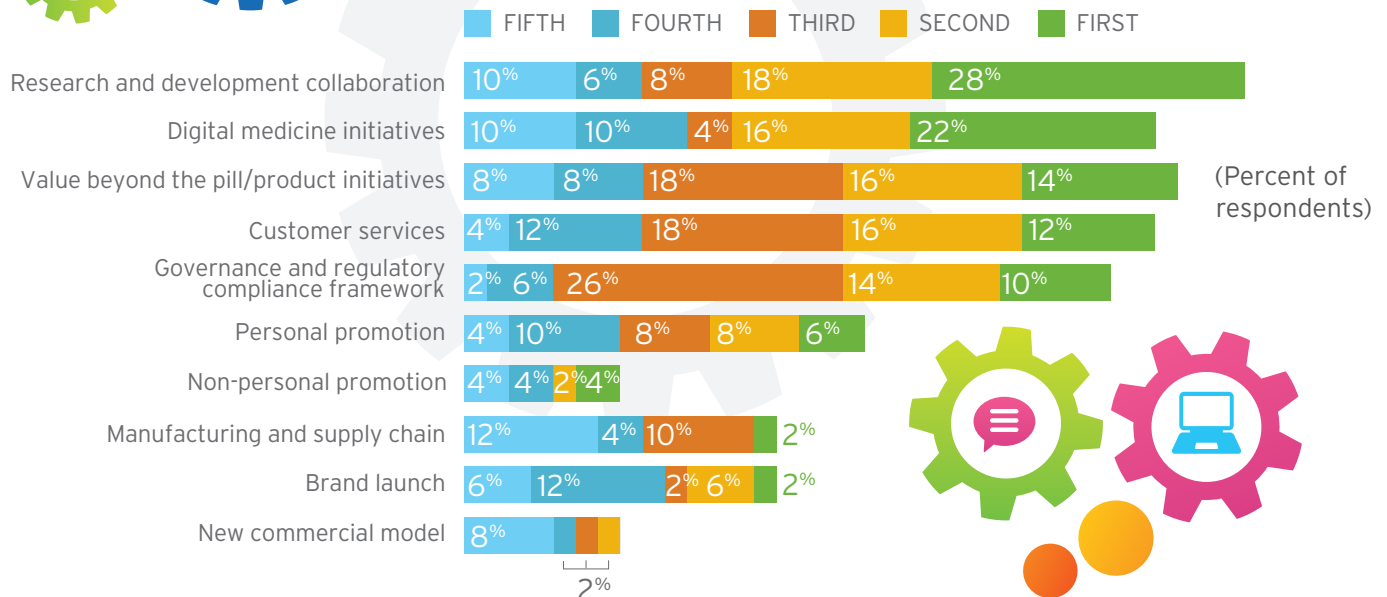
- R&D collaboration:** Nearly half of respondents named this as the top area for digital opportunity, which maps to a primary industry goal of reducing the costs of clinical trial and treatment development, speeding time to market and ensuring the efficacy of therapies. For example, digital platforms can enable collaboration capabilities, centralized data access and standardized processes for clinical trial researchers, investigators, patients and sponsors. This can streamline clinical trials and enable better, faster decision-making.

Digital technologies can also ensure better adherence to treatment protocols among study subjects, as well as improved data quality. For example, monitoring – the single largest cost item in a clinical trial – can be greatly streamlined with digital technology by centralizing high-quality data about operations, patients,



Top Candidates for Digital Innovation

Respondents were asked to rank the following areas in terms of their promise for digital innovation.



Base: 50 life sciences sector CIOs
Source: Cognizant Research Center
Figure 1

safety and clinical research. This can enable companies to make the right decisions, whether for first-case monitoring or remote monitoring.

- **The patient experience:** More than one-third of respondents named digital medicine and “value beyond the pill” initiatives as a top digital opportunity, which corresponds with the need for greater patient engagement. For example, one survey respondent developed a social media platform to enable patients to discuss and share medical concerns, as well as to recruit clinical trial candidates.

By developing ways to educate patients and improve adherence to their treatment regimens – particularly as more therapies are administered by patients themselves – life sciences organizations can establish better customer relationships, ensure their therapies deliver promised benefits and provide evidence to payers of real-world outcomes of their brand.

Life sciences businesses are also looking to develop complementary digital tools and processes that give patients greater control over their treatment journey, such as for researching therapies, getting questions answered, making appointments and ordering medicine. Another route is to develop highly personalized medical programs that track diseases digitally through smartphone apps and smart devices that stream data on health vitals such as cholesterol, glucose and blood pressure readings.

All of these initiatives require integration with back-end systems and processes, such as supply chain management, order fulfillment and caregiver databases, as well as the ability to analyze data, often in real-time.

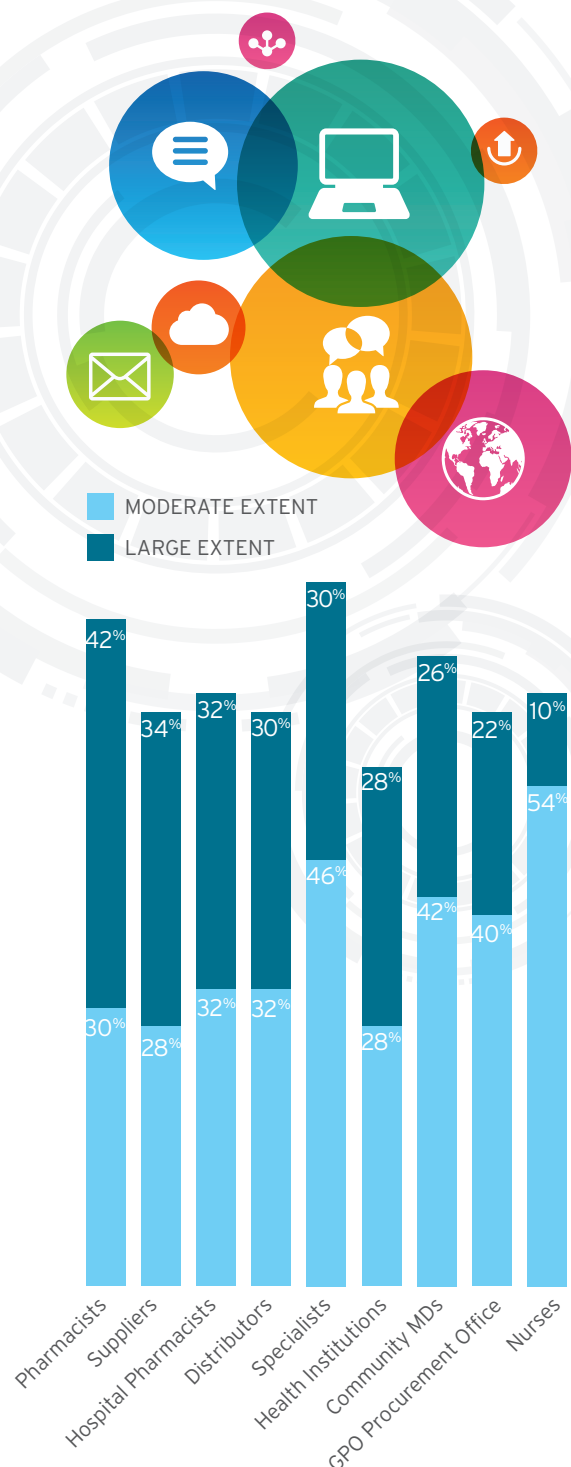
- **The commercial experience:** Customer service was also cited by one-third of respondents as a top digital opportunity. As the ramifications of the ACA take hold, life sciences businesses see digital as playing a vital role for engaging with an extended list of new stakeholders, including pharmacy benefits managers (PBM), suppliers, care givers and specialists (see Figure 2). Using a sales, service and complaint management platform, for example, life sciences organizations can streamline service requests, product complaints and other interactions and transactions. By better connecting sales reps, clinical specialists, service reps and customers, life sciences businesses can expand customer reach and improve customer satisfaction.

Digital technologies would also enable standard operating procedures and better tracking for regulatory compliance, named by 24% of respondents as a digital opportunity.

Defining a New Role for the CIO

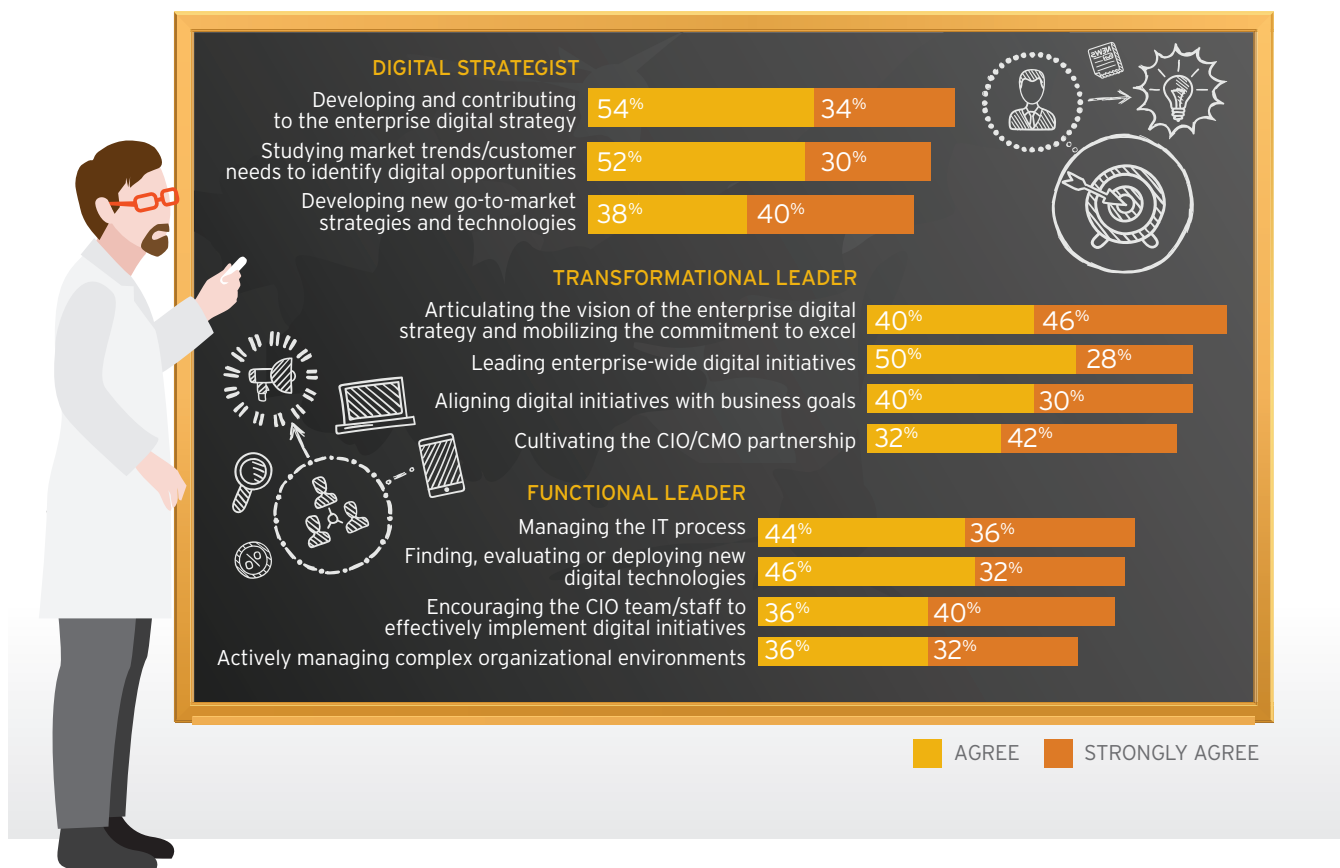
Despite playing catch-up, life sciences CIOs envision themselves as crucial to enterprise digital initiatives, according to our study. A majority (84%) said an essential element of enabling digital transformation was the CIO playing a key role in making digital decisions. The new face of the life sciences CIO is that of a digital strategist and transformational leader, according to over 85% of respondents, while also working at the execution level as a functional leader: managing process change, evaluating and deploying new digital technologies, and ensuring effective implementation (see Figure 3, next page).

Reaching Out to New Stakeholders via Digital Channels



Base: 50 life sciences sector CIOs
Source: Cognizant Research Center
Figure 2

Digital CIO Leadership Competencies



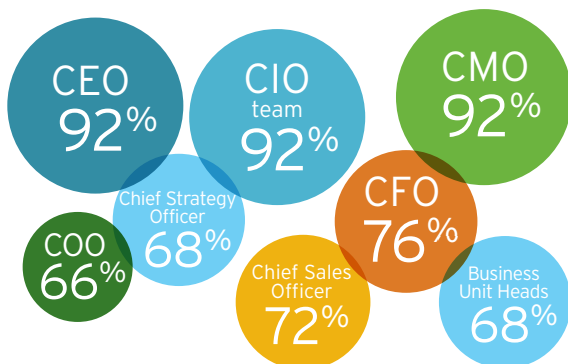
Base: 50 life sciences sector CIOs
Source: Cognizant Research Center
Figures 3 (above) and 4 (below)

With this new role, respondents emphasized the importance of elevating their relationship with other top execs, including the CEO (92%), IT reports (92%) and CMO (92%). However, life sciences CIOs are even more adamant than CIOs in other industries about the importance of the CMO bond, with just one-third naming the

CEO relationship as “extremely important” (vs. the cross-industry average of 50%) and half saying that about the CMO relationship (see Figure 4).

Key Relationships for Digital CIOs

The following relationships were valued “important” or “extremely important” to respondents.



The reality is that despite digital technologies offering an abundance of opportunity in many functional areas, the digital adoption rate in life sciences is highest in the marketing function (see Figure 5, page 8). Industry CIOs should start improving the CMO relationship now to groom for the role of leading digital initiatives across the organization (see Quick Take, next page).

Key Skills for the Life Sciences Digital CIO

In addition to strengthening the CMO partnership, CIOs can ensure their place at the helm of digital transformation by adopting the following workstyles and skill sets.



Five Ways to Catalyze the CIO-CMO Partnership



1. Focus on the Customer Experience

As CIOs and CMOs (or senior executives tasked with marketing functions) look for common ground and alignment on strategic direction, customer experience proves to be a powerful unifying goal that can drive transformational initiatives throughout the organization. This higher level aspirational focus on improving the customer experience can be developed by asking broad questions that demand new solutions, such as how digital could help 100% of patients obtain coverage.

Based on this shared vision, a journey map can be developed, depicting a unified view of the customer experience, with the CIO focusing on the tech layer, and stakeholders aligned with the CMO focusing on building the service map. This shared focus on delivering extraordinary customer experience also keeps attention focused on the entire digital ecosystem, rather than obsessing over particular channels and tactics.



2. Identify Customer-Centered KPIs

Building on a shared commitment to enhanced customer experience, it is possible to create a common set of customer-centered key performance indicators (KPI) shared between CIOs and CMOs, with each respective stakeholder being held responsible for specific goals and outcomes. These metrics need to move beyond typical technology and marketing metrics, and instead focus on a new set of experienced-based metrics that both organizations must own, focused on service, satisfaction and outcomes rather than internal efficiency.



3. Harness Collaborative Innovation

Shared innovation workshops can be another powerful bridge between CIOs and CMOs as they spend time shaping a shared roadmap for overall corporate success – and respecting the dual mandate for organizational efficiency and customer-led innovation. Properly framed, and backed with high-level sponsorship and follow-up, these working sessions can lay the foundation for significant digital transformation across the enterprise and raise the bar for customer experience across multiple touchpoints.



4. Walk the Talk

It's often said that “brand inside drives brand outside.” In other words, digital transformation of the customer-facing experience must be matched by a similar transformation of internal employee experience and performance. Mobilizing and building internal digital skill sets serves to help internal groups collaborate in new and powerful ways, and allows them to better understand how to use digital approaches to meet the needs of external customers.



5. Transform the Commercial Model

As CIOs and CMOs align their core operating strengths, it is possible for companies to truly begin running differently. As the collaborative economy¹ continues to evolve, this CIO-CMO partnership can help to conceive and implement new economic models for how value is delivered to customers. This commercial transformation succeeds best when it is built on creating meaningful customer experiences.

Digital Areas of Impact for Life Sciences

Respondents were asked to name the business functions in which digital adoption was highest.



A Transformational/Leadership Mindset

In our study, respondents said a top role for life sciences CIOs is mobilizing commitment and creating a shared vision for what digital can enable (84%). Doing so requires new skills that are likely unfamiliar and yet achievable for many life sciences CIOs.

First, CIOs need to broaden their perspective on what digital is and see it as the bridge between IT and what their constituents ultimately want. In other words, digital needs to be at the center of how CIOs think about delivering solutions and enabling the best experience for customers, patients and anyone else in the life sciences ecosystem.

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Once CIOs themselves adopt this vision, their job is to share it, helping business leaders open their minds to the art of what's possible with digital. In effect, they need to become role models for embracing new ideas surrounding patient, customer and clinical investigative experiences, communicate that vision and explain what can be done to enable it.

To make the digital vision more tangible, we advise life sciences CIOs to focus on a handful of initiatives with the highest potential impact on the business. They then need to develop a story – with a beginning, middle and end – around what each of these three or four digital initiatives can accomplish, as well as the technology elements required. By doing so, they can both see digital in a more tangible and concrete way themselves, as well as repeat the story to others. (For an example of how this can be done, see Quick Take, next page.)

Once the three or four “stories” are well under way, CIOs can move onto the next set of initiatives, or volume in the saga, again focusing on just a handful of important programs and creating a story around each. In this way, the CIO can influence and inspire change vs. just pushing technology solutions without people knowing what challenge or problem is being addressed. Keeping initiatives well-scoped is key; if projects take 18 months to deliver, the entire landscape could shift in that timeframe.

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Being a storyteller is not an inherent trait for everyone, but it can be learned. Books and workshops exist to develop story-telling and design thinking skills to activate right-brain, creative and empathetic thinking.²

Social and Relationship-Building Skills

Because digital initiatives encompass all parts of the organization, digital CIOs need to develop solid working relationships with people from all walks of life, which is a capability named by 90% of respondents. Not only do they need to listen for the biggest challenges from various business functions, but they also need to communicate how digital can solve those issues in a meaningful way.

Quick Take

We took the information and created infographics for the study protocols, using a format that could live on the Web and be delivered to mobile platforms. As a result, the team significantly decreased the time it took to onboard investigators onto clinical studies.

Story-Telling, Design Thinking in Action

We helped the CIO and technology team at a small biotech company that is developing an oncology therapy to use story-telling skills. The company wanted to improve the way it conveyed R&D protocol information to regulatory investigators and others involved in the clinical trial process. The protocol information is typically wordy, complex and dense, and very time-consuming to read.

We worked with the company to make this information easier and quicker to digest, with the goal of it being understandable within minutes, if not seconds. Using the information, we created infographics for the study protocols, using a format that could live on the Web and be delivered to mobile platforms. As a result, the team significantly decreased the time it took to onboard investigators onto clinical studies.

The team created a way to convey information not only to people involved with clinical trials but also to a broader set of stakeholders, including potential investors, sales people and others in the ecosystem. The time it took to make content digestible for various audiences was significantly decreased, boosting internal efficiencies.

The key was for the team to adopt elements of “design thinking,”³ including listening to and empathizing with the challenges the business faced in trying to disseminate dense information and how to do that differently through digital, using an infographics-driven, interactive approach. The way the team shaped the story and provided assets to the executive team made it very easy for them to see the benefits.



CIOs need to develop a sensitivity for human behavior and desires, and prepare an adaptable technology ecosystem that can respond.

In addition to the CMO, a critical relationship is with the chief financial officer, particularly since the CFO is nearly as likely as the CEO to sponsor digital initiatives in life sciences organizations and is a crucial power broker in today's cost-sensitive times (see Figure 6). Again, storytelling is key to developing this partnership, as it can help CIOs create a compelling argument to invest in digital initiatives.

Relationship development is complicated by the fact that in traditional life sciences organizations, most CIOs do not have the organizational stature of reporting to the CEO; however, most respondents (64%) feel they should. CIOs at smaller, emerging bio-techs may have a direct line to the CEO, which would give them more strategic clout. Larger organizations should take note, as these more agile businesses could be a competitive force. Until that happens, many CIOs may continue to be hamstrung by financial and operational constraints and may need to turn to the CMO for the creative freedom to think outside the box.

CIOs also need to develop relationships outside the organization, especially as they inevitably turn to the cloud for digital capabilities. With hybrid cloud/on-site IT infrastructures, the role of "chief integration officer" will become important (as it also has in the healthcare payer space). As a result, CIOs will need to develop strong relationships with an array of cloud hosting providers to continuously communicate the needs of the business beyond the initial conversation, particularly when it comes to security and data privacy, which is crucial for contending with stringent, yet inconsistent, global regulations. (For analysis of our study findings on healthcare digital CIOs, see our white paper "[Prescriptions for Healthcare's Digital CIOs](#).")

An Eye for Innovation

CIOs who want to lead digital transformation need to move beyond a mindset of "keeping the lights on" and begin actively noticing the changes in their industry and the world around them, particularly when it comes to what customers want and need, and how that might change over time. CIOs need to develop a sensitivity for human behavior and desires, and prepare an adaptable technology ecosystem that can respond.

Base: 50 life sciences sector CIOs
Source: Cognizant Research Center
Figure 6

Leading the Digital Way



Tackling the Innovation X Factor: Economics

The need to seek efficiencies while also adopting an “innovator” role will force CIOs to think differently about how they produce digital solutions, and re-architect the technology stack as a living ecosystem of adaptable platforms and processes that can accommodate fast and continuous change. CIOs need to take a close look at what the business really needs to own, in terms of the data center, software applications and the office itself, and begin taking advantage of subscription-based, best-of-breed models to consume goods and services.

All hard costs should be included in this assessment, including the buildings in which employees work. How could technology and policies change to better support virtual collaboration so the organization could work with smaller facilities and remote workers? Such a mindset requires CIOs to become well versed in technologies such as Wi-Fi, remote security, routers, virtual conferencing and desktop sharing, as well as the tools and techniques for delivering virtual work cost-effectively.

Next, which tools, applications, platforms and pieces of the infrastructure can be moved to the cloud? As a heavily regulated industry, life sciences has been

slow to adopt cloud approaches; however, we see more organizations rethinking which technology components they need to fully own and control, especially as cloud providers become more mature and offer fully validated and secure solutions. Top areas for the cloud include portals and platforms for digital asset management, clinical trial management, R&D collaboration, customer service and complaint management.

Increasingly, to enable innovation, CIOs need to adopt the mindset that, at the end of the day, their corporate identity is that of a life sciences organization, and not a software company. This further supports the need for well-honed skills in integration; as technology infrastructures become increasingly hybrid, CIOs will need to knit together architectures that embrace best-of-breed solutions that span on-premise systems and solutions delivered from the cloud.

Top areas for the cloud include portals and platforms for digital asset management, clinical trial management, R&D collaboration, customer service and complaint management.

Key to doing this is thinking beyond industry “givens,” and developing a fresh perspective by exploring how other industries – such as retail, financial services and media/entertainment – approach digital opportunities and roadblocks. By meeting with professionals from other walks of life, and even bringing them into their inner circle, CIOs can develop a new way of thinking about the entrenched issues endemic to delivering digital solutions within the constraints of a highly-regulated environment.

CIOs should also keep current with consumer use of technology so they can anticipate what the “ask” is behind a user request and think innovatively about the response. For example, when asked for a new patient support portal, CIOs should immediately think along the lines of a MyFitnessPal-like interface⁴ or some other relatable experience. By identifying a reference point, CIOs can build on a common language to contextualize requests, which can help them begin thinking more innovatively.



While half of respondents said the changing role of the CIO included a greater demand for innovation, nearly the same percentage (46%) said it also included greater demand for cost and operational efficiencies (see Quick Take, previous page). This could explain why over one-third of respondents (34%) said a top factor for digital strategy success was adherence to pre-defined templates and guidelines, as out-of-the-box platforms can streamline efforts to implement new digital processes.

The Ability to Fill Talent Gaps

A troublesome area for any digital CIO is the looming talent gap that exists with digital technologies and the surrounding skills, such as design thinking, empathy and creativity, as well as enterprise architecture, big data, Internet of Things and social, mobile, analytics and the cloud (the SMAC Stack). Indeed, nearly all respondents (94%) said a key element of success for digital transformation is the CIO's

ability to actively collaborate with talent acquisition teams to acquire needed skills. CIOs need to first understand the skillsets required for digital success, assess the gaps within their team, and then drive how the business seeks new types of talent rather than waiting for human resources to get involved. (For more on creative ways to handle the talent gap in the digital era, see our white paper "[People, Not Just Machines, Will Power Digital Innovation](#)" and our *Cognizanti* journal article "[Jumping on the Gig Economy](#).")

CIOs need to look outside the industry and even the IT profession to invite fresh thinking and skills into the organization. It's the rare IT candidate who possesses both the right- and left-brained thinking required for digital transformation; rather than only pursuing these "unicorns," CIOs should concentrate on balancing their team with people who excel in either design thinking or technology architecture

and strive to bring together these two schools of thought when designing a solution. This will result in much greater clarity of vision and a much more compressed timeline between idea conception and implementation.

We've also seen CIOs run hackathons to extend their reach to entrepreneurial and creative thinkers. Done well, these events can propose a specific challenge for audiences to solve, and even result in a working prototype the organization can fund or activate internally. Hackathons can also be a talent incubator, as it gives CIOs a chance to interact with an array of developers and see how they work and interact with others.

CIOs should also prioritize attending conferences that focus on UX design, participating on blogs by thought leaders in this space and begin engaging and developing relationships and virtual partnerships. This is a great way to get feedback for new ideas and can also lead to finding new talent for the organization.

Looking Ahead

Through digital approaches, life sciences organizations can deliver innovative solutions across the entire customer ecosystem, driving value for brands and the industry's extended set of customers. To respond effectively to industry dynamics and market forces, organizations must embrace the shift away from a product mentality to one that is value-driven; those that don't will find themselves mired in a cost structure and operational model that is no longer relevant in the digital age.

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“Our industry is changing track from volume to value. Digital business transformation is accelerating with rapid speed, and it requires us to move forward with a strategic and innovative approach to embrace change.”

– Survey Respondent

Whether businesses choose to be leaders or followers, there is no time to “wait and see,” as digital reinvention takes time. At the very least, CIOs need to begin now to assess what it means to be “be digital” vs. just “doing digital” in life sciences, and how they can steer their organization on the journey to digital maturity. (For more on this topic, see our *Cognizanti* article, “[Making Digital Real and Rewarding](#).”) As one study respondent noted, “Our industry is changing track from volume to value. Digital business transformation is accelerating with rapid speed, and it requires us to move forward with a strategic and innovative approach to embrace change.”

CIOs can begin by doing the following:

- **Become directly engaged and embedded in key digital initiatives**, advising and serving as a key influencer or “center of excellence” for all things digital. This includes specifying new tools and techniques, and suggesting changes to business models and processes that not only breathe new life into existing ways of working but also advance the business innovation agenda.
- **Ensure the IT organization is moving toward digital maturity**, evolving the legacy IT portfolio with the speed of digital transformation. This transformation won’t come easily, particularly as the fail-fast digital credo contravenes IT’s traditional go-slow approach to rationalize the investment in new tools, processes and people.
- **Ensure that IT serves as the primary channel through which digital products and services are realized**. The CIO must play a central role in the development and commercialization and integration of these initiatives, even if they originate somewhere else in the organization.

“Being digital” will require a strong push from the CIO; it won’t happen on its own. Concurrently, the dynamic between the CIO and CEO must change. The CIO needs to complete the shift to digital change agent, becoming a true digital champion and a trusted advisor to the CEO. As the executive sponsor, the CEO needs to adopt the role of venture capitalist, reading the needs of the marketplace, securing funding for promising initiatives and working with the CIO on a collaborative roadmap for digital maturity. (For more insights, please read “[Being Digital: How and Why CIOs Must Re-invent Themselves for a New Age](#).”)

None of these changes will be easy to make. These shifts require proactive change led by CIOs prepared to assert themselves in new ways – perhaps in ways for which past experiences and training hasn’t prepared them.

At the same time, CIOs will be stepping forward at a time of increasingly high expectations. They must perform a balancing act, helping to elevate the business while continuing to deliver on the traditional imperatives – managing IT efficiently and containing costs. By doing so, they can earn their seat at the table alongside their fellow digital leaders.

Methodology

Our study was fielded in November 2015 to 200 North American CIOs and those with similar IT leadership job titles across the banking, P&C insurance, healthcare and life sciences industries. This white paper focuses exclusively on the responses provided by 50 CIOs from the life sciences industry.

The questionnaire was instrumented by the Cognizant Research Center (CRC) and conducted via phone by our partner E2E Research. The interviews allowed time for open discussion, and verbatim comments were recorded with respondent approval. The findings (split equally across the aforementioned industries) were jointly analyzed by CRC and Cognizant Life Sciences.

Footnotes

- ¹ The collaborative economy is a concept that seeks to tap under-utilized or surplus assets and resources by enabling consumers to rent or share them for an agreed-upon price.
- ² One book we often recommend is Daniel Pink's *A Whole New Mind: Why Right-Brainers Will Rule the Future*,¹ Riverhead Books, 2006.
- ³ Design thinking uses an iterative process of observation, ideation, rapid prototyping and testing to craft an experience that is meaningful to the people engaged with it. The experience should seamlessly mesh the physical and digital interactions of people, processes and things. For more on design thinking, see our white paper "[Human-Centric Design: How Design Thinking Can Drive Change and Deliver Value](#)."
- ⁴ MyFitnessPal is a popular nutrition and fitness app downloaded by over 75 million registered users worldwide. The app helps users track calories through an easy to use interface and seamless link to a database that includes calorie counts for a wide range of foods, including menus from popular restaurants.

About the Authors

Bhaskar Sambasivan is Vice-President and Global Markets Leader in the Life Sciences business unit at Cognizant. In this role, Bhaskar has helped many CIOs and business leaders drive large-scale transformation programs in IT, R&D and commercial functions. Prior to Cognizant, he spent many years in consulting and leadership roles at PricewaterhouseCoopers and at product companies such as Siebel and Oracle. With 23 years of industry experience, Bhaskar is also a regular speaker at many life sciences industry events and conferences and author of many thought leadership articles in leading magazines and publications. He can be reached at Bhaskar.Sambasivan@Cognizant.com.



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About Cognizant Research Center

With over 100 analysts, Cognizant Research Center (CRC) offers a wide array of business, market and research as a service (RaaS), an end-to-end offering through which research is delivered via a range of models – from traditional full-time equivalent-based, through “pay per use” services. Through RaaS, CRC primarily addresses the unevenly distributed research needs of marketing teams, on demand. Learn more by visiting latest-thinking.cognizant.com/business-process-services/research-analytics.

About Cognizant's Healthcare and Life Sciences Practice

Cognizant's Healthcare and Life Sciences practice is committed to helping change millions of lives for the better by partnering with clients to build solutions to healthcare challenges, continually improve the way they do business, set the pace in clinical development, strengthen their regulatory infrastructure, and increase competitiveness. With approximately \$3.5 billion in annualized revenue, Cognizant's healthcare practice is consistently ranked among the top 10 on the Healthcare Informatics Top 100. Cognizant serves 28 of the top 30 global pharmaceutical companies, 16 of the top 20 health plans in the U.S., three of the top five pharmacy benefit management companies in the U.S., nine of the top ten biotech companies, and 12 of the top 15 medical device companies. With a large team of dedicated professionals including doctors, pharmacologists, physicians, biomedical engineers, pharmacists, biostatisticians, medical writers, and GxP consultants, the practice provides domain-aligned consulting, IT, business process and analytics solutions globally.

About Cognizant

Cognizant (NASDAQ: CTSI) is a leading provider of information technology, consulting, and business process services, dedicated to helping the world's leading companies build stronger businesses. Headquartered in Teaneck, New Jersey (U.S.), Cognizant combines a passion for client satisfaction, technology innovation, deep industry and business process expertise, and a global, collaborative workforce that embodies the future of work. With over 100 development and delivery centers worldwide and approximately 233,000 employees as of March 31, 2016, Cognizant is a member of the NASDAQ-100, the S&P 500, the Forbes Global 2000, and the Fortune 500 and is ranked among the top performing and fastest growing companies in the world. Visit us online at www.cognizant.com or follow us on [Twitter: Cognizant](#).

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