IDC FutureScape

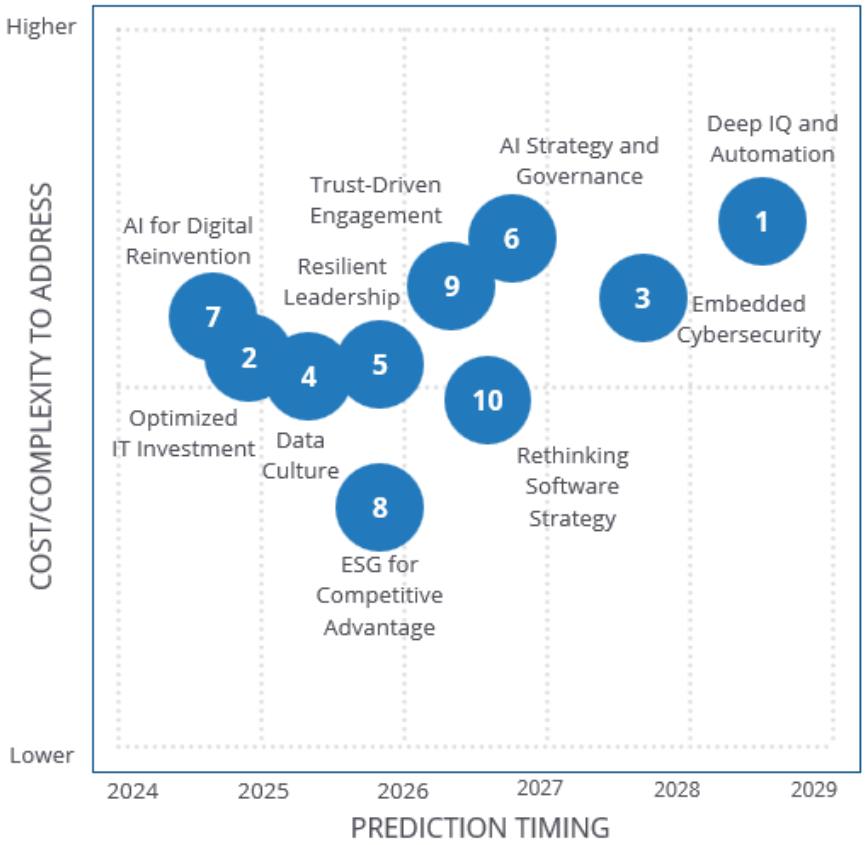
IDC FutureScape: Worldwide CIO Agenda 2024 Predictions

Mona Liddell
Dr. Ron Babin
David Clemente
Tracy Keeling
Tony Olvet
Christopher Tozzi
Marc Strohlein
Laurie Buczek
Marc Dowd
Finn Li
Kevin Prouty
Rick Villars
Daniel Saroff
Philip Carter
Serge Findling
Sandra Ng
Eric Samuel
David Weldon
Sue Troy
Franco Chiam
Alejandro Florean
Niel Nickolaisen
Go Suzuki
Yukiharu Yorifuji

IDC FUTURESCAPE FIGURE

FIGURE 1

IDC FutureScape: Worldwide CIO Agenda 2024 Top 10 Predictions



Note: Marker number refers only to the order the prediction appears in the document and does not indicate rank or importance, unless otherwise noted in the Executive Summary.

Source: IDC, 2023

EXECUTIVE SUMMARY

In the rapidly evolving digital age, few roles have undergone such dramatic changes as the CIO. Historically, the CIO was relegated to managing IT infrastructure and ensuring systems' efficiency, but many of today's CIOs have transitioned into key business strategists. They stand at the intersection of technology and business, leveraging innovations to shape organizational directions, create value, and boost revenue for the company.

Central to the evolution of CIOs is the growing interest and investment in generative AI (GenAI). CIOs are implementing GenAI within their organizations and sculpting its direction and application, ensuring that its potential aligns seamlessly with business objectives. This shift toward AI underscores a larger transformational trend: Technology is no longer just a support function for business; it has become a core driver of business strategy. The implications of GenAI on data management, security, automation, innovation, and customer experience are profound, and CIOs play a pivotal role in applying its potential and addressing the complex obstacles it presents.

But that's not the only facet of the CIO's evolving role. Cybersecurity has emerged as a predominant concern, compelling CIOs to progress from reactionary tactics to proactive, embedded strategies. The constant threat of breaches and the global spotlight on data privacy demand that CIOs fortify their organizations with robust, agile, and preventative cybersecurity measures. CIOs must prioritize digital safety and adapt to the rapid changes in technology to ensure organizational resiliency and security.

IDC's predictions underscore a CIO agenda marked by transformation, leadership, and collaboration in both IT and business spheres, and environmental, social, and governance (ESG) considerations. Companies, in their efforts to remain competitive and relevant, are turning to their CIOs as visionary leaders. These CIOs emerge as multifaceted leaders, capable of merging technology with business strategies. In this dynamic era, the role of the CIO is not just adapting — it's being revolutionized.

The 2024 predictions for the CIO agenda are as follows:

- **Prediction 1:** By 2028, 85% of CIOs will leverage organizational changes to harness AI, automation, and analytics, driving agile, insight-driven digital businesses.
- **Prediction 2:** By 2024, 65% of CIOs will face pressure to adopt digital tech such as GenAI and deep intelligence, but limited IT support will diminish the benefits and heighten risks.
- **Prediction 3:** By 2027, 75% of CIOs will integrate cybersecurity measures directly into systems and processes to proactively detect and neutralize vulnerabilities, fortifying against cyberthreats and breaches.
- **Prediction 4:** By 2025, 45% of CIOs will prioritize strategic data management and foster a data-centric culture, ensuring competitive differentiation in the digital era.
- **Prediction 5:** Two-thirds of CIOs will not meet their 2025 digital revenue goals due to misaligned investments hindering business performance.
- **Prediction 6:** 50% of CIOs will team up with LOB executives to establish robust federated governance for cohesive AI strategies, driving swift and seamless GenAI adoption in worker augmentation and automation by 2026.
- **Prediction 7:** By 2024, 35% of CIOs will embrace GenAI, securing an early short-term advantage over competitors while cultivating a foundation of talent, experience, and training data.

- **Prediction 8:** To mitigate legal risks and enhance their brand and competitive advantage, nearly half of CIOs will be motivated to automate regulatory compliance and ESG by 2025.
- **Prediction 9:** By 2026, 40% of CIOs will forge unified strategies with CMOs, dismantling silos of customer data to enable the delivery of expected engagement within a trusted digital experience.
- **Prediction 10:** By 2026, 55% of CIOs will leverage business-savvy in-house developers and tools that use GenAI and low code/no code, as they and LOB developers build competitive differentiation through custom apps.

This IDC study provides IDC's top 10 predictions for CIOs to have on their agenda in 2024.

"These predictions provide a strategic context that will enable CIOs to lead their organizations through a period of accelerated change and disruption over the next five years. They also lay out IDC's vision for the 10 important shifts that will happen in IT organizations to help senior IT executives form their strategic plans," says Daniel Saroff, group vice president, Consulting and Research, IT Executive Programs at IDC.

IDC FUTURESCAPE PREDICTIONS

Summary of External Drivers

- **AI everywhere** – Generative AI takes the spotlight
- **The drive to automate** – Maximizing efficiency and new opportunities
- **Economic uncertainty** – IT malaise and market volatility
- **Cybersecurity and risk** – Building resilience against multiplying threats
- **The digital business imperative** – Competitiveness and outcomes
- **Dynamic work and skills requirements** – New work mode era
- **Operationalization of ESG** – Measuring and implementing sustainability

Predictions: Impact on Technology Buyers

Prediction 1: By 2028, 85% of CIOs Will Leverage Organizational Changes to Harness AI, Automation, and Analytics, Driving Agile, Insight-Driven Digital Businesses

The convergence of AI, automation, and analytics signals a transformative era in digital business. As these technologies have matured, they offer organizations unprecedented capabilities to drive innovation, optimize processes, and uncover actionable insights. This isn't just about adopting new tools; it's a major shift toward "deep intelligence" and automation, bringing agility and an insight-driven approach to the center of digital enterprises and reshaping the role of the CIO within them.

The CIO's role as a bridge between technology and business will deepen as cross-functional collaboration becomes crucial. CIOs will play a pivotal role in orchestrating organizational changes aimed at fully embracing the potential of AI, automation, and data analytics. These changes can encompass new roles and responsibilities, a shift toward an agile and innovative culture, the implementation of robust data governance frameworks, and enhanced cybersecurity measures. Moreover, there will be significant initiatives led by CIOs to reorganize parts of IT, upskill their workforce, integrate AI and automation into core business processes, and facilitate tight collaboration between IT and business units to ensure aligned and data-driven decision making. As digital

businesses strive to stay ahead of the curve, the ability to adapt, innovate, and implement these technologies cohesively will differentiate industry leaders from the rest, underscoring the importance of strategic CIO leadership.

Associated Drivers

- **AI everywhere** – Generative AI takes the spotlight
- **The drive to automate** – Maximizing efficiency and new opportunities
- **The digital business imperative** – Competitiveness and outcomes

IT Impact

- CIOs must demonstrate the business value and ROI of AI investments and automation tools and facilitate their integration into existing workflows.
- CIOs must understand business strategy alignment.
- Note that managing data securely and ethically becomes paramount, as AI's reliance on data magnifies data privacy and security concerns.
- There will be a growing need for specialized IT professionals trained in AI, automation, and analytics to deploy, maintain, and optimize these technologies.

Guidance

- Prioritize upskilling and reskilling the IT team and foster a learning culture to equip it with the right skills for these advanced technologies.
- Collaborate with business leaders to understand their specific needs and tailor AI and automation solutions to drive the most value.
- Develop robust data governance and ethics frameworks to integrate AI responsibly.
- Continuously evaluate AI and automation solutions and adapt to evolving technology trends.

Prediction 2: By 2024, 65% of CIOs Will Face Pressure to Adopt Digital Tech Such as GenAI and Deep Intelligence, But limited IT Support Will Diminish the Benefits and Heighten Risks

As organizations push the boundaries of what digital technology can achieve, they are increasingly turning to cutting-edge solutions such as GenAI and deep intelligence to gain a competitive edge. While these technologies promise to bring in new possibilities for efficiency, innovation, and competitiveness, they require a robust and flexible IT infrastructure to deliver their full potential. Many organizations have legacy IT systems and architectures that were designed for a different era of computing. These older systems may lack the processing power, storage capacity, or data integration capabilities needed to effectively support modern AI and analytics workloads. This limits the benefits that digital technologies including GenAI can deliver and hampers the organization's ability to respond rapidly to changing market conditions or emerging opportunities.

In addition to reduced benefits, the adoption of advanced digital technologies without adequate IT support can also elevate a company's risks. For example, outdated infrastructure may be more vulnerable to cybersecurity threats, putting sensitive data and critical business operations at risk. To mitigate these risks, CIOs need to make strategic decisions about upgrading or modernizing their IT infrastructure to align with the organization's digital goals. They need to balance adopting innovative technologies with ensuring their IT environment can support and secure these advancements effectively.

Associated Drivers

- **The drive to automate** – Maximizing efficiency and new opportunities
- **The digital business imperative** – Competitiveness and outcomes

IT Impact

- CIOs need to demonstrate efficient resource allocation to balance existing IT systems' maintenance and the adoption of advanced digital technologies.
- CIOs must decide whether to invest in a substantial infrastructure overhaul to support GenAI and deep intelligence.
- Risk assessment and mitigation will be essential, as CIOs need to protect the organization from potential vulnerabilities associated with technology adoption.

Guidance

- Perform comprehensive IT infrastructure assessments to identify gaps and limitations that hinder the adoption of advanced technologies, including identification of technical debt.
- Develop a strategic road map that outlines how and when to integrate digital tech like GenAI while ensuring minimal disruption to existing operations.
- Establish a clear communication plan to articulate the benefits and risks of technology adoption to organizational stakeholders, fostering support and understanding.

Prediction 3: By 2027, 75% of CIOs Will Integrate Cybersecurity Measures Directly into Systems and Processes to Proactively Detect and Neutralize Vulnerabilities, Fortifying Against Cyberthreats and Breaches

Embedded cybersecurity is the evolutionary shift from reactive security measures to proactive ones, fully integrating security protocols directly into systems, software, and processes. This is not just about installing antivirus software, behavior analytics, SOC, SIEM, or setting up a firewall, but about designing systems and processes with security as a foundational element. By 2027, three out of four CIOs will be incorporating such integrated measures seamlessly into their organizational fabric. This approach foresees potential vulnerabilities, weaknesses, and threats; addresses them early; and attempts to neutralize them before the risk can be exploited.

By proactively addressing threats before they manifest, organizations can limit opportunities for cyberattacks, safeguarding both critical data and their reputation. Regular evaluations, threat modeling, and penetration testing become essential exercises to ensure that the integrated security measures remain robust and relevant. Security embedded from the outset means organizations lay a foundation that is inherently more resistant to threats and more adaptable to the fast-paced changes of the digital world.

These changes will also be driven by external factors, such as the recent SEC decision that all material cyberbreaches must be reported to the agency within four business days.

Associated Drivers

- **Cybersecurity and risk** – Building resilience against multiplying threats
- **The drive to automate** – Maximizing efficiency and new opportunities

IT Impact

- Systems will be designed with security as a foundational element rather than an add-on feature.

- IT teams need to stay updated on the latest threats and vulnerabilities, proactively adjust their designs, and promptly implement the necessary changes.
- Boards of directors will need to provide IT departments with clear instructions on risk tolerance and reporting requirements for major security practices and events.
- CIOs need to become conversant in translating security to business requirements.

Guidance

- Invest in continuous education for IT and development teams to ensure they are equipped with the latest in cybersecurity knowledge and best practices.
- Collaborate closely with cybersecurity experts during the system design and development phases to embed security protocols.
- Regularly review and audit the organization's systems, not just for current vulnerabilities but potential future ones, adjusting strategies accordingly.
- Ensure that there's an ongoing dialogue between IT, security teams, and organizational leadership about the evolving nature of threats and the importance of proactive measures.

Prediction 4: By 2025, 45% of CIOs Will Prioritize Strategic Data Management and Foster a Data-Centric Culture, Ensuring Competitive Differentiation in the Digital Era

Data is all around us. It powers insights, decision making, and innovation in an era where digital transformation has been reshaping industries. Nurturing a data-centric culture within organizations is about fostering an environment where key decisions are backed by data and where insights lead the way. This also means fostering a data-centric culture where strategic data management is prioritized, and employees are equipped with the tools and skills to analyze and act on the data.

As organizations navigate this competitive landscape, the ones that stand out will ensure data quality and integration, empowering the organization to understand, interpret, and apply it intelligently. These organizations will have a distinct edge as they can adapt faster, innovate more effectively, and anticipate market changes with a higher degree of accuracy.

Associated Drivers

- **AI everywhere** – Generative AI takes the spotlight
- **Dynamic work and skills requirements** – New work mode era
- **The digital business imperative** – Competitiveness and outcomes

IT Impact

- CIOs must ensure robust data governance frameworks to maintain data integrity and trustworthiness.
- CIOs will have to invest in advanced data analytics tools and platforms to enable more sophisticated data analysis.
- IT infrastructure will need to scale and evolve to accommodate the increasing influx of data from various sources.

Guidance

- Prioritize the establishment of a clear data governance strategy to ensure data quality and reliability.

- Invest in continuous education programs that elevate data analysis and related skills across the organization.
- Triage data based on relevance and quality, starting with high-impact, quality, relevant data and integrate across silos, then expand to address data that may still have utility but is more problematic.
- Determine which data doesn't fit into future models of use and retire that data.

Prediction 5: Two-Thirds of CIOs Will Not Meet Their 2025 Digital Revenue Goals Due to Misaligned Investments Hindering Business Performance

Achieving revenue goals is intricately tied to the alignment of technological investments with overarching business objectives, which is a challenge faced by many organizations. With two-thirds of CIOs falling short of their revenue targets set for 2025, there's a pressing need to reevaluate and realign digital strategies, as these missteps can hinder an organization's optimal business performance. The most resilient leaders will guide their teams to navigate the complexities of digital transformation to ensure that IT investments directly contribute to business outcomes.

CIOs must ensure that their leadership is rooted in a deep understanding of both the technological landscape and the business ecosystem. Only through such resilient leadership can organizations truly harness the full potential of their digital strategies.

Associated Drivers

- **The digital business imperative** – Competitiveness and outcomes
- **Economic uncertainty** – IT malaise and market volatility
- **Dynamic work and skills requirements** – New work mode era

IT Impact

- CIOs will have to consistently evaluate and ensure that IT investments align with business objectives to drive revenue growth.
- CIOs must establish robust communication channels with other business units to understand their needs and align IT resources.
- As the role of a CIO expands, a balanced efficiency in technology, strategy, and business acumen will need to be established.

Guidance

- Meet regularly with business unit leaders to ensure IT initiatives directly contribute to business goals.
- Continuously review the organization's digital strategy, adjusting as necessary to ensure alignment to business performance.
- Develop business-aligned objectives and key results/KPIs that include not only delivery requirements but also revenue goals built with the business.

Prediction 6: 50% of CIOs Will Team Up with LOB Executives to Establish Robust Federated Governance for Cohesive AI Strategies, Driving Swift and Seamless GenAI Adoption in Worker Augmentation and Automation by 2026

GenAI has the potential to reshape business processes, drive innovation, and increase efficiency. For businesses to realize its full benefits, CIOs and lines of business (LOBs) must collaborate more closely on GenAI adoption and initiatives. While LOB leaders bring domain-specific knowledge and insights,

CIOs possess the strategic and technological vision to integrate these advancements in a cohesive way.

Successful integration extends beyond collaboration, however. A robust governance framework is essential for GenAI use, data security, and regulatory requirements. This framework provides guidelines on GenAI's ethical and responsible use and offers a systematic approach for its scaling and integration across the company. GenAI will become integral to various business functions, and CIOs must manage value creation expectations with LOBs, particularly when demonstrating how technology aligns with the organization's mission.

Strategic governance and framework must be based on collective collaboration between CIOs and LOBs with a clearly defined vision to align goals.

Associated Drivers

- **The digital business imperative** – Competitiveness and outcomes
- **AI everywhere** – Generative AI takes the spotlight
- **The drive to automate** – Maximizing efficiency and new opportunities

IT Impact

- CIOs will be challenged by LOB leaders who are more directly involved in many decisions that involve technology.
- LOBs will seek ways to implement AI for business competitiveness if IT cannot supply business solutions quickly enough.

Guidance

- Work with key stakeholders to drive business strategy and enablement. Deliver business outcomes based on collaborative work.
- Find the right use cases and applications for GenAI that maximizes business impact without incurring undue risk. CIOs need to be in the driver's seat.

Prediction 7: By 2024, 35% of CIOs Will Embrace GenAI, Securing an Early Short-Term Advantage Over Competitors While Cultivating a Foundation of Talent, Experience, and Training Data

The emergence of GenAI with large language models (LLMs) has shifted the focus of IT investments across global enterprises. Unlike traditional AI models that are classifying or predicting data, GenAI has the capability to create completely new content. According to IDC's July 2023 *Future Enterprise Resiliency and Spending Survey, Wave 6,* 33% of IT professionals are investing significantly in GenAI technologies in 2023, marking an increase from 25% in IDC's March 2023 *Future Enterprise Resiliency and Spending Survey, Wave 2.* This rise offers forward-thinking CIOs an opportunity to gain an early advantage over competitors. IDC has an IDC PlanScape to chart this path (see *IDC PlanScape: Developing Your Path to Impact with Generative AI,* IDC #US51157323, August 2023).

However, IDC anticipates that these initial advantages may be short term. As early use cases become widespread or best practices are shared among followers or through as-a-service delivery by tech suppliers, these leads will diminish. For long-term success with GenAI, CIOs need to develop a firm foundation of talent, experience, and training data tailored to their business needs. In this foundation, CIOs must continuously innovate and identify new applications of GenAI to remain ahead. As with other emerging technologies, establishing a center of excellence dedicated to GenAI might be an

effective strategy to accelerate technological advancements and its application. Ultimately, CIOs need to take action to utilize GenAI for any long-term advantage for their organizations.

Associated Drivers

- **AI everywhere** – Generative AI takes the spotlight
- **The digital business imperative** – Competitiveness and outcomes

IT Impact

- GenAI will prompt IT departments to upgrade their infrastructure to support the increased requirements and data demands.
- The decision of how IT investments/budgets are allocated will be heavily influenced by the rapid development of GenAI technology and the growing number of practical applications it offers.
- IT teams will face the gap between what can be done with GenAI (and confusion with traditional AI) and what their organizations are equipped to achieve with their current capabilities.
- The rise in GenAI will increase the demand for specialized talent.

Guidance

- Encourage upskilling and continuous training to ensure teams are knowledgeable in the capabilities and applications of GenAI.
- Collaborate with business units to identify use cases that align with company or organizational goals.
- Consider establishing a dedicated GenAI center of excellence to centralize expertise, share knowledge and best practices, and accelerate implementation across the company.
- Develop criteria for determining POCs and projects that include data quality, complexity, risk, ROI, and skill sets.

Prediction 8: To Mitigate Legal Risks and Enhance Their Brand and Competitive Advantage, Nearly Half of CIOs Will Be Motivated to Automate Regulatory Compliance and ESG by 2025

ESG factors are swiftly emerging as critical determinants of a company's long-term value. In today's business climate, ESG considerations are no longer just a checklist. Organizations are getting pressure from all sides: Current and potential employees are voicing their concerns and demanding action; leaders and executives want their companies to be socially responsible and have positive impacts while building a strong external brand reputation; global standards and local government regulations must be adhered to; investors and shareholders are insisting companies adopt ESG measures; competitors are making moves and countermoves; and customers expect responsible and sustainable practices and products. These are factoring in and becoming integral components to a company's strategic plans.

CIOs are uniquely positioned at the intersection of technological innovation and ESG implementation. Their expertise allows them to facilitate real-time ESG data collection, foster transparent reporting, and drive data-driven decision making that aligns with sustainability and governance targets. For these reasons, CIOs are emerging as central figures in applying ESG values within the organization.

Associated Drivers

- **Operationalization of ESG** – Measuring and implementing sustainability

- **The drive to automate** – Maximizing efficiency and new opportunities
- **The digital business imperative** – Competitiveness and outcomes

IT Impact

- Tools and technologies that facilitate real-time monitoring and reporting of ESG metrics will be essential.
- The automation of regulatory compliance will be essential for monitoring, analyzing, and reporting accurate ESG metrics to meet regulatory standards.
- As more ESG data is collected and reported, data privacy concerns and the need for enhanced cybersecurity will increase.

Guidance

- Establish a dedicated cross-functional committee that focuses on the intersection of technology and ESG considerations.
- Prioritize investments in platforms that allow for seamless and transparent ESG reporting, ensuring stakeholders have clarity on performance.
- Embrace continuous learning in the rapidly evolving realm of ESG to keep teams updated on global ESG trends, regulatory changes, and emerging best practices.

Prediction 9: By 2026, 40% of CIOs Will Forge Unified Strategies with CMOs, Dismantling Silos of Customer Data to Enable the Delivery of Expected Engagement Within a Trusted Digital Experience

Historically, CIOs and CMOs often operated in silos, with CIOs focusing on the technical infrastructure and CMOs concentrating on branding, outreach, and customer engagement. However, as the digital world continues to influence consumer behavior, a strategic pivot toward a unified approach between these leaders is emerging. Integrating technological systems with marketing initiatives to create collaborative data management has become a critical element in digital business dynamics.

By aligning these two roles, organizations can ensure a seamless flow of customer information, enabling a comprehensive understanding of their customers. This holistic perspective paves the way for tailored experiences and more effective engagement strategies, fostering not only customer satisfaction but also trust and loyalty. Beyond transactional interactions, this integrated approach aims for richer, more meaningful interactions, recognizing the deep interplay between technology and marketing.

Associated Drivers

- **The drive to automate** – Maximizing efficiency and new opportunities
- **The digital business imperative** – Competitiveness and outcomes

IT Impact

- Stronger collaboration between CIOs and CMOs will lead to a higher demand for real-time data analytics platforms that can inform marketing decisions.
- Enhanced cybersecurity measures are needed to protect customer data and ensure privacy compliance.
- IT and marketing have frequently worked together at arm's length. The relationship needs to be much closer.

Guidance

- Collaborate closely with CMOs to understand marketing goals and align them with IT capabilities.
- Ensure data governance policies are in place to securely manage customer data.
- Learn how marketing organizations work and function.

Prediction 10: By 2026, 55% of CIOs Will Leverage Business-Savvy In-House Developers and Tools That Use GenAI and Low Code/No Code, as They and LOB Developers Build Competitive Differentiation Through Custom Apps

The IT landscape is changing, with an increased emphasis on utilizing in-house development and skills alongside modern tools such as GenAI and low-code/no-code platforms. Off-the-shelf commercial applications may not always offer the agility and cost-effectiveness required to meet an organization's unique challenges and goals.

In-house developers typically possess a deeper understanding of their organization's needs and are therefore valuable in their ability to align software development with overarching organizational objectives. Paired with LOB developers, they're aiming to create solutions that align with business objectives and user needs. This collective approach can position organizations for success in a constantly evolving competitive environment.

Associated Drivers

- **AI everywhere** – Generative AI takes the spotlight
- **Dynamic work and skills requirements** – New work mode era
- **The digital business imperative** – Competitiveness and outcomes

IT Impact

- New training and skills development may be needed for in-house developers to learn how to use GenAI and low-code/no-code tools effectively.
- As in-house developers rely more heavily on GenAI for app creation, IT teams will be tasked with overseeing the quality and accuracy of newly generated content.
- GenAI-driven development will improve productivity of more junior staff and improve the quality of applications through automated comment creation.
- The introduction of no-code/low-code business staff will improve understanding of technical requirements in relation to business goals. However, this will also complicate development management, leading to dotted line management processes between IT and the business.

Guidance

- Conduct regular IT audits to ensure custom-built applications align with overall business objectives.
- Invest in continuous education programs to equip in-house developers with skills to use GenAI and low-code/no-code tools effectively.
- Note that with no-code/low-code tools introducing more business staff to coding, there are increased risks for security and data challenges and suboptimization (functionality being driven by parochial needs rather than organizational ones).
- Invest more in code review and test cases by staff as a check on no-code/low-code development and GenAI-developed code.

ADVICE FOR TECHNOLOGY BUYERS

In the dynamic digital age, CIOs and their teams are facing unprecedented opportunities and challenges. Balancing technological innovations, like GenAI, with their broader organizational implications is crucial, meaning CIOs must be tech-savvy and visionary leaders, skillfully merging the domains of technology and business.

It's clear that technology is no longer just a support structure. Instead, it's a driving force for business strategy, shaping the ways in which organizations interact with customers, collaborate internally, manage data, ensure security, and innovate for the future. As such, purchasing decisions cannot be based solely on immediate needs or current trends. Instead, they must be grounded in a vision for the future, with a clear understanding of how technology can propel an organization forward in alignment with its strategic goals.

Furthermore, the rise of concerns such as cybersecurity and the emphasis on ESG considerations mean that technology buying is about more than just features or capabilities. It's about resilience, responsibility, and strategic foresight. The choices made by CIOs today will shape not only their organization's technological infrastructure but also its reputation, resilience, and competitive edge.

CIOs, IT executives, and other technology leaders must rethink their roles in light of these predictions and face key strategic directives:

- **Embrace leadership:** Adopt the role of the CIO as a bridge between technology and business strategy. Understand and advocate for how technology can serve broader organizational goals and drive business value.
- **Adopt and govern GenAI:** Embrace GenAI tools and technologies while establishing a structured governance framework for internal use. Address potential risks and ethical considerations.
- **Prioritize security:** Elevate cybersecurity to a business priority. Anticipate threats and build resilient infrastructure. Ensure that technology choices reflect a commitment to security as a foundational principle.
- **Promote sustainability and governance:** Integrate ESG principles into technology buying decisions. Aim for impactful sustainability and ethical innovation to build an organization in a world where these considerations will increasingly shape consumer, employee, and investor behaviors.
- **Collaborate:** Foster deeper partnerships with other organizational leaders to ensure technology decisions are holistic, integrated, and reflective of the broader business ecosystem.
- **Value data:** Treat data as a valuable asset. Maintain its accuracy, secure it, and utilize it for actionable decision making and business insights.
- **Invest strategically:** Align IT investments with long-term business objectives. Continuously assess and adjust these investments in response to evolving market dynamics and internal business objectives to ensure agility and relevance.

EXTERNAL DRIVERS: DETAIL

AI Everywhere — Generative AI Takes the Spotlight

- **Description:** With intelligence becoming the primary source of value creation, we are on the verge of the "Intelligence Revolution," in which artificial intelligence (AI) and automation-oriented technology will be the main accelerators of business change. In the realm of "AI everywhere," generative AI (GenAI) emerges as a transformative force, potentially revolutionizing the future. This branch of artificial intelligence enables a machine-driven autonomous creation of new content, from images to music to even written text, with remarkable accuracy. Early applications of GenAI have showcased its potential in fields such as creative arts, content and code generation, and personalized recommendations. However, it also raises concerns regarding bias and privacy: AI algorithms can inadvertently perpetuate biases and pose threats to personal data. As a result, regulation becomes crucial to ensure responsible and ethical use of GenAI. Despite these challenges, the possibilities are vast, ranging from improved customer experiences (CXs) to innovative problem-solving. Harnessing the power of GenAI and navigating its associated complexities have the potential to shape the future of industries and drive advancements in the AI-driven world.
- **Context:** Businesses are already jumping to get a piece of the AI pie, afraid to miss out on the opportunities it presents. Although we are in the early days, monetization and scale of AI solutions are expected to evolve rapidly. However, this comes during a time of relative economic uncertainty and increasingly constrained IT budgets. Furthermore, AI is not without risks, especially when it comes to ethical AI and data privacy, and companies need to carefully consider the best use cases in order to implement AI effectively.

The Drive to Automate — Maximizing Efficiency and New Opportunities

- **Description:** Broader automation use cases – beyond just generative AI – are now ubiquitous. Now that data is embedded in the core of strategic capability for every organization, automation is critical to scaling a digital business and is evident in three domains – IT automation, process automation, and value stream automation – leading to autonomous operations, digital value engineering, and innovation velocity. Industrial organizations have spent the past few years evolving toward the Fourth Industrial Revolution (Industry 4.0) through the use of industrial automation and intelligence. Thoughtful implementation is more important than ever as data becomes embedded in the strategic core of every organization. Automation technologies such as robots and drones are being used increasingly in the military and healthcare sectors. Given this boost in automation, data is increasingly precious, and privacy must be prioritized and security enhanced. In some cases, automation has also led to concerns over the future of work – whether it will enhance or take away.
- **Context:** Businesses are rethinking how to employ automation to maximize operational efficiency – from automating assembly in manufacturing to identifying opportunities for food waste reduction in hospitality to improving customer experience in digital banking. IT will need to continue to assess new technologies and approach automation investments strategically, both within the walls of the organization and in the field. Among industrial organizations, IT/OT convergence will necessitate shared responsibility across teams for automation priorities and implementations.

Economic Uncertainty — IT Malaise and Market Volatility

- **Description:** The global markets have been thrown into a state of prolonged uncertainty. The era of low interest rates and easily accessible corporate debt has abruptly transitioned into an

economic slowdown, accompanied by a surge in interest rates. Despite monetary policy interventions, inflation persists due to the compounding effects of global conflicts and supply chain constraints. As a result, economic growth is stifled, hindered by soaring commodity prices and mounting sovereign debt. In certain cases, this instability has even escalated into recessions. These conditions have created a situation of IT malaise, especially in the United States and Europe in early 2023, as uncertainty makes budget planning and forecasting challenging for executives. Many IT leaders are now bracing for an onslaught of AI-driven technology while battling uncertainty about which current expenditures and assets they should keep or discard. While technological innovation may be a rejuvenator, it further contributes to disruption and uncertainty in today's already volatile economic environment.

- **Context:** Given uncertainty around inflation and interest rates, C-suite executives need to strategically plan IT spend. Most executives view IT as a deflationary measure but striking this balance between digital investments and cost management becomes increasingly challenging given volatile conditions. With generative AI, IT executives further find themselves caught up in questions of strategic spending. While many IT organizations initially focused on constraining new expenditures and optimizing the use of existing assets, they now find themselves grappling with how to invest in AI and other drivers of innovation while reining in costs.

Cybersecurity and Risk — Building Resilience Against Multiplying Threats

- **Description:** The era of digital business has resulted in a significant increase in the interconnectedness of devices, people, applications, data, and networks alongside movement of workloads to the cloud. However, this progress has led to a broader vulnerability to cyberattacks. Ransomware attacks have multiplied exponentially; the dark web is teeming with low-cost, high-quality hacking services; and generative AI is threatening with more believable, humanlike phishing and pretexting attempts. A shortage of skilled cybersecurity professionals presents a continuous challenge for organizations to respond effectively. Cyberattacks have impacted all types of organizations, from governments to universities to businesses, and are oftentimes entangled in geopolitical motives. The increase in high-profile data breaches is furthermore leading to increased policy interventions regarding privacy and sovereignty.
- **Context:** An organization that is unprepared for cyberattacks may suffer various consequences, including data loss, financial implications, harm to the organization's brand reputation, decreased employee morale, and loss of customers. Cyber-resilience – the ability of an organization to anticipate, withstand, recover from, and adapt to any threats to its resources – is key for an organization to not only defend against cyberattacks but also prepare for swift response and recovery to attacks.

The Digital Business Imperative — Competitiveness and Outcomes

- **Description:** A digital business sees value creation based on the use of digital technologies for both internal and external processes, including customer engagement, employee experience, and product and services development. Building and leading a digital business is imperative for organizations to be competitive. While certain operational aspects may always have a nondigital component, digital businesses prioritize a digital-first strategy that aligns all parts of the business and IT landscape with digital workflows to drive value and growth. The development strategies for both digital and nondigital assets now require leveraging multiple channels for the digital business to obtain support or funding. This places a strong emphasis on providing digital experiences for customers and citizens, employees, and partners and necessitates a shift toward fully digital operating models and resilient supply structures enabled by digital technology. The focus of a digital business is increasingly on delivering

measurable outcomes. Businesses that have recognized the value of digital anticipate maintaining or even increasing their investment in technology, even in times of economic uncertainty.

- **Context:** As more and more enterprises embrace digital strategies and technology, they prioritize technology investments that drive innovation or allow for competitive differentiation. Technology is no longer viewed as a tool to keep the business running, but it is the foundation for building new revenue-generating experiences and products. Laggards will need to adapt quickly and develop their digital road maps and embrace a digital business platform. Identifying top digital revenue opportunities that deliver value will be crucial for overall business success and implementation of organizational digital-first strategies.

Dynamic Work and Skills Requirements — New Work Mode Era

- **Description:** In the wake of COVID-19 pandemic-driven accelerated work transformation, enterprises continue to face dynamic work conditions. These range from lack of skilled employees to codifying more flexible ways of working that rely on a broad range of technologies and services. In some regions, most notably in Asia/Pacific, organizations are focused on building more secure and technically sophisticated office environments. In North America, remote and more flexible work models are driving investments in technologies that support collaboration across and within disparate work environments. Across this spectrum of work models, organizations are investing in infrastructure, hardware, software, and services to enable and manage increasingly automated ways of working. These include automated remote onboarding, learning in the flow of work, and use of AI and generative AI to facilitate basic tasks and workflows. While the pandemic drew much needed attention to the employee experience, enterprises have shifted to aligning employee requirements more plainly to strategic business goals. The key challenge around the globe has been to find or upskill/cross-skill employees to scale and meet the demands of complex, automated work processes. Flexible work models continue to change to become even more agile, with digital workspaces highlighting skills, workforce management, automation, changing demographics, and as-a-service talent resourcing.
- **Context:** New modes of working are now intrinsic to leadership and organizational resilience and go well beyond traditional staff planning methods. They are also having an impact on frontline workers who have historically been neglected in favor of higher-paid front- and back-office peers. New work models require agile cross-functional teams – including HR, IT, LOB, finance, facilities management, and operations – to engage top talent and meet client brand expectations. While headlines debate the fate of environmental, social, and corporate governance (ESG) initiatives, it's clear that environmental concerns will be an embedded element of workplace design and implementation of flexible work models. C-suite leaders and their teams must collaborate to recalibrate work culture, augmentation, and space/place planning to enable more secure, dynamic, and refined work models of the future.

Operationalization of ESG — Measuring and Implementing Sustainability

- **Description:** Environmental, social, and governance (ESG), a globally adopted framework supporting actions to achieve sustainability and a better future for all, is gaining more traction than ever. ESG laws are increasing: the EU launched the Corporate Sustainability Reporting Directive (CSRD) requiring companies to disclose and assure ESG metrics, the SEC's climate disclosure requirement is forthcoming, and Japan's GX Basic Policy implements an emissions trading scheme and carbon tax. There are also new International Financial Reporting Standards. Given this, many companies are actively operationalizing ESG with AI-informed carbon accounting software, carbon budgets, and sustainability requirements into requests for

proposals (RFPs) they send to tech suppliers. Many companies now have positions such as chief sustainability officer or are integrating sustainability into the responsibilities of the C-suite. And many enterprises are replacing redundant faulty and energy-heavy tech with newer, more efficient energy-saving counterparts. Businesses recognize that diversity, equity, and inclusion are positively affecting profits and are therefore implementing DEI initiatives to include more women and minorities. In addition, ESG compliance is a form of long-term strategic business risk reduction. Given climate change and instable energy prices, among other risks, ESG helps curb costs and hedge against risks caused by natural disasters and other shocks.

- **Context:** ESG is more than just a measure; it is foundational to business purpose and value. Businesses are increasingly beholden to ESG. More and more customers care about whether the companies they deal with behave sustainably and deliver sustainable products and services. ESG can also be a cost-saving measure and hedge against risks. Yet, despite much progress, there is still work to be done, especially in complying with carbon footprint measuring and achieving high-quality data. As laws and regulations – as well as investment opportunities – amp up around ESG, the IT industry will increasingly require green talent and skills and better data modeling of ESG metrics to achieve maximum benefit.

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- *Critical External Drivers Shaping Global IT and Business Planning, 2024* (IDC #US51057623, September 2023)
- *IDC PlanScape: Developing Your Path to Impact with Generative AI* (IDC #US51157323, August 2023)
- *IDC's Future Enterprise Resiliency and Spending Survey, Wave 2,* March 2023 (n = 952; North America: 370, Western Europe 220, Asia/Pacific: 362; data weighted by country share of worldwide IT spending [500+ employee size])
- *IDC's Future Enterprise Resiliency and Spending Survey, Wave 6,* July 2023 (n = 890; North America: 371, Western Europe: 219, Asia/Pacific: 300; data weighted by country share of worldwide IT spending [500+ employee size])

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Global Headquarters

140 Kendrick Street
Building B
Needham, MA 02494
USA
508.872.8200
Twitter: @IDC
blogs.idc.com
www.idc.com

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