Top trends to watch in Life Sciences

Read on for insights on how to accelerate your digital journey toward customer-focused interoperability

CGI

Digital acceleration, digital talent and supply chain resiliency are top of mind

Impact of macro trends

Keeping pace with digitization and solving for digital-native talent in the face of increased turnover and portable skills are top of mind in life sciences, along with supply chain resiliency. Technology and digital acceleration due to rising customer and citizen expectations is the highest impact macro trend at 71%. More than half (53%) cite changing social demographics, including talent shortages and aging populations, as high impact, while 26% say deglobalization, repatriating a portion of the production of goods and services has somewhat high to high impact on their organizations.*

Top of mind for clients

A unique driver in life sciences executives' view of supply chain disruption is the issue of medical sovereignty—a country or region's ability to provide for its own public health needs without undue reliance on extra-regional or large central suppliers that may lack capacity to handle global spikes in demand or supply chain disruptions. It is significant that of the 26% of executives citing somewhat high to high impacts of deglobalization, the plurality is coming from countries lacking medical sovereignty.

Events like the COVID-19 pandemic highlight this lack of medical sovereignty, even among developed economies. To close the gap, national, state and provincial governments invested significantly in repatriating pharmaceutical and biotech production capabilities. This creates opportunities for established players to take advantage of public investment to expand their manufacturing footprint, and for start-ups and mid-sized firms to accelerate growth. Delivery models and methods for rapid design, deployment and licensing of modular manufacturing capabilities are also in high demand.

About the insights

Each year, we meet with client executives from around the world to get their views on the trends affecting their organizations and industries. Through the CGI Voice of Our Clients, we analyze these findings to provide actionable insights by industry to benchmark best practices, including the attributes of digital leaders.

In 2022, we met with 1,675 business and IT executives. **This summary report shares sample insights from 35 life sciences executives.**

Interview demographics

C-level 43% 57% Ops-level

Business leaders 29% 71% IT leaders

* Scores of 7-10

Top trends and priorities

Evolving public health needs, regulatory requirements, and patient expectations around collaboration, digitization and visibility are requiring life sciences firms to transform the way they do business.

Key takeaway

Driving global standards and creating interoperability to enhance collaboration across the boundaries of life sciences organizations has become a top trend and priority for the business.

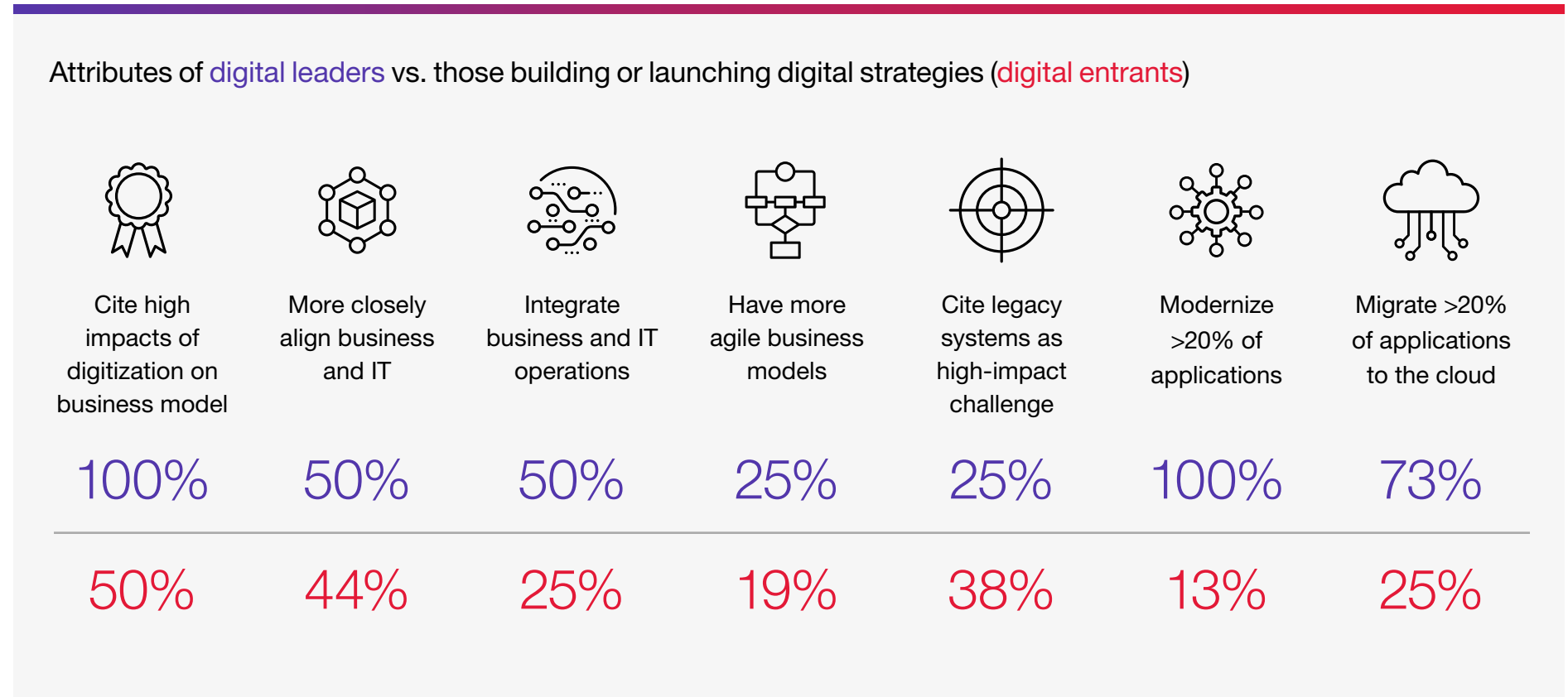|	Top industry trends	Top business priorities	Top IT priorities
1	Becoming digital organizations to meet customer expectations	Collaborate across the boundaries of our organization to deliver interoperability inside and outside the healthcare enterprise	Optimize operations
2	Assuring data privacy protection / regulatory compliance	Improve the customer experience through compliance to treatment guidance and supporting the patient at home	Digitize and automate business process across and beyond the value chain
3	Interoperability and standards	Harness the power of data analytics to improve business and patient outcomes and reduce cost	Drive IT modernization and new IT delivery models

The industry trends capture key drivers with the greatest impact on the clients' industry. The business priorities represent how clients are addressing the industry trends, and the IT priorities reflect the technology areas of focus to address the trends and achieve the business priorities.

Digital leaders in Life Sciences

In 2022, 13% of life sciences executives say their organization is producing results from digital strategies, compared to 25% across all industries. Of this 13% who are the digital leaders, some common attributes emerge.

The table compares responses to questions from the digital leaders to those from executives whose organizations are still building or launching digital strategies, or digital entrants.

Attributes of digital leaders vs. those building or launching digital strategies (digital entrants)

Cite high impacts of digitization on business model	More closely align business and IT	Integrate business and IT operations	Have more agile business models	Cite legacy systems as high-impact challenge	Modernize >20% of applications	Migrate >20% of applications to the cloud
100%	50%	50%	25%	25%	100%	73%
50%	44%	25%	19%	38%	13%	25%

Digital leaders view their organizations and IT estates differently than do digital entrants. A significant exception is related to business model agility, where even digital leaders feel the need for improvement. While alignment between IT and business is improving, digital leaders see greater integration.

Key findings from our interviews with Life Sciences executives

1.

Business agility for digitization is a challenge for most.

While digitization is a priority and significantly impacts an organization's business model (94% cite medium or high impacts), only 21% say they have highly agile organizations to address digitization. Regulatory and compliance considerations, risk aversion and historical margin insulation decrease the urgency for action on digitization.

2.

In the journey to digitization, modernizing complex legacy systems is vital.

Overall, life sciences executives cite difficulties in re-platforming from legacy systems. In fact, 75% say legacy systems are either somewhat or very challenging to the successful implementation of their digitization strategy.

3.

Collaboration and interoperability are top business priorities.

The global pandemic highlighted the need for enhanced collaboration across the life sciences ecosystem to rapidly develop, test, manufacture and distribute critical therapies for public health.

4.

Optimizing operations for better service delivery is a shared business and IT goal.

As a top priority, IT organizations seek to deliver digital solutions to the business faster, so operations can more quickly, efficiently and compliantly develop, manufacture, test, release and distribute therapeutic products.

5.

Cybersecurity and data privacy are top of mind.

Life sciences companies are prime targets of cyber threats due to the nature of their data, products and revenue, and 94% of executives cite cybersecurity and cyberprivacy as a top trend, as regulations continue to evolve.

6.

Sustainability remains in focus.

Despite new and critical challenges impacting supply chains, life sciences firms remained focused on the need for sustainability in delivering value. In fact, half of life sciences clients rate sustainability as core to creating value for stakeholders.

7.

Customer-centricity rises in importance.

Improving the customer experience by supporting the patient at home and improving compliance to treatment guidance rose to be the second priority in terms of impact for life sciences business leaders.

8.

Application modernization and cloud migrations to grow.

Executives report plans to expand application modernization, with the number saying they will modernize >20% of their application portfolio rising from 41% to 61% in the next 2 years. Similarly, the number who have migrated >20% of their estate to a cloud IaaS or PaaS is slated to increase from 35% to 50% in the next 2 years.

5 recommendations for staying relevant for the future

1. Use FDA's CSA guidance to improve innovation and quality.

The U.S. Food and Drug Administration's (FDA's) draft Computer Software Assurance for Manufacturing and Quality System Software (CSA) designates patient safety and product quality as the basis for risk assessment and provides mechanisms for reducing the effort of computer system validation (CSV). FDA encourages companies to innovate and digitize processes now, moving away from generating burdensome test documentation, regardless of the function's importance to the system. Adopting CSA will streamline testing and deliver faster value, while improving overall quality. The more flexible CSA methodology also supports the move to agile development. FDA is encouraging the life sciences industry to adopt the new approach for all Good X Practice (GxP) software. Read more in our blog.

2. Transform internal delivery models for increased agility and integrate business and IT.

Traditional, project-based models with clear boundaries between technology and business operations have been shown to break down in the face of customer and patient expectations. Ten or 15 years ago, systems could be modified every 9 to 18 months; but, today, change is almost constant due to expectations for frictionless interaction, regulatory needs, and technology obsolescence. In addition, traditional project delivery models scatter people when they complete a discrete initiative, causing knowledge loss. The learning curve—when people churn in and out of projects—costs wasted effort, time and money. Moving to a product operating model and, in the GxP space, taking advantage of risk-based validation and Computer Software Assurance, directly addresses these challenges.

Case in point

Operationalizing the product operating model for a top 5 biopharma company

With a long-term biopharma client, CGI and several software vendors are partnering to revolutionize the client's ability to optimize processes enabled by innovative tools in laboratory operations and quality. Example programs include technology enabled lab and regulatory landscape of the future.

This work is an extension of a 25+ year partnership across the client's research and development, manufacturing, and commercial operations lines of business.

3. Maintain cybersecurity vigilance and pursue proven expertise.

Life sciences organizations are prime targets for cyber crime for a number of reasons, including the sensitive data they aggregate, analyze and produce, both in terms of patient information during drug development, and the intellectual property behind their therapies. In addition, the sector generally produces significant revenues and has relatively high margins with respect to general manufacturing operations. At the same time, operational technology and security postures can lag due to regulatory and validation realities, creating further vulnerabilities. Also, increased collaboration and use of cloud platforms require security to extend across the ecosystem. Life sciences firms can benefit by partnering with cybersecurity experts who can administer proactive threat testing and apply lessons learned across industries to improve their cybersecurity posture.

4. Manage the technology stack to support new go-to market models.

Factors such as aging populations, digital natives, talent shortages, upskilling investments and managing customer expectations will impact how the life science industry reshapes its go-to market model along the product life cycle. In a progressively digital age, go-to market models will require managing a greater and more complex technology stack that puts pressure on the internal organization in terms of talent, time and costs. Delivering business value requires companies to rethink how managed services partnerships can support their go-to market models and help reduce cost, manage talent shortages and deliver value.

Case in point

Positioning a CRO for acquisition success

As a partner of choice for a mid-sized CRO, CGI helped to digitize and secure their processes to position them as a prime acquisition target. Due to excellence in delivery and clear industry expertise, the acquiring entity brought CGI on as a preferred global provider and expanded our services to additional sites and functions.

5. Create the digital foundation for Industry 5.0

Customers, investors, governments and regulators are asking manufacturers to go beyond using technology solely for profit and shift toward using their power to become responsible leaders of the future. This shift requires putting people and the environment back into the equation and ensuring that humans and machines work together to support a digital, green future. It requires manufacturers to unify within their plants, across their value chain and with their wider ecosystem, to become more adaptive and responsive to stakeholder demands. Through deep digital connection, integration of IT and operational technology, and the application of proven business methodologies, manufacturers can realize their strategic vision and achieve an insights-led digital continuum.

Leaders in life sciences are navigating a complex and evolving industry that thrives on change and innovation. At the same time, they must focus on managing organizational challenges and driving their digital transformation journey. All of these efforts aim to meet the needs of internal and external customers, as well as employees, who are at the center of their vision for the future. As meeting these challenges and goals may seem an overwhelming task at times, a focused and phased approach is the key to successful transformation. Intentional prioritization will create a single path forward.

Case in point

MES implementation for a large pharmaceutical company

For a large pharma client, CGI implemented new functional process across 12 production units. The project enabled digitized manufacturing operations and automated production reports, perfect physical flow traceability with compliant interface between business and IT manufacturing, and the implementation of a manufacturing data management portal to improve the production process.

Insights you can act on

Founded in 1976, CGI is among the largest IT and business consulting services firms in the world. We are insights-driven and outcomes-based to help accelerate returns on our investments. Across hundreds of locations worldwide, we provide comprehensive, scalable and sustainable IT and business consulting services that are informed globally and delivered locally.

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