IDC FutureScape

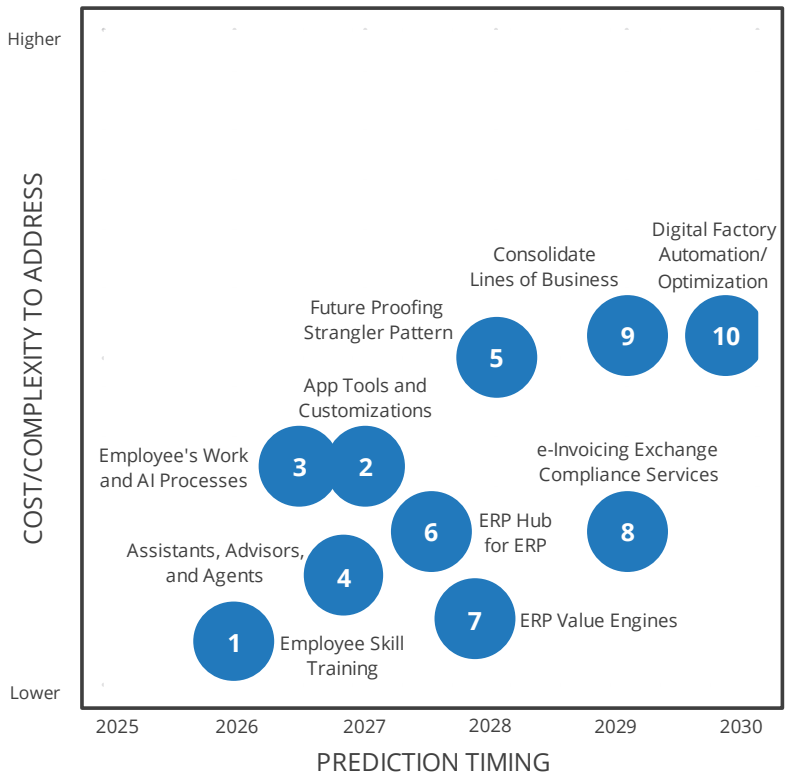
IDC FutureScape: Worldwide Intelligent ERP 2025 Predictions

Mickey North Rizza
Zachary Chertok
Patrick Reymann
Kevin Permenter
Edyta Kosowska
Bo Lykkegaard
Heather Hershey
Daniel-Zoe Jimenez
Ashok Patel

IDC FUTURESCAPE FIGURE

FIGURE 1

IDC FutureScape: Worldwide Intelligent ERP 2025 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.

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EXECUTIVE SUMMARY

Organizations are at a precipice as the weight of the artificial intelligence (AI) digital world comes forward. Digital transformation, SaaS and cloud-enabled, and enterprise application modernization have been the pathways for organizations as they embrace the plethora of technology changes in recent years. These changes are huge investments, reshaping not only this relatively new digital world but also a much-needed movement to more automation of business processes. With more business processes automated, employees can now work smarter and in less time help the business navigate to better performance.

In the past few years, artificial intelligence has come to the forefront as an aid that has brought more into the business processes, reducing long workflows into shorter processes, enabling the employee to quickly gather insights and make more intelligent business decisions fast. AI and its many flavors have started a new technology evolution that is even more pronounced and significant to organizations globally. This AI everywhere evolution, which includes all generative AI (GenAI), has been in the early stages of organizational acceptance and experimentation during 2024, with many proof of concepts (POCs) and new products emerging. Fueling this growth is the opportunity for organizations to improve their technology underpinning with more automation, improved decision velocity, and an ability to be more agile while scaling quickly to meet the digital world economy needs. In this IDC FutureScape, the IDC worldwide enterprise application team has recognized the changes that are and will continue to occur for organizations as they embrace the innovation of AI, and particularly GenAI.

The 2025 predictions for the worldwide intelligent ERP and enterprise application technologies overall are as follows:

- **Prediction 1:** By late 2025, 35% of organizations will harness the power of the digital worker and accelerate employee skills training to drive improved resource collaboration and greater valued outcomes.
- **Prediction 2:** By 2026, 40% of the G2000 will utilize tools provided by enterprise app vendors to create their own highly customized GenAI capabilities grounded in their data to maximize value and boost KPIs.
- **Prediction 3:** By mid-2026, 60% of G2000 will have new KPIs to align AI-infused processes and employee's workflows, which will drive 45% improvements in overall operational efficiency and employee productivity.
- **Prediction 4:** By late 2026, 65% of organizations will leverage AI to bring immediate employee and business value with AI-driven technology assistants, advisors, and agents enabling improved decisions.

- **Prediction 5:** By 2027, 75% of global businesses will have begun the process of incrementally decoupling monolithic enterprise apps via the "strangler pattern" to continue future proofing their organization.
- **Prediction 6:** By mid-2027, 55% of global organizations will use their ERP systems as a primary hub for ESG-related efforts to more effectively weave and measure sustainable practices throughout their operations.
- **Prediction 7:** Driven by AI and autonomous agents, in 2027, 40% of G2000 will utilize their ERP systems as value engines, transforming decision support to contextual insights.
- **Prediction 8:** By 2028, 70% of organizations worldwide will adopt unified, electronic invoice exchange and compliance as a service because of new e-invoicing mandates and technology advancements.
- **Prediction 9:** Leveraging GenAI, by 2028, 45% of G2000 will consolidate lines of business into fewer functions, optimizing their processes, data, and resources, building a new resource-savvy enterprise.
- **Prediction 10:** Because of GenAI, by 2029, 80% of today's organizational workflows will be automated into an optimized digital factory, with 50% of G2000 embracing a new business resource structure.

This IDC study presents the top 10 predictions and key drivers for intelligent ERP/enterprise applications over the next five years. The AI everywhere digital world is upon us. Organizations continue to embrace its innovation along with digital transformation activities that include modernizing their enterprise applications to SaaS and cloud enabled. Generative AI has left a profound impact as it emerges and is being applied to existing workflows. Assistants, agents, and advisors have emerged to help organizations adopt quickly to the new digital coworker collaborative toolsets. This adoption will help organizations improve their processes and the employee's work and reshape the organization to become an AI-fueled business with more autonomous workflows.

"Organizations are at a crossroads with many technology activities including digital transformation, enterprise application modernization, automation of workflows, AI experimentation, and enabling more optimized processes to aid the employees in their flow of work," said Mickey North Rizza, IDC group vice president, Enterprise Software. "IDC finds the digital coworker will completely transform the organization's use of enterprise applications and bring in additional focus on more native AI applications. This shift means the organizations will be reshaped over time in the employee and technology methods of work, technology architecture, employee skills, KPIs, and finally, the structure of the organization."

Summary of External Drivers

- **AI-driven business models —** Moving from AI experimentation to monetization
- **The drive to automate —** Toward a data-driven future
- **Battling against technical debt —** Overcoming hurdles to IT modernization
- **Regulatory flux —** Navigating compliance challenges in a shifting policy landscape
- **Responsible and human-centric technology —** Ethics in the enterprise
- **Future proofing against environmental risks —** ESG operationalization and risk management
- **AI-driven workplace transformation —** Building tomorrow's workforce today

Predictions: Impact on Technology Buyers

Prediction 1: By Late 2025, 35% of Organizations Will Harness the Power of the Digital Worker and Accelerate Employee Skills Training to Drive Improved Resource Collaboration and Greater Valued Outcomes

The shift to digital skills orchestration is underway — IDC recently found a 97% likelihood among companies to signal an intent to concentrate on digital knowledge management, personalized learning, and integrated employee skilling in the flow of work over the next 12–18 months (source: IDC's *Human Capital Management Survey,* August 2024; n = 512). Over the past 12 months, digital learning and skilling have already seen rapid and renewed interest from HR and non-HR stakeholders alike as companies seek out new ways to meet or exceed the changing landscape of CEO-led objectives and key results (OKRs).

At the center of the storm is a trending inability among workforce leaders to reconcile business and employee performance management models and timing in a way that equitably drives the right resources to the right employees at the right times and locations in support of evolving OKRs. Early movers are already starting to invest in defined resource management strategies, leading to early trends in associated improvements in key performance indicators (KPIs) including CSAT, ESAT, and revenue growth.

As digital resource orchestration continues to drive KPIs in the right direction, IDC expects to see a significant rise in digital resourcing enablement using tools like

learning experience management (LXM), digital assistance, digital agents, and integrated employee workspaces (IEWs).

Associated Drivers

- **Responsible and human-centric technology —** Ethics in the enterprise
- **AI-driven workplace transformation —** Building tomorrow's workforce today
- **The drive to automate —** Toward a data-driven future

IT Impact

- HR will partner with IT to structure AI resource orchestration using behavioral modeling built out of data and insights gathered from the voice of the employee.
- IT will need to reskill to support AI over predictive analytics while learning to interpret what HR and other operational stakeholders ask of them.
- IT will be challenged to manage digital spend scrutiny against the data and asset asks being levied on them by non-IT stakeholders including HR.

Business Impact

- AI-personalized resourcing will better align employees to the changing state of the business, reducing disengagement and attrition risks, and aligning career growth with both constant and emerging employer needs.
- AI knowledge orchestration will help employees better and more responsively service customer requests with greater accuracy, timeliness, and capacity.
- The rise of "access anywhere" models will concentrate more on employee needs for information and resources in the flow of work, sustaining more independent employee development within the context of OKRs and challenging rigid permissions structures.

Guidance

- Consider where knowledge resources are located within the organization, the systems that house them, and what the current state of data-defined access permissions looks like. Frame a future state around AI-driven orchestration from any foundational source with permissions structured around the employee record rather than the conditions of the asset being accessed.
- Choose a knowledge and resource management vendor partner that can consolidate resource access point markers and/or the resources themselves to consolidate access drives behind one digital assistance provider.
- Partner internally with IT to broker the elimination of access silos between HR and non-HR stakeholders. Rely on IT leaders to design, explain, and justify cross-functional orchestration design to build internal buy-in to resource management

that does not rely on managed permissions by human-centered centers of excellence (COEs).

Prediction 2: By 2026, 40% of the G2000 Will Utilize Tools Provided by Enterprise App Vendors to Create Their Own Highly Customized GenAI Capabilities Grounded in Their Data to Maximize Value and Boost KPIs

During the current phase of "AI scramble," organizations with cloud-based enterprise applications are adopting AI-infused functionality as it becomes available during quarterly or semiannual releases. Across 2,875 respondents in IDC's 2024 *SaaS Path Survey,* 40.6% said they are already using GenAI in their applications. And if a vendor doesn't have GenAI, 25.4% of organizations plan to replace their current applications. Such AI-infused features constitute quick wins for customers by boosting productivity across application-centric workflows. However, as organizations move into the upcoming "AI pivot" phase, the need for more advanced and customized AI capabilities as well as AI-centric applications will evolve.

IDC finds the enterprise-grade application vendors are supplying AI platform tools to satisfy some of the need of industry- or organization-specific AI use cases. Especially in use cases that build mainly on application data, building such functionality using platform tools of the application vendors is becoming very attractive to many enterprise-grade application customers. These application-bundled platform tools can enable customers to leverage authentication, access control, data management, and language models of the application. This can speed up the development of new functionality and reduce development complexity.

Associated Drivers

- **The drive to automate —** Toward a data-driven future
- **Regulatory flux —** Navigating compliance challenges in a shifting policy landscape
- **Battling against technical debt —** Overcoming hurdles to IT modernization

IT Impact

- The development teams behind such new, custom-built AI applications will benefit from faster time to market and simplified application architectures because certain data and functionality are "inherited" from the business application.
- To leverage such application tools when building new, advanced AI applications, IT functions must build up skills in the AI platform tools supplied by the application vendor.

- The IT department could face additional licensing costs as the AI application accesses the data in the enterprise application. There will most likely be licensing costs related to the application that is using the AI development tool.

Business Impact

- The business impact of advanced, custom-built AI applications is likely to be much higher than embedded AI functions within enterprise applications. Enterprise applications generally cover horizontal AI use cases that are widely applicable, while custom-built AI applications can enable new products, services, or business models and are a potential source of competitive advantage.
- Organizations that are looking to apply enterprise application data in new, custom-built AI applications can — using accompanying platform tools for AI development — reduce time to market and simplify development compared with general-purpose AI platforms.
- One consequence of using platform tools to extend enterprise applications into custom-built AI solutions is that the organization commits further to the supplier of these applications and tools. This strategy is only advisable for the go-to application platforms of an organization.

Guidance

- Choose an enterprise application with a solid AI extension road map. As part of selecting enterprise applications, the platform tooling of each application is an important selection criterion. Some of this tooling, especially on the AI front, is unlikely to be generally available today, but buyers must take into consideration the AI platform road maps of each application provider.
- Carefully assess each advanced AI use case in terms of the best-suited development environment. The application-centric tools could be the best choice when the AI application relies strongly on data and/or workflows in the packaged application. For loosely connected AI applications, developers are more likely to use more general-purpose AI development tools.
- Ensure pristine data quality in your enterprise applications. After all, this will not only help the enterprise application users and reporting with reliable data but also provide a robust data foundation for future, adjacent, custom-built AI applications residing outside the application.

Prediction 3: By Mid-2026, 60% of G2000 Will Have New KPIs to Align AI-Infused Processes and Employee's Workflows, Which Will Drive 45% Improvements in Overall Operational Efficiency and Employee Productivity

Key performance indicators are essential for measuring the success of initiatives, goals, and performance overall. KPIs are valuable because they can be used at the individual, team, and at the organizational level and provide solid evidence that can help inform future decisions. Typically, organizations use KPIs to look at their productivity, efficiency, and overall performance across and within functions. The KPI focus enables the organization to look at the business processes to bring improved outcomes with an emphasis on adding automation, changing work methods, or looking for additional avenues to reduce time to decision velocity.

When implementing AI, organizations find if they look first at the current KPI and capture that metric as a baseline they can set the foundation of watching the change occur. And then as the change occurs with AI-infused business processes in the employee's workflows, they capture the change from the new initiatives, the new success is uncovered. As the AI-infused process or digital workflow is married with the employee's workflow, the employee will gain decision accuracy and confidence in the information brought forward by the digital coworker. This then becomes the new method of working with an improvement in the decision velocity (productivity/efficiency) from using AI in the employee's flow of work.

As the trust is gained with the AI-infused processes, many "before AI" processes will become more autonomous — meaning they will become part of the technology fabric and a standard the employee can now count on to complete, add information to, or bring more insights into the employee's flow of work. This change means the previous less automated workflows are now faster, embedded into the next level up workflow and enable the employee to get to a decision much faster. AI becomes the pathway to improved KPIs for organizations. By leveraging applications with embedded AI in the employee's flow of work, organizations gain faster access to AI innovation (2x multiplier effect). And by activating AI features on an already existing solution, the organization can shorten the time significantly to AI impact (3x multiplier effect), bringing even more improvements.

Associated Drivers

- **AI-driven business models —** Moving from AI experimentation to monetization
- **The drive to automate —** Toward a data-driven future
- **AI-driven workplace transformation —** Building tomorrow's workforce today

IT Impact

- AI-infused workflows can quickly change the use of current enterprise applications, so "turning AI on within the workflow" is essential for the business to reap the value.
- The original KPIs must be measured and set in stone, so the benefits can be calculated as they occurred and brought forward to the organization.
- Make sure the business understands the expected implications of the AI workflow and can see a difference with the employee in the loop and then if/when the process becomes autonomous. The KPI value can be quite distinct from before AI, with collaborative AI (digital worker and employee) and autonomously.

Business Impact

- The employee doesn't always understand the AI-infused process and how it differentiates from previous processes. Education and training are critical for the employee.
- AI-infused processes can improve KPIs by automating additional aspects to the business processes, bringing about new methods of working, and opening up opportunities to rethink the workflows.
- AI within the employee's workflows brings one point of KPI improvement. As the employee gains trust in it, it can then automate more, making some workflows a natural part of the next level up workflow. This can help the employee move through transactional and traditional workflows quicker and give them more time to manage stakeholder, supplier, and customer relationships.

Guidance

- Train and educate employees on how the AI-infused process works and their role as AI becomes part of their new flow of work.
- Record the current pre-AI-infused business process KPI before using the AI-infused process. And then record the AI-infused process KPIs with the employee in the loop and then record it if/when it becomes autonomous.
- Think about the gains and changes. Efficiency and productivity gains will be significant, but remember, the employee has many other workflows without AI, not in an enterprise application, and will now have time to complete these assignments.
- Look at workflows that have more manual or multiple applications dependent upon the employee to manage. Apply AI-infused processes to these processes for more KPI improvements.

Prediction 4: By Late 2026, 65% of Organizations Will Leverage AI to Bring Immediate Employee and Business Value with AI-Driven Technology Assistants, Advisors, and Agents Enabling Improved Decisions

Since late 2022, the constant drumbeat heralding the widespread adoption of AI-driven technology has been echoing steadily at the top of mind of those tuned to the latest trends in enterprise optimization. The next phase of AI for business is taking the form of assistants, advisors, and agents that are revolutionizing organizational efficiency across various industries. These advanced AI technologies merge predictive and generative AI with traditional machine learning, creating a composite with functionality poised to streamline operations and enhance decision-making capabilities. These agents are adept at automating routine tasks and aggregating vast amounts of data for insightful, actionable analysis fast enough that the actions can capture the momentum of the data at scale with precision. Beyond this, they can create their own workflow logic, refine that rule set based on data and performance outcomes, and approximate a level of "thinking" that produces a convincing approximation of human thinking, the latter of which is the truly revolutionary element of this new wave of AI.

AI agents leverage complex algorithms to simulate a high level of cognitive function, akin to rational thought. This capability stems from the systems' ability to analyze historical data and ongoing interactions, predict outcomes, and generate responses or actions that are contextually appropriate and strategically sound. The "thinking" process in these AI systems is a result of deep learning techniques, where neural networks mimic the neural structure of the human brain, allowing the AI to learn from patterns and improve over time without explicit programming for each specific task. This level of automation and decision-making is revolutionary because it significantly reduces the latency between data acquisition and action, enabling businesses to respond to market dynamics instantaneously and with a high degree of accuracy. For instance, an AI-driven agent in a customer service scenario can predict customer issues based on interaction history, suggest solutions, and even resolve complex cases that typically would require human intervention. This not only speeds up response times but also enhances customer satisfaction by providing tailored, intelligent solutions.

The ability of these AI systems to self-refine their algorithms through continuous learning and adaptation represents a breakthrough in artificial intelligence. As these systems encounter new data or outcomes, they adjust their operational models, thereby improving their efficiency and effectiveness over time. This adaptive capability mimics human learning and decision-making processes, marking a significant milestone in AI development. The engineering challenges to achieve this include

ensuring the AI systems are scalable, secure, and able to handle diverse and complex data sets without compromising operational integrity or performance.

This deep integration of AI into business processes heralds a new era of enterprise optimization, where the line between human and machine capabilities will become increasingly blurred, pushing the boundaries of what is possible in business efficiency and innovation.

Associated Drivers

- **The drive to automate —** Toward a data-driven future
- **AI-driven business models —** Moving from AI experimentation to monetization
- **AI-driven workplace transformation —** Building tomorrow's workforce today

IT Impact

- The deployment of AI-driven technology assistants will necessitate more sophisticated integration platforms that can seamlessly connect disparate systems and data sources across the organization. This will drive the need for more robust middleware solutions and APIs to ensure that these AI tools can access the necessary data to function effectively.
- As AI agents rely heavily on large data sets to make predictions and automate tasks, there will be a substantial increase in the demand for advanced data analytics infrastructure. IT departments will need to upgrade their data storage, processing, and analysis capabilities to handle the high volume and velocity of data generated by AI systems.
- With AI agents accessing and generating critical business data, enhancing cybersecurity measures will be paramount. IT will need to implement more advanced security protocols and tools to protect against data breaches and ensure data integrity as AI systems become more deeply embedded in business processes.

Business Impact

- AI-driven assistants and agents will significantly enhance operational efficiency by automating routine tasks such as scheduling, customer service, and data entry. This will allow human employees to focus on higher-value tasks that require creative thinking and problem-solving, thus improving overall productivity.
- The use of AI to manage and improve customer interactions will transform the customer experience. Businesses will be able to provide more personalized, responsive service at a scale previously unattainable, leading to higher customer satisfaction and loyalty with a caveat. (The caveat is that if the customer prefers

authentic human interaction, they should have access to that experience as part of good CX design.)

- AI-driven advisors and technology agents enable businesses to reduce the time to market for new products and services by streamlining the innovation process. These AI systems can rapidly prototype, test, and refine new ideas based on continuous feedback loops with market data, customer behavior, and performance analytics.

Guidance

- Perform a thorough audit of your current IT infrastructure and evaluate the skills of your workforce to identify gaps. This step ensures you are well prepared to harness AI technologies effectively, determining necessary upgrades and workforce training or expansion.
- Create a detailed plan for implementing AI-driven solutions, beginning with pilot projects in key departments. Use these initial projects to measure the impact of AI tools on business processes and workforce productivity, which will inform adjustments and scalability for broader implementation.
- Implement robust data governance and ethics policies to manage the use of AI responsibly. Ensuring the privacy, security, and ethical application of AI protects your organization legally and reputationally while fostering trust among stakeholders that AI tools are used with integrity.

Prediction 5: By 2027, 75% of Global Businesses Will Have Begun the Process of Incrementally Decoupling Monolithic Enterprise Apps via the "Strangler Pattern" to Continue Future Proofing Their Organization

The evolving IT landscape, characterized by rapid technological advancements and an increasing regulatory burden, is compelling businesses to reconsider their legacy enterprise applications. As these systems become more cumbersome and less aligned with modern demands, organizations are turning to the "strangler pattern" to modernize their infrastructure. This approach — named after a type of parasitic fig tree that gradually envelops and replaces its host tree — strategically updates legacy systems by building new functionality around them until the old systems are eventually decommissioned. The new AI era requires taking this architectural design paradigm to a whole new level due to intense competitive pressure to integrate advanced AI and machine learning capabilities across the enterprise that elevate decision-making processes, automate routine tasks, and optimize operations.

One of the primary drivers behind this shift is the imperative to address technical debt — outdated or inefficient code and architecture that hampers operational agility and innovation. Legacy systems often accumulate technical debt due to prolonged use and

the patchwork of updates that fail to meet current technological standards. By adopting the strangler pattern, companies can strategically replace these outdated components with cutting-edge solutions, including AI-enabled technologies. This transformation actively boosts efficiency and positions organizations to excel in a competitive, data-driven marketplace.

The evolving dynamic between tech firms and regulatory bodies resembles an accelerating game of cat and mouse, with businesses persistently adapting to the latest compliance mandates. This environment demands that organizations be exceedingly agile, a challenge given the rigidity of monolithic architectures. Organizations that embrace the gradual decoupling of monoliths in favor of modular, composable, API-first, and cloud-native technologies that can quickly assimilate new innovation like AI find themselves better positioned. This strategic shift, enhanced by advanced AI integration, facilitates smoother, more cost-effective transitions. By adopting such technologies, organizations can rapidly adjust to new regulations as AI-driven systems can preemptively identify compliance needs and automate the necessary adjustments without human intervention. This not only ensures ongoing compliance more efficiently but also empowers businesses to swiftly adapt to future legislative changes. This proactive approach positions early adopters as leaders, moving away from outdated systems and toward the robust, scalable architectures of tomorrow.

Associated Drivers

- **Battling against technical debt —** Overcoming hurdles to IT modernization
- **The drive to automate —** Toward a data-driven future
- **Regulatory flux —** Navigating compliance challenges in a shifting policy landscape

IT Impact

- IT departments can more swiftly integrate new technologies and services into their operations, enabling quicker adoption of advancements like AI and machine learning.
- Modular systems allow IT to scale solutions more efficiently and tailor services to specific business needs without disrupting existing operations.
- Advanced AI capabilities embedded in modern architectures can automate the detection and implementation of compliance requirements, reducing the burden on IT staff and minimizing human error.

Business Impact

- Businesses adopting modular, API-first architectures can more readily comply with evolving regulations, reducing the risk of penalties and enhancing their reputation for data stewardship.

- Organizations that shift from monolithic to composable systems can respond more dynamically to market changes and consumer demands, improving their competitive edge and market responsiveness.
- By facilitating incremental updates rather than complete overhauls, companies can manage costs more effectively, allocating resources to innovation rather than to correcting outdated systems.

Guidance

- Evaluate and plan architectural shifts and build for rapid pivots. Start by assessing your current IT infrastructure to identify areas where monolithic systems can be gradually replaced with modular, API-first solutions. Develop a strategic road map for this transition, prioritizing areas that will most directly enhance agility and compliance capabilities.
- Invest in skills and big picture ecosystem partnerships. Ensure your team is equipped with the skills necessary to manage and maximize the benefits of a composable, cloud-native architecture. Consider forming strategic partnerships with technology providers that specialize in advanced AI and modular systems to leverage their expertise and accelerate your transformation.
- Implement continuous compliance monitoring. Utilize AI-driven tools to continuously monitor regulatory changes and automatically adjust your systems to remain compliant. This proactive approach not only minimizes the risk of noncompliance but also embeds a culture of compliance across all technological implementations and updates.

Prediction 6: By Mid-2027, 55% of Global Organizations Will Use Their ERP Systems as a Primary Hub for ESG-Related Efforts to More Effectively Weave and Measure Sustainable Practices Throughout Their Operations

As environmental, social, and governance (ESG) regulations are passed with increasing regularity and stringency, and scrutiny from investors, employees, and customers elevate the topic to an all-time high, organizations have never faced more pressure to be environmentally and socially responsible. However, while in previous years ESG was often treated as a standalone topic within many organizations, there is a growing trend toward taking a less aggressive, explicit targeting approach of sustainability initiatives. Instead, organizations are increasingly exploring how ESG can be woven throughout their operations. This ensures ESG-related activities are intrinsically tied to broader operational success, boosting the long-term financial and environmental sustainability of the organization and ensuring this more holistic approach to ESG is embedded throughout its operations.

While recent years have seen the rise of specialist applications, often focusing on one aspect of the broader ESG landscape, organizations are struggling to build a broader picture whether because of visibility, connectivity, or consistency. In addition, many organizations are reluctant to invest in an array of applications purely focused on tackling ESG-related elements at a time when they are trying to consolidate their broader enterprise applications portfolio.

The ERP system is at the heart of most organizations operations, and with many ERP vendors exploring new ESG-related modules and connections, it is perfectly placed to take a much bigger role in the ERP space. As a result, organizations will increasingly rely on their ERP systems to be the primary hubs for their ESG-related activities as they strive to overcome the challenges of collecting and analyzing data from across their supply chains. This will not only take the guise of facilitating better tracking all the relevant data — such as carbon footprint data — but also enable more accurate, granular, and timely measuring of sustainable practices within the organization. Be it green accounting to supplier programs, ERP systems will continue to enhance the value of ESG for organizations. And ERP will play a key role in helping organizations with their transition to a woven approach to ESG, with practices embedded across operations.

Associated Drivers

- **Future proofing against environmental risks —** ESG operationalization and risk management
- **Responsible and human-centric technology —** Ethics in the enterprise
- **Regulatory flux —** Navigating compliance challenges in a shifting policy landscape

IT Impact

- The growing emphasis on woven organizationwide ESG activities will require robust data collection and analysis that spans not only all internal operations but stretches out to the further reaches of the value chain.
- Transparent and widespread collaboration across the value chain is essential to ensuring that an organization's ERP system had full visibility of activities and operations from the first supplier through to the end customers, and potentially into the post-consumer space, too.
- Applications across the organization, from the ERP and finance to CRM and HCM, must be interconnected and integrated into each other and into a single data truth, in a way that facilitates new levels of openness and increased levels of granularity to ensure organizations can meet not only their regulatory obligations but the ethical ones.

Business Impact

- Organizations must embed not just ESG-related goals but a broader sustainable mindset throughout their operations. Everyone must be aware of these goals and be fully onboard with these ambitions, embracing a more sustainable mindset to ensure the organization moves as one to deliver on their ESG-related goals.
- Transitioning to a more open, collaborative, and sustainable approach to business is key. This will not only facilitate a more frictionless ESG transition with suppliers but also ensure that individual employees consider the full ramifications of their decisions, including accounting for the sustainability impact.
- Embracing ESG topics will require a rethink about how different functions operate, with each needing to adopt a more holistic perspective that incorporates and accounts for activities across the organization as a whole rather than a function-first mentality. Providing real-time visualizations and insights based on ESG data that spans an organization's operations is key to this.

Guidance

- Provide your employees with the right tools that enable them to collect and analyze robust data across all relevant workflows rather than relying on estimates and best guesses.
- Ensure sustainability is not a standalone topic but rather woven into every aspect of decision-making within the business.
- Adopting the right tools and technologies can play a key role in automating ESG-related data collection and analysis, benefiting not only ESG reporting but help set and achieve the right ESG goals.

Prediction 7: Driven by AI and Autonomous Agents, in 2027, 40% of G2000 Will Utilize Their ERP Systems as Value Engines, Transforming Decision Support to Contextual Insights

As organizations seek to modernize their ERP systems, they are looking for smarter connected solutions that not only facilitate users to perform tasks but actively help them. In many cases, this is manifesting in a combination of technologies, such as AI and autonomous agents, being embedded in the ERP system and other applications throughout an organization's functions.

While organizations will increasingly rely on these agents to perform, often simple, tasks within the system, they also want tangible benefits from a user's perspective too. And with many organizations increasingly transitioning to more data-driven and

informed decision-making, they are also looking to these agents to help deliver this through providing contextual insights to end users.

This role in not only performing tasks in the system but enabling users to make better, more informed decisions will be an essential part of a modern organization's operations. Being able to collate, analyze, and provide data and insights from across the organization's operations and applications, and potentially external sources too, is key to helping user maximize their potential both within the application and the broader business. These intelligent, autonomous agents will also play a crucial role in helping resolve problems and breakdowns in data and process flows within the organization by identifying issues, flagging these in an accessible way, and providing guidance on how users can remedy these problems themselves without the need for additional support from, for example, IT or other functions.

Associated Drivers

- **AI-driven business models —** Moving from AI experimentation to monetization
- **The drive to automate —** Toward a data-driven future
- **AI-driven workplace transformation —** Building tomorrow's workforce today

IT Impact

- While exploring the build versus buy debate may be appealing, organizations should aim to utilize embedded AI and autonomous agents — potentially with some essential customizations — to speed up the adoption of these tools.
- There will be a need for internal expertise and skills to ensure that these tools are fit for purpose, and users can maximize their potential benefit.
- ERP systems need to be fully modernized and integrated to ensure AI and autonomous agents can deliver on their potential.

Business Impact

- While AI and autonomous tools are often accessible and user-friendly, organizations should consider which business functions and user groups would benefit from additional training to help them make the most of these tools and their full functionality.
- Organizations should set relevant and robust KPIs and actively monitor the efficacy of their new AI and autonomous agents in improving decision-making and business performance.
- With AI and autonomous agents speeding up decision-making and rectifying time-consuming issues, organizations should identify where employees can be engaging in more value-adding tasks and explore opportunities to move employees into more value-adding roles.

Guidance

- Ensure the ERP system is ready to incorporate an AI and autonomous agent.
- Remember that AI and automation are enablers. Regularly review how AI and autonomous agents are being used to identify where users could benefit from additional training, and the tools can be adjusted and upgraded to improve their usefulness.
- AI and autonomous tools can be used to make very important decisions. It is essential to have robust control mechanisms and transparency in place to help users better understand the information and guidance they are being provided.

Prediction 8: By 2028, 70% of Organizations Worldwide Will Adopt Unified, Electronic Invoice Exchange and Compliance as a Service Because of New e-Invoicing Mandates and Technology Advancements

The landscape of compliance laws is evolving rapidly worldwide, creating significant challenges for global businesses. In the United States, state- and city-specific regulations such as Wayfair are constantly changing, while internationally, initiatives such as the U.K.'s Making Tax Digital (MTD) and the EU's Standard Audit File for Tax (SAF-T) are being implemented with variations across countries such as Italy, Norway, Germany, Belgium, and Hungary. In addition, marketplace facilitator laws are adding complexity by requiring digital platforms to collect and remit sales tax, a trend expected to grow as online shopping increases.

The proliferation of tax regulations complicates global sales, prompting organizations to seek technological solutions to navigate these challenges. The rise of the digital economy has exacerbated the difficulty of managing sales and use taxes, with each sales location potentially having unique tax reporting requirements. A notable trend is the increasing mandate for digital invoicing (e-invoicing) across many nations, which is becoming a standard practice.

Value-added tax (VAT) protocols are merging compliance and invoice management into a unified process, with over 160 countries adopting VAT and GST tax protocols. This means that any company operating globally must engage with these e-invoicing systems. The future of e-invoicing is set to see greater adoption, standardization, and automation.

As business transactions become more digital, tax authorities are adopting more efficient and transparent systems. The future of tax compliance will heavily feature e-invoicing and other digital innovations, revolutionizing how businesses and individuals meet government tax regulations and furthering e-invoicing.

Associated Drivers

- **AI-driven business models** — Moving from AI experimentation to monetization
- **The drive to automate** — Toward a data-driven future
- **Regulatory flux** — Navigating compliance challenges in a shifting policy landscape

IT Impact

- IT teams need to ensure that existing systems can integrate with e-invoicing platforms. This often requires upgrading or modifying current software to comply with new standards and protocols.
- e-Invoicing mandates demand real-time or near-real-time data reporting. IT teams must ensure that data is accurately captured, stored, and transmitted to tax authorities without errors.
- Ensuring compliance with various regional regulations can be complex. IT teams must implement robust security measures to protect sensitive financial data and ensure that the systems meet all regulatory requirements.

Business Impact

- Line-of-business users must ensure that all invoices comply with the new regulations. This means they need to be familiar with the requirements and ensure that all data is accurate and submitted on time.
- Users will need training to understand and effectively use the new e-invoicing systems. This can initially be time-consuming but ultimately leads to smoother operations.
- e-Invoicing mandates often require real-time or near-real-time reporting to tax authorities. This means users need to be diligent in their data entry and management to avoid delays or penalties.

Guidance

- Invest in technology advancements to manage the complexities of global tax regulations, including digital invoicing and compliance with VAT and GST protocols.
- Leverage emerging technologies such as artificial intelligence and machine-to-machine invoicing to automate manual processes and improve efficiency.
- Consider the sustainability benefits of e-invoicing as part of ESG initiatives and explore the global market expansion opportunities in the e-invoicing sector.

Prediction 9: Leveraging GenAI, by 2028, 45% of G2000 Will Consolidate Lines of Business into Fewer Functions, Optimizing Their Processes, Data, and Resources, Building a New Resource-Savvy Enterprise

By integrating generative AI into business automation, companies can significantly reduce operational costs, enhance productivity, accelerate innovation, and deliver superior customer experiences. This AI-driven automation fosters greater flexibility, responsiveness, and creativity essential for thriving in today's dynamic digital environment. Business users, particularly in healthcare and life sciences, often depend on data or IT teams for analysis, leading to delays. Generative AI can mitigate this by providing user-friendly, no-code dashboards that allow conversational queries, ensuring users have immediate access to crucial data insights for informed decision-making.

Generative AI tailored specifically for life science data can be deployed more swiftly, within weeks, compared with the months required for nonspecific data solutions. This specificity ensures the delivery of relevant, contextual, and accurate answers from the outset, fostering user trust and adoption. For optimal functionality, generative AI must connect to both internal and external data sources and integrate seamlessly with existing business systems such as Salesforce, Veeva, and Microsoft Teams.

Making contextual data insights readily accessible empowers business users to routinely make data-driven decisions and builds a data-savvy culture. This capability allows them to verify data before engaging with patients or customers, identify the root causes of changes, and determine the best subsequent actions. The result is improved outcomes and enhanced job performance across the organization.

Associated Drivers

- **AI-driven business models —** Moving from AI experimentation to monetization
- **The drive to automate —** Toward a data-driven future
- **Regulatory flux —** Navigating compliance challenges in a shifting policy landscape

IT Impact

- Implement training programs to enhance data literacy across the organization. Equip employees with the skills to understand, interpret, and communicate data effectively.
- Ensure that data is easily accessible to employees at all levels. Implement tools and technologies that facilitate data sharing and exploration.

- Provide access to self-service analytics tools that enable employees to explore data, generate insights, and create visualizations independently.

Business Impact

- Empowering employees with data can boost engagement and satisfaction, as they can see the direct impact of their work on business outcomes.
- A strong data culture helps businesses stay resilient and adaptable in the face of technological advancements and market changes.
- A data-savvy culture fosters innovation by enabling teams to identify new opportunities and adapt quickly to changing market dynamics.

Guidance

- Integrate generative AI into business automation to reduce operational costs, boost productivity, drive innovation, and enhance customer experiences.
- Implement user-friendly, no-code dashboards for generative AI to enable business users, especially in healthcare and life sciences, to access data insights easily and make informed decisions.
- Train generative AI with industry-specific data to ensure rapid deployment and provide relevant, contextual, and accurate answers, fostering user trust and adoption.
- Ensure generative AI can connect to both internal and external data sources and integrate seamlessly with existing business systems to facilitate routine data-driven decision-making.

Prediction 10: Because of GenAI, by 2029, 80% of Today's Organizational Workflows Will Be Automated into an Optimized Digital Factory, with 50% of G2000 Embracing a New Business Resource Structure

AI is rapidly becoming embedded in business processes and operations, transforming how we work. After a long experimental rush, many organizations are leveraging AI to drive efficiency, competitiveness, and innovation. In fact, according to IDC's 2024 *Future Enterprise Resiliency and Spending Survey, Wave 4,* 38% of businesses state that they are investing significantly in AI/GenAI and 84% believed (42% strongly) that AI/GenAI is the next strategic corporate workload like ERP or ecommerce was before.

While this AI scramble phase has generated abundant (siloed) innovation, it has also exacerbated the need to increase focus on driving business value. With AI, traditional workflows are evolving into highly optimized and automated systems that can resemble a digital factory. This marks a fundamental shift in how organizations operate, as AI algorithms can analyze data in real time, adjusting processes and

enabling businesses to not only respond but also capitalize on change with unprecedented agility.

The promise of an AI-fueled enterprise represents an evolution that goes well beyond automation. It represents a shift that will require organizations to embrace new strategies and resource structures. The lines between traditional siloed departments will blur, reshaping hierarchies and redefining competencies, ultimately fostering improved collaboration and efficiency.

Associated Drivers

- **The drive to automate —** Toward a data-driven future
- **AI-driven business models —** Moving from AI experimentation to monetization
- **AI-driven workplace transformation —** Building tomorrow's workforce today

IT Impact

- IT will have to architect and implement scalable, AI-ready technology infrastructure capable of supporting the data and analytics processing requirements of a digital factory.
- CIOs must establish cross-functional teams that bring together IT specialists and business experts to codesign and implement digital factory workflows, ensuring alignment with strategic goals.
- IT will have to implement advanced workflow orchestration systems that can seamlessly integrate human tasks with AI-infused processes.

Business Impact

- Business leaders will need to restructure teams and roles to effectively drive the necessary levels of automation and support digital factory operations.
- Business units must embrace the change and cultivate a culture of continuous learning and adaptation. The rapidly evolving capabilities of AI will introduce new opportunities for process transformation.
- KPIs and success metrics may have to be redefined to align with the capabilities and outputs of AI-driven processes, shifting focus from traditional metrics.

Guidance

- Perform a comprehensive workflow and process audit across all business units. Identify key candidates for AI-driven automation and prioritize based on potential business impact (value) and feasibility.
- Establish a cross-team and cross-functional digital factory center of excellence to drive the strategy, manage the implementation, and ensure effective alignment between IT capabilities and business goals.

- Develop a strategic business and technology road map for workforce transformation, including reskilling, upskilling, and sourcing programs, as well as change management initiatives to support the hybrid AI-human operational working model.

ADVICE FOR TECHNOLOGY BUYERS

Organizations deciding on the next round of investments in intelligent ERP and enterprise application technologies should consider the following recommendations:

- Think about your journey toward digital transformation, the modernization of your applications, and the business processes within your organization. How do the more modern workflows enhance your automation across the business processes, functions, and across the organization?
- As automation becomes the underpinning of your business processes, how does this change the way the employee works now, in the next 6–12 months, and beyond? How does the employee gain more knowledge and improve his/her decision velocity? What KPIs will improve for the business with this added technology benefit?
- How is AI being used now and how will it evolve to help your processes, functions, and overall business? AI is a huge disrupter and differentiator for your business, but you need to quantify and qualify it showcasing the improvements and benefits while recognizing any down sides.
- Plan on removing technical debt once and for all and placing guardrails around new technology to ensure it doesn't happen over time. Removing technical debt is critical to simplifying the business, reducing costs, delaying and removing software audits, and running a more efficient, technology advanced business.
- Plan the technology impacts of the future by looking at your organization's performance now, resources required, costs, markets served, and revenue overall. As you lay out your technology road map for the future, identify the vision of where your organization is going. Fill in the gaps as you implement the technology initiatives, employee skills training, and process improvements required to run a more autonomous operation overall.

EXTERNAL DRIVERS: DETAIL

AI-Driven Business Models — Moving from AI Experimentation to Monetization

- **Description:** As the generative artificial intelligence hype settles into a new digital business reality, it's critical for both tech buyers and vendors to prove that "AI is real," can be monetized, and is leading to concrete business impact and revenue streams. While tech buyers' GenAI attention in the initial AI everywhere stages primarily focused on efficiency and automation-oriented use cases, the longer-term ambition is to leverage AI (including GenAI) to enable new business models and open new revenue streams. At the same time, after all the initial excitement and rush to new launches/announcements, it's time for tech vendors to capitalize on 2023–2024 AI investments, move customers' POCs to concrete multiyear deals, and unlock exponential AI monetization. While they implement this, companies must keep in mind that AI is not without risks, especially when it comes to ethical AI and data privacy. Enterprises need to carefully consider the best use cases in order to implement AI effectively and to the benefit of the organization.
- **Context:** With intelligence becoming a key source of value creation, we are in the mid of an "intelligence revolution," in which AI and automation-oriented technology are major accelerators of business change. GenAI especially is a transformative force. This branch of AI enables machine-driven autonomous creation of new content, from images to music to even written text, with remarkable accuracy. Current business applications of GenAI include content and code generation, as well as personalized recommendations, but it is evolving quickly.

The Drive to Automate — Toward a Data-Driven Future

- **Description:** Broader automation use cases — which are different from just AI and generative AI — are now ubiquitous. Automating tasks that require human judgment and decision-making are becoming a key area of development. However, thoughtful implementation is crucial. This requires careful data management, quality, governance, and storage. Data quality and governance will become paramount as organizations strive to maintain accuracy in automation tools and comply with increasingly stringent regulations like GDPR and CCPA. Efficient storage and retrieval of vast data sets are also essential, prompting IT to explore scalable solutions like object storage or data lakes. As more employees access data tools and insights, fostering a culture of data sharing will be key. Breaking down data silos will be crucial for achieving a unified view for

automation processes. This also means that while data generally becomes more open and accessible, protecting key information related to health, for example, becomes central to value and risk. Provided that data is thoughtfully managed and silos are appropriately broken down, hyperautomation, the combination of multiple automation tools and technologies, may become more prevalent. This approach, which aims to automate as many processes as possible within an organization, can greatly improve efficiency and agility.

- **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 improved CX in digital banking. And as data is embedded in the core of strategic capability for every organization, automation has become critical to scaling a digital business. This is evident in three domains: IT automation, process automation, and value stream automation — leading to autonomous operations, digital value engineering, and innovation velocity. From healthcare robotics to real-time data analytics, the applications are extensive.

Future Proofing Against Environmental Risks — ESG Operationalization and Risk Management

- **Description:** Although the topic is often politicized, it is undoubtable that risks are multiplying in the form of extreme weather — droughts, floods, and irregular weather patterns in general are disrupting supply chains and wreaking economic havoc all over the world, increasing insurance/reinsurance costs. Accounting for this risk is increasingly seen as an imperative part of businesses' risk management strategy. Decreasing environmental footprints is also part of many businesses' efforts to become responsible enterprises. Frameworks such as environmental, social, and governance support actions to achieve sustainability and contribute to a better future. In addition, ESG-related laws that oblige companies to account for this risk are increasing, including the EU's Corporate Sustainability Reporting Directive (CSRD) and Sustainable Finance Disclosure Regulation (SFDR), the SEC's climate disclosure requirement approved, and Japan's GX Basic Policy. Many companies are now actively operationalizing ESG with AI-informed carbon accounting software, carbon budgets, and sustainability requirements into requests for proposals (RFPs) they send to tech suppliers. In addition, many now have positions such as chief sustainability officer or are integrating sustainability into the responsibilities of the C-suite. They are also engaging in initiatives such as energy efficiency in technology. This is often an ecosystemwide initiative, helping further advance meaningful risk management and development of best practices around climate/ESG.

- **Context:** Businesses are increasingly beholden to climate/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.

AI-Driven Workplace Transformation — Building Tomorrow's Workforce Today

- **Description:** There are many pressures in the labor market, ranging from skills shortages to long-term demographic shifts. To increase automation and AI capabilities, digital skills are now in high demand, but the current supply of such skill sets does not match this demand. Despite talk about automation replacing jobs, company growth depends more on reskilling to effectively make use of these investments. Expertise in security, cloud, and IT service management alongside AI skills are crucial. But enterprises can't live on IT skills alone — human-centric skills are also important, perhaps even more so than ever. Without proper socialization, awareness, and cross-organizational support, we may not see the innovation and productivity that GenAI and AI initiatives promise, and the overall enterprise IT strategy will be slow to deliver its needed results. To succeed, enterprises must also be open to organizational change and models that allow for greater trust and growth in their employees. Leaders must be accountable for laying the groundwork of communication, collaboration, creativity, and continuous learning, which will need to be pervasive for engineers and HR analysts alike. All of this lays the groundwork for long-term demographic shifts. Declining/aging populations means that the labor market is getting tighter. Fewer workers logically means that businesses will have fewer personnel. We have already seen talent shortages impacting businesses' operations. This will only get more competitive in the future. Business leaders are starting to fight against this, but success hinges on the ability of the enterprise to adopt better organizational strategies and models that allow for a more productive, collaborative, and learning-focused workplace.
- **Context:** The workplace has been shifting for some time, especially due to new modes of working, and the rise of AI and automation only further facilitates this shift. In the context of talent shortages, demographic changes, and other issues such as ESG concerns and ethical AI, it is clear that reskilling, upskilling, and overall transformation of workplace design are taking center stage. C-suite

leaders and their teams must collaborate to recalibrate work culture, augmentation, and space/place planning to enable more secure, dynamic, and refined organizations of the future.

Regulatory Flux — Navigating Compliance Challenges in a Shifting Policy Landscape

- **Description:** With frontier technologies like generative AI, geopolitical concerns, and cyber-risks, the tech legal landscape is rapidly changing. The tech regulatory landscape is shifting, from privacy/cybersecurity laws such as NIS 2 in the EU to various policies incentivizing nearshoring of critical technologies such as South Korea's tax incentives for the "K-Semiconductor Belt." Beyond that, however, are laws that fundamentally can change the market landscape in technology. The EU's Digital Services Act (DSA) and Digital Markets Act (DMA) aim to increase transparency and accountability for online platforms and attempt to prevent anticompetitive behavior from "gatekeepers," or large online platforms of significance. In China, a number of firms have withstood major fines and penalties for anticompetitive practices, breaches of data security, and consumer privacy rights. Other emerging efforts in jurisdictions like the United States, India, and Australia mean that tech giants may be seeing themselves caught in stricter compliance challenges. Regulations, however, are notably inconsistent in their rollout. While some regulations lag behind technology development — especially notable in the case of artificial intelligence across many jurisdictions — others lead, such as tariffs on imports. Regulations also are of course subject to political change. More than 70 countries worldwide are set to vote in 2024, and polls predict sweeping change in political agendas. These changes are not only going to impact society and the economy in the short term but may also have wide-reaching, long-term effects.
- **Context:** Businesses must navigate an increasing number of regulatory rules. Even if it is not always the primary focus, tech is often a crucial part of these regulations. Most of these rules are intended to hedge against risks, but some are entrenched in geopolitical divides, so those firms that stay ahead of the game and build resiliency will be best equipped to comply with these regulations. Moreover, regulations and policies are not always simply restraints — they are also often springboards for investment, with many regulations proposing tax subsidies and other kinds of incentives.

Responsible and Human-Centric Technology — Ethics in the Enterprise

- **Description:** Enterprises are increasingly conscious of the broader societal impacts of their business models and of certain technologies, especially emerging technologies. Most topical at the moment is AI. AI may provide lower-cost, higher-value solutions, but it has significant ethical (and incipient legal) implications that companies will increasingly need to adapt to. There are significant questions over issues like copyright, trust, safety, and misinformation distribution. Beyond that, organizations must grapple with issues like privacy and consent around data, reproduction of biases and toxicity, generation of harmful content, insufficient security against third-party manipulation, and accountability and transparency of processes. As a result, countries around the world are keen to regulate AI, from the EU to Brazil to China. Aside from AI, new emerging technologies like quantum also have ethical challenges, and new branches such as quantum ethics are being developed. With quantum ethics, in light of the power of quantum computing, questions remain about how to ensure equity, transparency, and appropriate usage given its power to crack encryption. Roboethics grapples with the ethical questions that the use of robotics pose, especially those used in healthcare, military applications, and others. And beyond emerging technologies, supply chain ethics are also being questioned, as many raw materials such as critical minerals are mined under circumstances that may implicate human rights questions, and jurisdictions from Canada to the EU to Japan have created laws requiring more stringent oversight of suppliers. Businesses are also still grappling with inclusivity and corporate responsibility. Having a diverse workforce can often be a benefit for businesses to ensure a greater amount of skill sets, and promoting corporate responsibility can be a way to attract and retain talent. And though these issues are often politicized, neglect of ethics in the business isn't just a moral quandary either — it is increasingly viewed as a significant business risk that can mean less trust, less control, and less ability to advance technologies in an optimal way.
- **Context:** AI is bringing the "S" (social) and "G" (governance) in ESG to the forefront of conversation in a way that is distinct from conversations around "E," the environment. Businesses are increasingly discussing AI ethics due to rising public and regulatory scrutiny, concerns about privacy and bias, and high-profile AI missteps. Adhering to ethical standards enhances reputation, builds consumer trust, and ensures sustainable, responsible innovation. This shift underscores the importance of developing and using AI technologies ethically and transparently.

Battling Against Technical Debt — Overcoming Hurdles to IT Modernization

- **Description:** As technology becomes increasingly central to business operations, the role of IT leadership is evolving into business leadership, highlighting the critical importance of managing technical debt. This debt, exacerbated by the rapid advancements and growing complexity of IT systems, not only inflates maintenance costs but also poses significant challenges to operational efficiency, profitability, and market adaptability. Accumulated technical debt manifests in software bugs, security vulnerabilities, and system inefficiencies, leading to increased operational costs, data breaches, and a loss of customer trust. For developers, working with outdated systems diminishes morale and productivity, while businesses face hurdles in adapting to new technologies or market demands swiftly. Specifically, in the realm of AI, "data debt" — stemming from poor data quality, inadequate architecture, and insufficient documentation — complicates maintenance, reduces system flexibility, and hampers accurate decision-making. These issues, along with the struggle to maintain legacy systems and navigate technical heterogeneity, slow down development processes, delaying the launch of new features or products. There is a cascading effect that arises with technical debt (e.g., cloud laggards will become AI laggards).
- **Context:** In recent years, technical debt is a growing concern due to accelerated digital transformation, increased reliance on complex software systems, and the urgent need for rapid innovation. The pressure to deliver software quickly often leads to compromises in code quality, resulting in a backlog of maintenance issues. Businesses face mounting pressure to address outdated code and quick fixes to maintain system reliability, security, and scalability amid evolving technological demands. As systems become more complex, the cost and effort to address these issues escalate, impacting operational efficiency and innovation.

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- *Critical External Drivers Shaping Global IT and Business Planning, 2025* (IDC #US52438224, August 2024)
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- *Capitalizing on the Future of Enterprise Application Technology: The Digital World and AI Change the Business, 2024* (IDC #US52133124, May 2024)
- *Leveraging the Benefits of GenAI in Enterprise Applications* (IDC #US51078823, May 2024)
- *Why Generative AI? The Critical Importance of Generative AI in the Application Modernization Journey* (IDC #US51937024, March 2024)

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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