

Reinventing with a Digital Core

Chapter 2: How to mobilize technology and
evolve to a reinvention-ready digital core

 **accenture**

Contents



Page 04-10

Technology that moves at the speed of change



Page 11-26

Refreshing the digital core with engineering and generative AI



Page 27-29

How to use a reinvention-ready digital core



Page 30

Continuing the conversation



Authors



Karthik Narain
Chief Technology Officer and Group
Chief Executive – Technology




Lan Guan
Chief AI Officer




Ram Ramalingam
Global Lead – Platform
Engineering and Intelligent Edge




Koenraad Schelfaut
Global Lead – Technology
Strategy & Advisory




David Wood
Global Lead – Technology
Consulting




Surya Mukherjee
Senior Principal – Global
Technology Thought Leadership




Technology that moves at the speed of change

A reinvention-ready digital core is a competitive differentiator



In our Reinventing with a Digital Core report, the first chapter in a series, we offered a clear look at **what** digital core means in this era of generative AI and **why** it is becoming a prerequisite to driving continuous reinvention in organizations.

From our global survey of 1,500 companies and client experience, we found three tenets that organizations can follow to get the most value, or the 60:40 effect—60% higher growth rate with 40% higher margins than peers.



These tenets work in sync to fuel reinvention ambitions for business growth and competitive advantage.



"Almost everything that we are doing right now...[including] our blueprints...we are asking...what would be the impact of [large language models (LLM)] in this space? How can we leverage LLM in its current infancy...to solve this problem faster, cheaper, [and] better? We don't have the answers, but **almost every single technology initiative that we have, we are bringing in LLM and generative AI.**"

—Chief Technology Officer at a global consumer product company

In this report, chapter two, we show how organizations can evolve to/build such a digital core to support continuous reinvention and achieve the three tenets in the most flexible, resilient, intelligent yet cost- and resource-efficient ways.

What's changed in how we evolve to and orchestrate around new systems? The biggest change is Large Language Models (LLMs) and generative AI, and their impact on almost every aspect of technology and

business. Take coding, where generative AI is enhancing coding accessibility at the unit level, boosting developer productivity by nearly 30% in the first year. AI agents are increasingly handling complex tasks, from translating old mainframe COBOL code to modern Java or reverse engineering them into their intended business rules. They are identifying integration patterns and redirecting them for the changes in the underlying tools, applications and processes.

To benefit from these advances, organizations must move from traditional instruction-driven, predefined technology stacks to intention-based systems powered by AI and generative AI. Such systems have a cognitive architecture which mimics human-like thinking and learning; always on, always listening and learning from everything that happens within and around the organization. This allows for dynamic responses and adaptive behavior that traditional systems simply cannot deliver. Once given specific goals by humans, these systems operate independently to achieve

them without needing explicit instructions from programmers. Their architecture is built to ensure they continuously learn and improve over time, similar to how an architect refines blueprints to perfect a design.

For companies, this is a significant effort considering their ongoing operations and digital transformation. Getting it right involves rethinking business processes and operations, with the support of technologists and non-technical executives working alongside AI agents and teams for optimal outcomes.



“To be able to leverage generative AI fully, you need to really think of, 'How can I make AI a first-class citizen in my decision-making processes so that it works alongside humans, and humans and AI work together in a process?' Which is a hard thing to do, because not every company can go through that kind of large-scale transformation, including us.”

—Chief Analytics Officer at a global logistics company

The task is best tackled as a series of manageable, value-creating steps rather than one overwhelming transformation. Most companies are already on this journey, taking it step-by-step, aligning each new action with their ongoing transformation. Each step builds momentum for the next, creating a halo effect where progress across certain digital core capabilities—like cloud, security and data—in turn, strengthens AI capabilities. Many companies may be further along this journey than they think. Their digital transformation and modernization efforts have laid a strong foundation for generative AI.

Build your digital core right, and the possibilities are endless: AI agents negotiating deals, personalized medicine or predictive customer care. And it’s not just about new breakthroughs. It’s about unlocking value from even the simplest processes by applying today’s advanced technology.



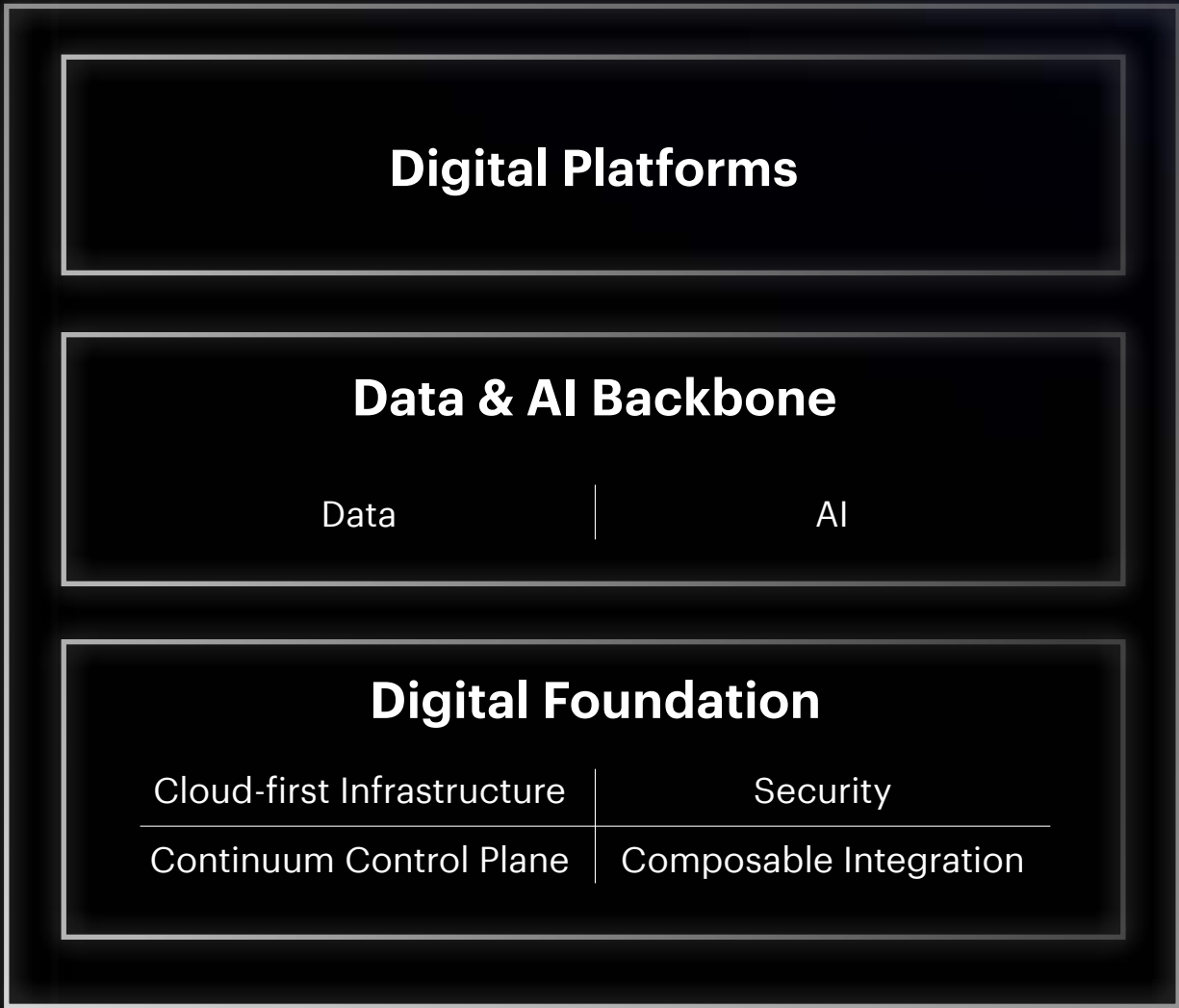
A reminder: What is a digital core?

Accenture defines a digital core as the critical technological capability that can create and empower an organization's unique reinvention ambitions. The fit-for-purpose digital core enables an organization to accelerate ahead of competition and achieve their ambitions in the most efficient fashion—using the right mix of cloud practices for agility and innovation; data and AI for differentiation; applications and platforms to accelerate growth, next-generation experiences and optimized operations—with security by design at every level (Figure 1).

Many large companies already use technologies like cloud services, data management, AI, security and platforms like SAP S/4 HANA—the “building blocks” of a digital core. But without proper integration and activation of the components necessary for reinvention, they will not have a digital core. Specifically, without the digital threads necessary to integrate the building blocks to accelerate holistic reinvention, their IT stack can actually be a deterrent to reinvention.

Figure 1: Dissecting a digital core

A digital core fit for continuous reinvention comprises three distinct groups of technologies that constantly interact with each other.



Tale of two digital cores

A reinvention-ready digital core is a source of competitive advantage. It has seven components, ensconced in three layers, but these components can vary in importance and structure depending on the business and industry. For instance, a bank might consider a security layer that’s far more sophisticated and robust than that of a retailer to better protect sensitive financial data.

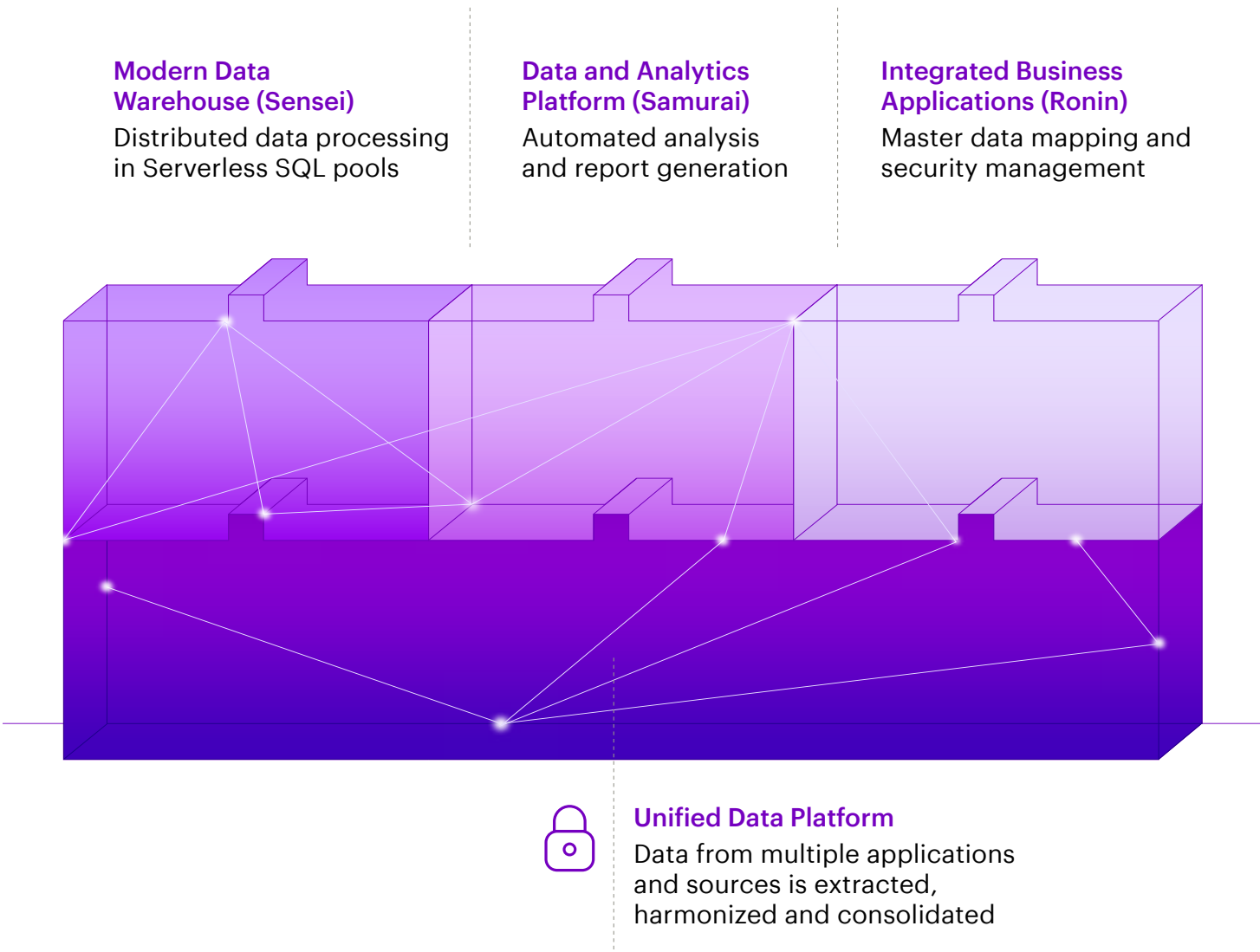
Dentsu, a global advertising and digital marketing communications company, leveraged Microsoft Azure to enhance its media planning and optimization processes. The company's biggest problem was bringing together data from many different systems. This data needed to be harmonized. Dentsu built a synergistic platform by unifying its three foundational elements—Sensei (modern data warehouse), Samurai (data and analytics platform) and Ronin (integrated business applications)—to modernize data across the organization with the help of OneLake, GapTeq and Microsoft. Since the focus was orchestrating a unified data model to combine data from multiple systems, they picked one core vendor—Azure—

and multiple pre-integrated services from its kit, including Azure Data Lake Gen2 for storage, Azure Data Factory to process data, Azure Synapse Analytics to distribute processing of data and maintain performance. Dentsu also deployed Microsoft’s Azure OpenAI to enable knowledge sharing across geographies, agency brands and capabilities (Figure 2).

In contrast, multinational consumer goods company, Unilever, took a different approach by adopting multiple ecosystems. This allowed them to digitize distributive trade routes to market globally, in what Prashaant Huria, VP and CTO Unilever for Distributive Trade, calls a "platform of platforms." Its data and analytics run on Google Cloud; the mobile and web apps run on Adobe Experience Cloud—including processes such as catalog management and merchandising¹. There's a separate Distributor Management System (DMS), while connections between these components and out to other systems are managed in Mulesoft (Figure 3). When integrating the various parts, they picked a MACH (Microservices-based, API-first, Cloud native SaaS and Headless) architecture to allow for future flexibility².

Figure 2: Reinventing advertising

Dentsu’s unified data architecture and platform, largely built on Microsoft Azure.



Source: Dentsu builds Azure-supported analytics platform to modernize data across the organization

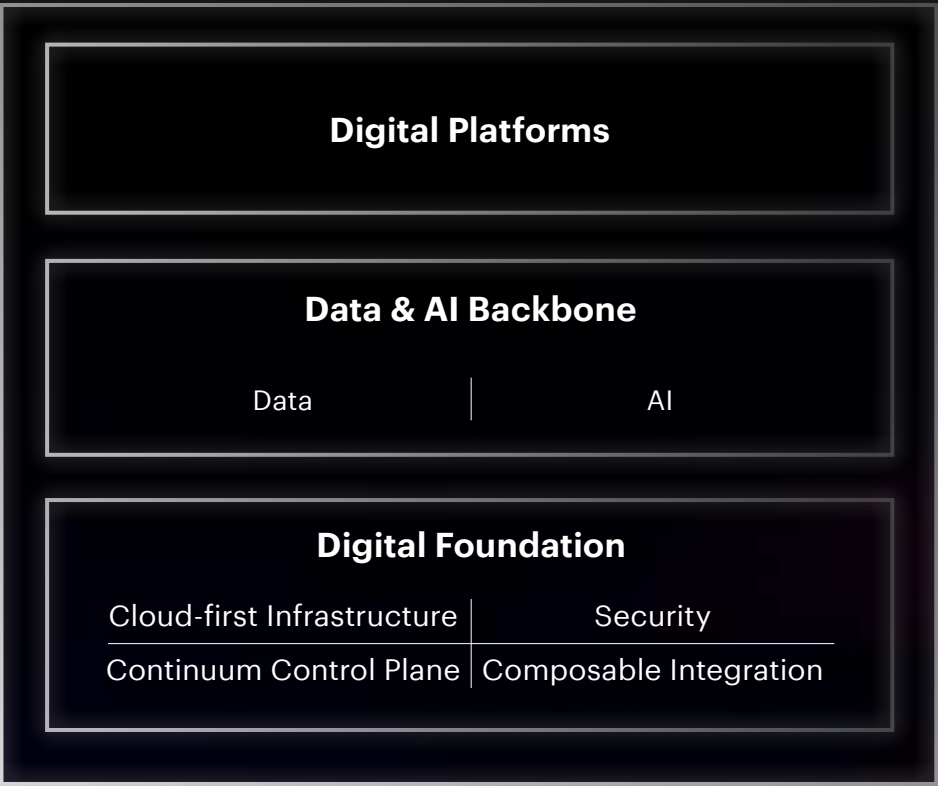


Figure 3: Marketing globally

Unilever’s distributive trade platform of platforms built on multiple ecosystems enables it to trade globally.

MACH Architecture

- Microservices / Packaged Business Capabilities**
Individually developed, deployed and managed business functionalities
- API-First + Event-based Integrations**
All functionalities use APIs or event-based to tie together two or more applications
- Cloud Native / SaaS hosting**
Leverage full capability of cloud including easy scaling of highly available resources
- Headless**
De-coupled front-end experience and back-end connect multiple channels



Source: [How Unilever Digitized Its Distributive Trade Route to Market Globally](#)

Ecosystem

- Strategic Technology Partners**
Best-in-class providers of key technology components, supported with strategic partnerships
 - Adobe Commerce
 - Google Cloud
- SaaS Partners**
Providers of select capabilities (e.g., search, product information)
 - akeneo
 - freshdesk
 - UNBXD
 - WebEngage
 - MuleSoft
 - solace
- System Integrators**
Responsible for developing the overall platform and integrating the various components
 - accenture
 - LTIMindtree
- Others**
Custom code, Low code, No code, DevOps, Infra as code, etc
 - Azure
 - new relic
 - spring boot
 - JIRA
 - Confluence
 - Looker
 - qTest
 - PWA
 - React Native
 - CENTEGY TECHNOLOGIES



Refreshing the digital core with engineering and generative AI



How do AI and generative AI transform the digital core? For starters, by making every component of the digital core more dynamic, intelligent and adaptable than ever before. The three layers of the digital core—Digital Platforms, the Data & AI Backbone and the Digital Foundation—remain unchanged, but AI and generative AI reshape how each layer operates and interacts (Table 1). AI helps Digital Platforms deliver personalized, real-time interactions. This makes user experiences better, with more engagement and predictability. The Data & AI Backbone functions as a powerful engine for insights, enabling organizations to process vast volumes of data and extract actionable intelligence. At its foundation, AI optimizes infrastructure, fortifies security and enhances integration, creating a responsive and scalable base for continuous innovation.

Table 1: Impact of generative AI and AI on the digital core (not exhaustive)

Layer	Transformation with AI and Generative AI
Digital Platforms	Enhances user experience with intuitive, adaptive and personalized interactions (for example, intelligent chatbots and virtual assistants). Enables predictive analytics and proactive decision making, rendering platforms more interactive and responsive.
Data & AI Backbone	Data: Automates data processing (collecting, cleaning and integrating) and enriches datasets with synthetic data—improving data quality and diversity. Boosts accessibility and speeds up insights.
	AI: Adds advanced capabilities (language understanding, image recognition, context-based responses) and supports creative and adaptive tasks. Enables systems to generate new insights, summarize information and assist in content generation.
Digital Foundation	Cloud-first Infrastructure: Optimizes cloud resources by automating workload balancing, storage management and scaling. Improves cost-efficiency and responsiveness.
	Security: Enhances security with real-time threat detection and response. Simulates potential threats to strengthen risk management and identifies unusual patterns to improve cybersecurity defenses.

Source: Accenture Analysis



"We created a Community Of Practice on generative AI about five months ago, and since then across the globe we have 1,200 **volunteer engineers** taking part in doing research for us in the generative AI space."

—Chief Technology Officer at a Global Consumer Product Company

But this age of AI isn't just enhancing isolated parts of the digital core—it's ushering in a more profound transformation. The real change lies in redefining the entire approach to how this core is designed, integrated, optimized and used. It's not just about adopting new technologies; it's about embracing a new standard of engineering, where precision, adaptability and relentless fine-tuning shape the system as a whole.

Think of Formula 1 cars. Success isn't achieved simply by upgrading parts here and there. Every component—engine, tires, aerodynamics—is meticulously engineered to work as a cohesive, high-performance system. AI-driven companies are also

realizing that to be competitive, they need to use new engineering principles with a whole-body view. They need to make sure every layer and connection works together. Continuous tune-ups become vital, each enhancing the efficiency and intelligence of the entire system.

Systems engineering used to be only for tech companies. Now, it's important for all industries as they explore new ways to use technology and digital opportunities. As companies adopt new technologies and build their digital core, they are stepping into spaces where industry-standard solutions often don't exist. This shift is pushing many out of their comfort zone of configurable tech

of the SaaS era to the finely tuned engineered tech of the AI era. It requires advanced skills that are increasingly necessary, but in short supply, especially in non-tech sectors. Companies that want to innovate will need to either develop these skills or collaborate with ecosystem providers to acquire them. At the same time, they must rethink their enterprise architecture, widely integrating generative AI—from coding tools that boost productivity to AI agents that handle complex tasks like supplier negotiations.

They will also need to use new cloud technologies, chips and data architectures to build solutions that are more flexible, scalable and cost-effective.



Engineering differently

Our analysis of 1,500 companies across 10 countries and 19 industries has identified three new engineering principles to guide action. Leading companies adopt these at a rate two times higher than others. These principles are essential for an era characterized by deep generative AI integration, enabling machine operations and customization to meet specific industry needs.

We call them the ACT principles of digital core engineering: Architect for Intent, Connect the Dots and Thrive with Ecosystems (Figure 4).

Figure 4: The ACT of engineering a digital core

The ACT principles, Architect for Intent, Connect the Dots and Thrive with Ecosystems, ensure deep AI integration in specific industries.

Architect for Intent

Empower every app to think, adapt and evolve

Connect the dots

Illuminate the whole stack to drive collective action

Thrive with Ecosystems

Unleash rapid innovation through trusted alliances

Architect for Intent: Evolve architectures to allow dynamic adaptation with AI

Principle:

Evolve business and technology architectures to a modern cognitive architecture which mimics human-like thinking and learning—always on, always listening and always learning. Dynamically adapt to changing user engagement, context and data, using AI as the central orchestrator of processes. This allows systems to be flexible to changing business needs, moving away from instruction-driven to intent-driven systems.

Embracing this principle can help companies make their processes and workflows (powered by the underlying platforms) evolve to changes in user intent, environment and data. The goal is to create an architecture that allows business processes to be dynamic based on context, charting unique and new paths to achieve defined objectives. AI serves as the orchestrator and intelligence command center. This is different from traditional architecture, which puts goals, rules and paths first—predefined business processes in workflows—and needs humans to make any change.

Fashion retailer Shein and marketplace Temu use this principle to introduce up to 10,000 new items daily, far outpacing their competitors³. How? By using AI to monitor social media trends in real time and employing a lean production model with deep AI integration and orchestration. In other words, the technology is currently available and some companies are already leveraging it to its full potential.

To reach this level of adaptability, industry leaders must adopt an AI-first mindset. They must view agent-driven AI systems as tools to fundamentally reinvent how they operate their business, and not just

retrofit them into existing processes. This requires a rethink of business models, digital product development and customer engagement, leading to new processes, services and products built from the ground up. Technology, business processes and the people involved are equally important for this transformation. The approach, however, has shifted. Businesses once solved the process first, then put in place technologies and trained people afterward. Today, all three things—technology, business processes and how people interact with them—must change together at the same time, driven by personalized data.



"All the systems that we have, they haven't been designed to talk to generative AI, for example, and none of them have been designed to talk to any of the other, most of the time. So, by default, because generative AI did not even exist when these systems were created, [the] challenge will be how do you make sure that you don't have to change everything to be generative AI but the other way around, right?

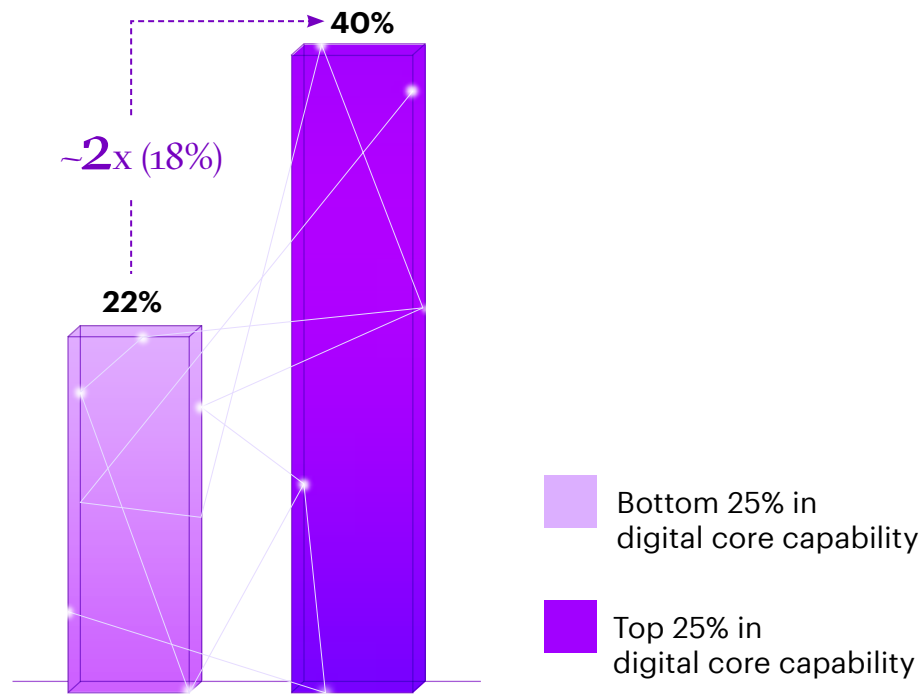
—Global Marketing Director at a conglomerate spanning consumer and industrial sectors

In practical terms, this means moving to a system with built-in intelligence and context. AI agents can think, plan and work with humans to do tasks in a dynamic way. Using LLMs, the system interprets human intentions and adapts based on experience, integrating organizational knowledge for better decision-making. It also needs leaders to commit to using AI-first approaches like AIOps, serverless computing

and API-driven access, while ensuring communication, security and integration are adapted to help the system be more agile and efficient. Top quartile companies in our Digital Core Index are 2X more likely to apply cognitive elements like event data, telemetry and predictive analytics to make automation smarter (Figure 5).

Figure 5: Architect for Intent

Top quartile companies are 2X more likely to apply cognitive elements like event data, telemetry and predictive analytics to make automation smarter.



We continually automate tasks/processes and move from manual efforts to autonomous optimization via events, telemetry, and predictive analytics (e.g., auto-scaling)

Source: Digital Core survey (Nov 2023): N= 1,500; percentages represent respondents who selected the response "1-Completely"



"One of the biggest...most profound steps that [my company] has taken, in terms of embracing technology, was to form a Generative AI Board at the Executive level. [The] CEO...and executives across [our businesses]... [came] together and form[ed] a board of generative AI...but now it is expanding to AI as a whole in terms of 'What can we do with the technology to find more intelligence, to form more patterns, and create things [and] products richer and faster, leveraging that technology?'"

—Head of Data, BI & Advanced Analytics at a leading telecommunications company

Companies are boldly adopting this approach, transforming their business models and launching new revenue-generating products. Take Fortune. The media company reinvented their Fortune 500 and Global 500 lists into a SaaS product powered by generative AI with a custom-trained LLM.

The result: It unlocks decades of financial data by enabling users to ask plain-English questions and get unique data visualizations leveraging Fortune data. Users can ask questions or use the LLM directly to create data visualizations about companies in terms of ranking evolution over time or comparing within a sector. With this capability, users can go beyond each Fortune list to uncover more insights through comprehensive data visualizations.

Action items: For CIOs and CEOs, the message is clear: To stay competitive, you must lead the charge in adopting AI-first, intent-driven architectures by integrating AI into core processes. Some companies are already making progress on this journey, while others risk falling behind if competitors advance their capabilities and gain market share first. Focus on real-time insights and automating decisions while aligning technology and teams to drive faster innovation. Companies like Shein and Fortune demonstrate that this approach leads to growth and efficiency. Now is the time to make AI central to your business strategy.

Connect the Dots: Connect systems of record and insights with platforms

Principle:

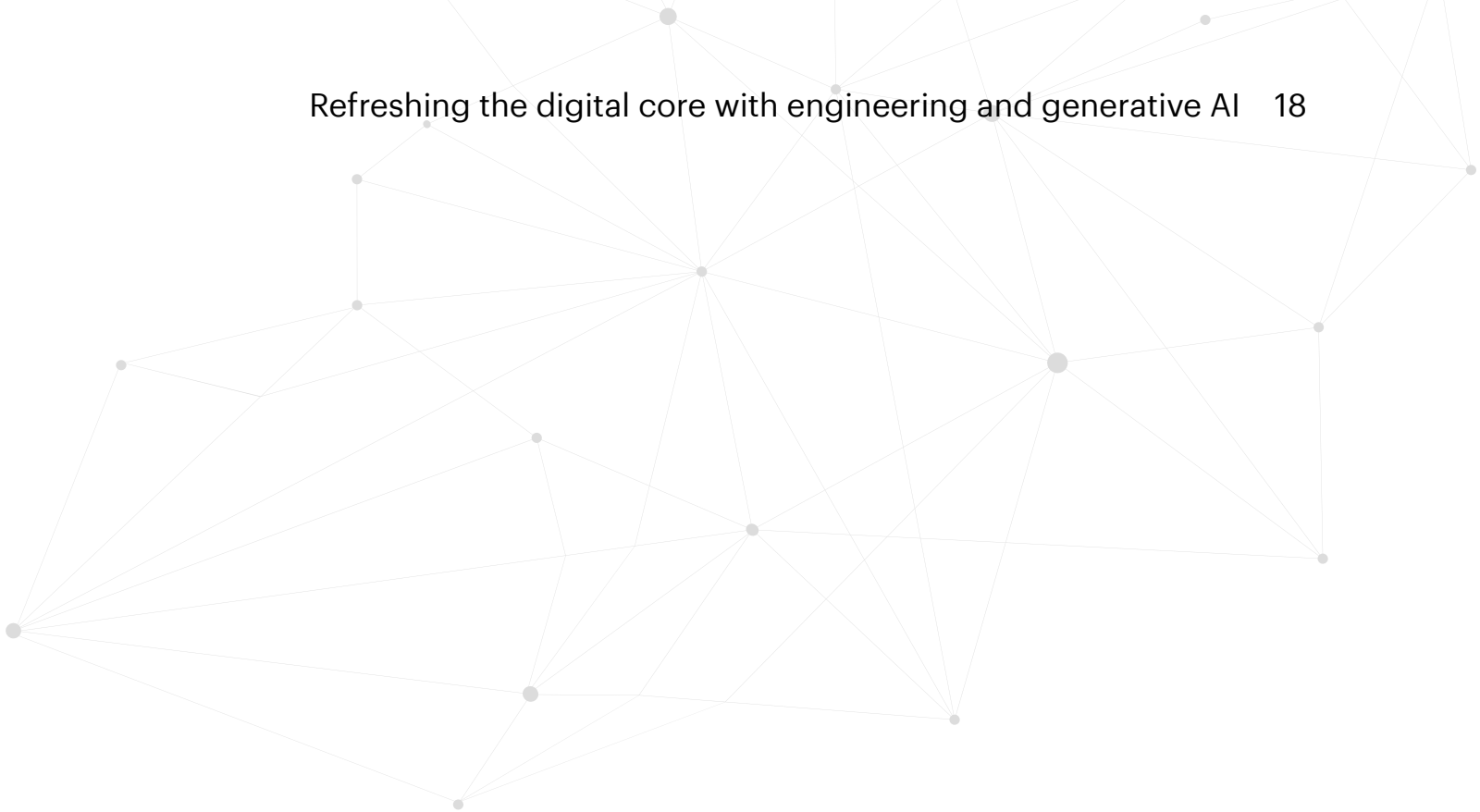
Seamlessly connect systems of record (transaction platforms) and systems of insights (analytical platforms) to enable real-time analytics for hyper-personalized actions to drive business outcomes including revenue and customer engagement. Maintain a continuous flow of data between these platforms to drive ongoing optimization, self-reflection and better decision-making.

This principle aims to connect transaction and analytics systems so that changes in transactions are quickly visible to analytics. AI can then apply insights from analytics to transaction systems in real-time, building context of their environment. To achieve this, organizations need to start by integrating and rationalizing all packaged and custom enterprise applications into higher-order transactional platforms with clear purposes, well-defined interfaces and open APIs.

It's a non-negotiable move—yet it's often the hardest to accomplish. Legacy systems, fragmented data flows and inconsistent integration patterns present major roadblocks. Many organizations struggle to consolidate their platforms effectively, especially without a cohesive integration strategy or the right API patterns.

“We still rely heavily on single-use APIs and lack an integration strategy with reusable patterns and a robust API library. Some of our legacy ERP systems are still processing transactional data in batch format, making it difficult to keep up with real-time demands. But we’re working on it. Right now, I’d place us at level three [where five is highest] on the maturity scale, but with our digital transformation initiatives, we’re aiming to leapfrog to level four within the next six months.”

—CIO of a large CPG company



“During a recent hackathon, we tackled a longstanding issue: connecting three different databases without a common identifier. Now, with a large language model, we can analyze records and columns across all fields and find logical connections—even without sophisticated database technology. All it takes is exporting to a simple CSV format, loading it into the LLM, and creating prompts to guide the merging process. What used to take us months can now be accomplished in days, giving us newfound agility. This speed has fueled a surge in (demand from) business—when they realize a solution only takes three days and costs \$5,000, they’re eager for more. This newfound capability is opening up a tremendous array of opportunities.”

—CIO of a large CPG company

Once transactional platforms are in place, organizations need to connect them to analytics using real-time data pipelines, with Data Lakes and AI platforms in between. But what often holds organizations back from achieving this state is the sheer complexity, fragmentation and manual nature of their data processes. Over time, they build up various databases and applications, each with unique structures, making data merging and integration highly labor-intensive and prone to error. Generative AI and LLMs are changing this by breaking down these

barriers, automating the discovery of logical connections across datasets and streamlining data consolidation.

The next step is to create a repository, like an index, for integrating structured and unstructured data from the enterprise, external sources, customer insights and codified domain expertise. This repository enables accurate, responsive and context-aware decisions in real-time. Organizations should look to use technologies such as vector databases to improve indexing and searching of multi-modal content.

Adding a layer of semantics to this brain then transforms it into an enterprise cognitive brain. This layer helps both people and AI understand and interact with data, based on what they want to do. The goal is to create systems that work together and share data across the company, no matter what the functions or applications are, like Salesforce Einstein for CRM, Joule for SAP operations and Microsoft Copilot.

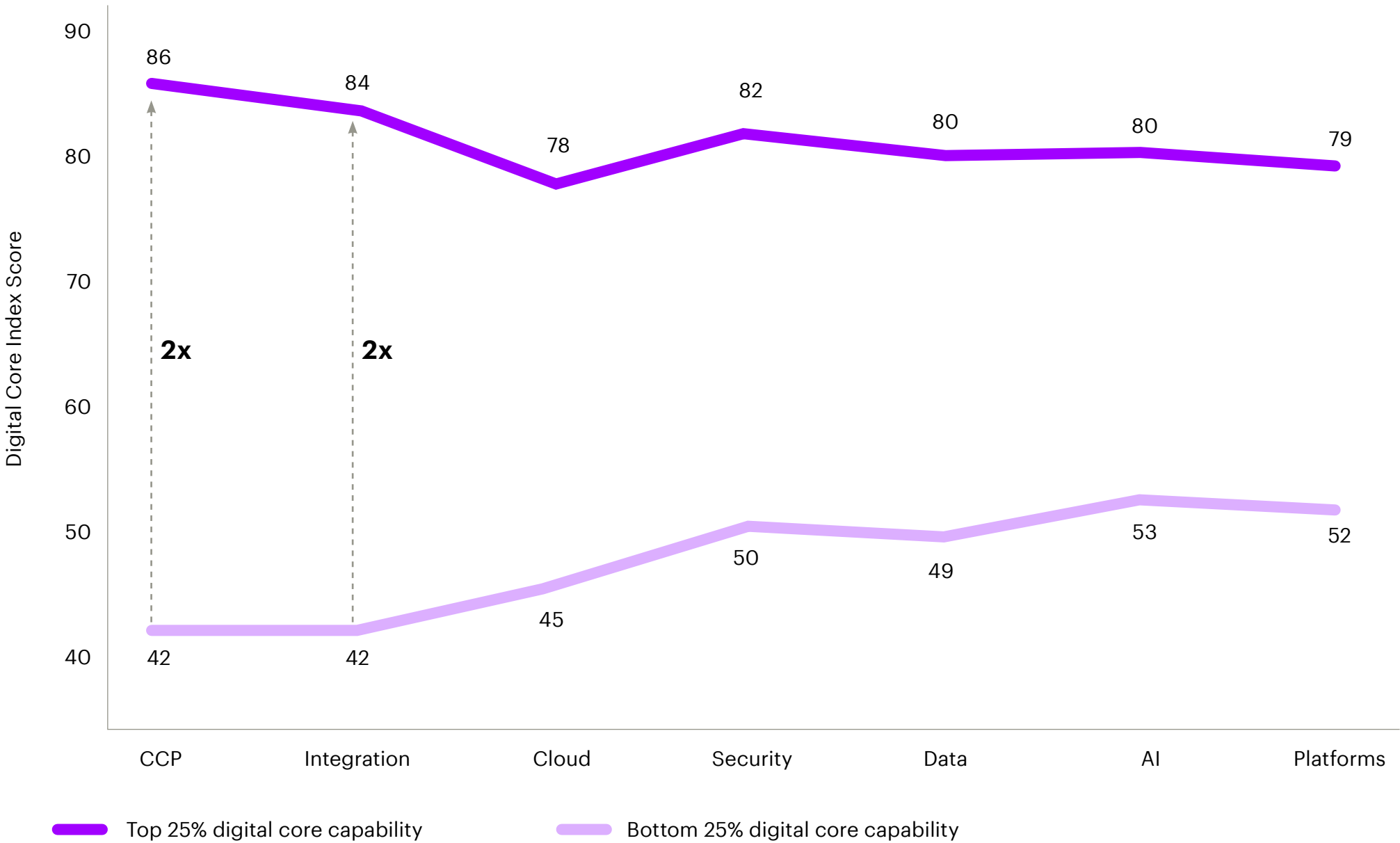


This requires real-time data publishing and subscribing mechanisms, technologies such as knowledge graphs, a data mesh architecture and AI systems that generate actionable insights and feed them back into operational systems. Doing this continuously creates self-reflection mechanisms. AI agents learn to answer questions better the first time. They also start exhibiting self-awareness and adaptability, recognizing and correcting for past mistakes with feedback.

With this approach, companies can evolve to build a smart, responsive digital core that turns raw data into insights and acts on them immediately. In fact, our research shows that superior integration and end-to-end visibility are the top contributors to digital core capabilities. Top-quartile companies excel two times more in these areas than bottom-quartile peers (figure 6).

Figure 6: Connect the Dots

Companies in the top quartile of our Digital Core Index are 2X ahead in terms of integration and end-to-end visibility (CCP) capabilities, compared to their bottom-quartile peers



Source: Digital Core survey (Nov 2023): Final Results (N= 1,500)





Key technologies and standards used include APIs both for internal and external data and event-driven architectures to enable real-time insights and action. Leading companies use modular components for scalability and flexibility and unify data models to make these applications function as a cohesive system. Unlike traditional system integration—which often involves separate, disconnected systems communicating through batch processing or delayed updates—this approach minimizes the time lag for intelligence to flow back into transactional systems and drive immediate change.

Action items: Many companies have distinct CIO and Chief Data Officer (CDO) roles. Both CIOs and CDOs need to work together to connect AI-driven analytics with business systems, make operations easier and reduce manual processes. Alongside them, CEOs should align business strategies with these changes, ensuring AI improves key operations. It is important to resist the urge to connect everything—the rationalization of apps into platforms needs to be the first exercise.



Thrive with Ecosystems: Plug-and-play next-generation technologies and countless innovations via major partners, at speed

Principle:

Create differentiation in products and processes by deploying leading-edge innovations faster—from both startups and bigger players—via larger ecosystems. Benefit from the security, reliability and integration provided by these large anchor partners.

This principle accelerates adoption of next-generation technologies at speed. It uses big ecosystem partners as the main platforms to reduce risks like security concerns and technical debt. Traditionally, enterprises have been hesitant to adopt early-stage innovations, especially from startups or open-source solutions. They are worried about security, long-term viability and how these solutions would integrate with their IT infrastructure. Earlier, traditional companies would wait for innovations to become more commercially stable before adopting them, while digital natives and disruptors would adapt early-stage innovations to create

competitive differentiation. With larger ecosystem partners like Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform (GCP), SAP, Salesforce, Oracle and Workday now providing access to early-stage innovations through marketplaces and partnerships, businesses no longer need to wait.

Take OpenAI. Its early adoption and success with ChatGPT in large enterprises is partly due to its integration with the Azure platform. Similarly, Veeva, a pharmaceutical CRM solution, has found success by building its solutions on the Force.com platform

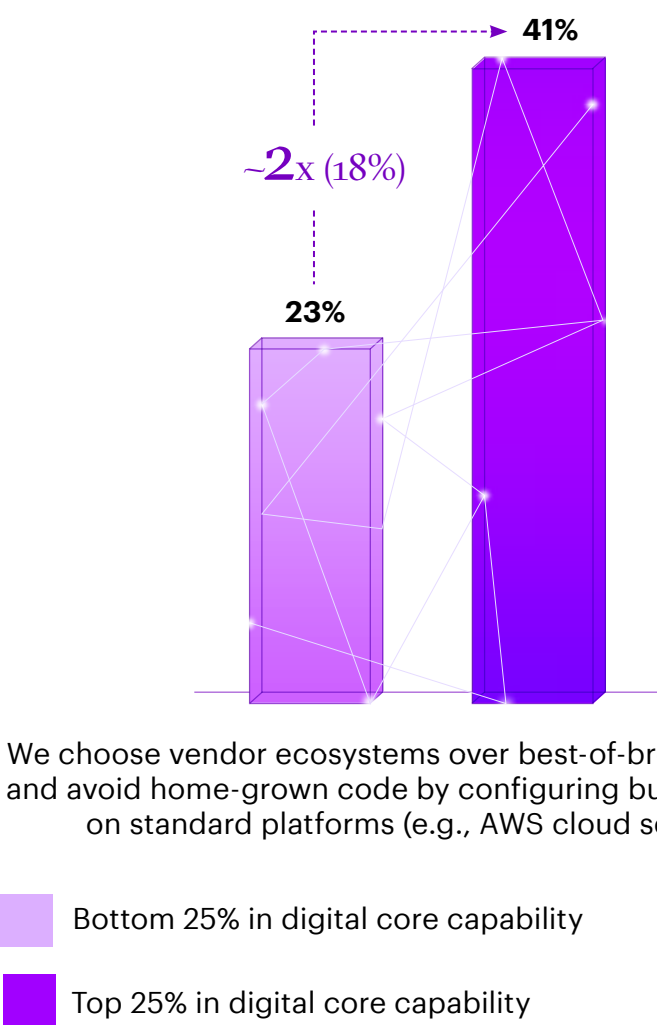
from Salesforce. Our research supports this principle, revealing that top quartile companies in our Digital Core Index are two times more likely to access next-generation technologies early via large ecosystems (Figure 7).

In fact, enterprises are increasingly adopting a fluid approach across multiple large ecosystems to integrate a broader array of vendors and technologies. This cross-ecosystem agility is becoming an important ingredient to tap into the endless innovation available from startups and open source projects.



Figure 7: Thrive with Ecosystems

Top-quartile companies are 2X more likely to access next generation technologies early via large ecosystems



We choose vendor ecosystems over best-of-breed solutions and avoid home-grown code by configuring business needs on standard platforms (e.g., AWS cloud services)

Source: Digital Core survey (Nov 2023): N= 1,500; percentages represent respondents who selected the response “1-Completely”

"I like that phrase...[of] stand[ing] on the shoulder[s] of giants and [being] at the forefront of... technology. Literally, we used to be...an on-prem company where we had everything locked in our data centers—Hadoop, and all these things—which was really not the best. But we took a bold risk to say, 'Let's partner with...hyperscalers and technology companies...to create agility [and] create speed.' I remember when I was a data scientist...spending hours and hours in front of a machine to get a query [to] run. But now, [with] some of these hyperscalers, I run a query in seconds. So that technology is really enabling me to do better and transform the organization at a faster pace."

—Head of Data, BI & Advanced Analytics at a leading telecommunications company

The cloud continuum—where hybrid and multi-cloud models have become the norm—offers valuable guidance in navigating this complexity. The Continuum Control Plane (CCP), functioning as the command center of the cloud continuum, helps identify gaps in architecture that must be addressed for seamless integration across multiple ecosystems. This approach makes it easier to connect and reduces technical debt by giving some responsibility to ecosystem providers. These providers manage security, compatibility, system updates and support.

Action items: CIOs and CEOs/CSOs must work as equal partners in selecting and leveraging major ecosystems to integrate next-generation technologies. This collaboration ensures that ecosystem choices align with both technical and business priorities. By adopting a cross-ecosystem approach, they can access innovations from startups and established players, minimizing risks and technical debt. Companies like OpenAI and Veeva demonstrate how strategic ecosystem use drives faster innovation.



Getting started

Managing the complexities of business operations while undergoing a digital transformation isn't easy. On top of that, evolving your digital core to a reinvention-ready state may seem like a tall order. However, with the right approach, it doesn't have to be overwhelming.

The steps to becoming reinvention-ready can be designed to closely map your modernization efforts. All it needs are a few strategic moves at the right time and right place within your existing tech stack. And the outcome could be the magic 60:40 effect.

But first you need to think through your approach: What critical systems do you need to grow and thrive in a world increasingly designed for humans as well as machines? Processes and functions that are dynamic and bring differentiation to your business are the ideal candidates for an intent-based

architecture. The key is being specific, pinpointing actions that can achieve targeted outcomes such as knowing the environmental factors and the supporting data that influence specific processes. Use generative AI to streamline and compress these processes. Rearchitect the systems that support these processes to move from a traditional architecture to an AI-agentic architecture. Employ agile methodologies and optimize finances with Cloud FinOps. Leverage ecosystem tools and solutions to jumpstart the transformation of these systems. Also, balance technical debt, an inevitable side effect of innovation.

Similar to prior transformations, conducting a gap analysis using established frameworks helps identify areas needing enhancement. Today, only one in four companies say that they can measure their maturity/capability across multiple technology areas. Pinpointing

actions that align with specific objectives—such as using generative AI for company-specific problems, increasing agility with agile methodologies, optimizing finances through Cloud FinOps, or modernizing data infrastructure—is crucial.

Data and AI are key accelerants to your reinvention. It is important to ensure that data silos inherited from fragmented business constructs are integrated and that data is made available for consumption. Today, only one in three companies (34%) say that their data model is largely standardized and aligned across core platforms/apps to meet operational and reporting needs. Pivoting instead to a decentralized, domain-oriented data architecture can help. But it takes work; two in three organizations still have centralized data ownership today.

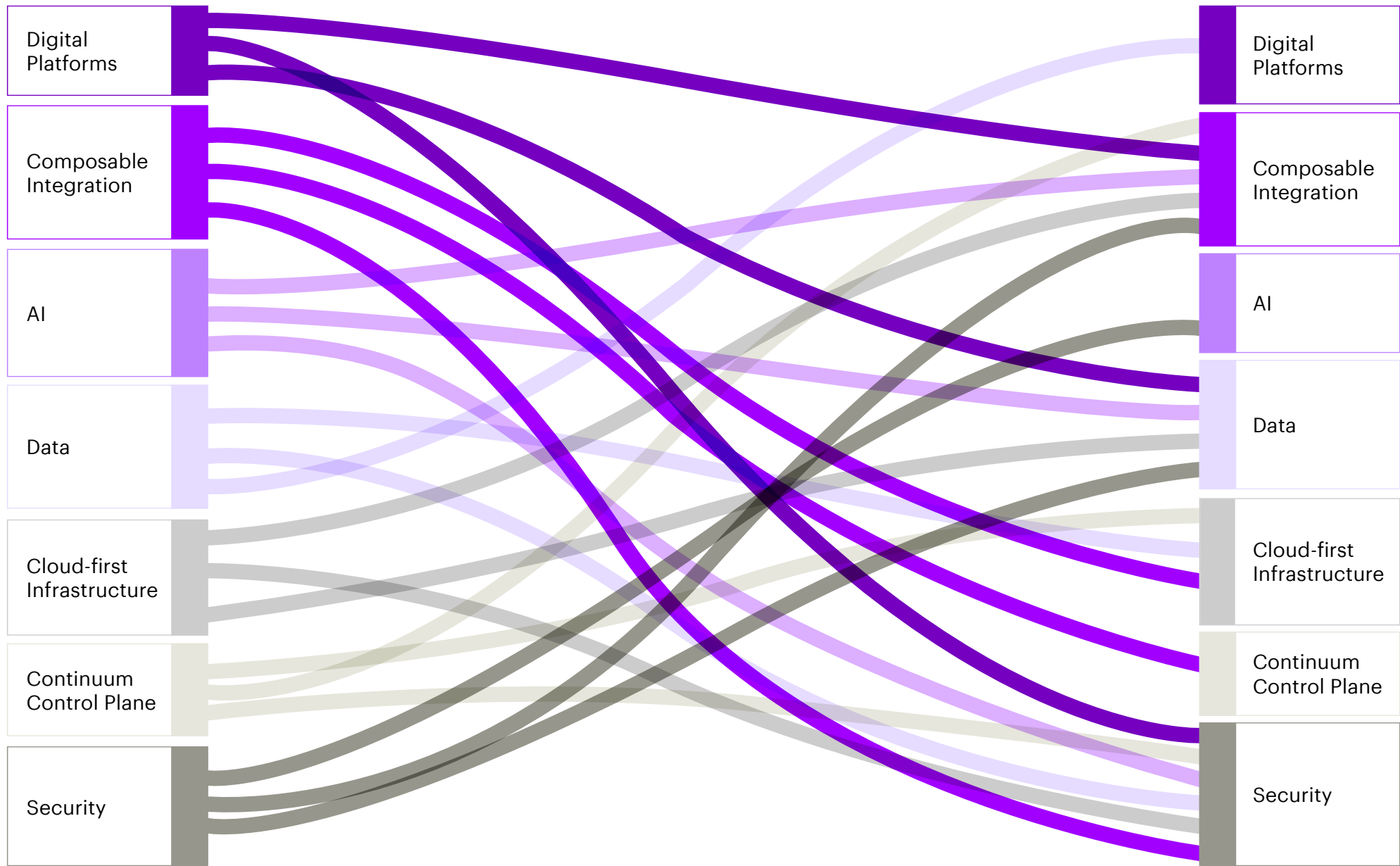


Treating data as a product and exposing it enterprise-wide through a semantic layer can produce a halo effect—it helps add and enhance advanced AI platform capabilities, and can improve other layers of the digital core. Successful companies use the benefits of this cycle of progress to build iteratively. They improve specific parts, like data management, to automatically improve others. This process is repeated iteratively, allowing each cycle of improvements to feed into the next, thus progressively refining and enhancing the capabilities of your digital core.

Our research supports this halo effect, revealing a high correlation among all digital core components, which means improving the capability of any one area helps companies improve the capability of almost all adjacent areas—some more than others (Figure 8).

Figure 8: Technology halo effect

A high degree of correlation among layers in a digital core means improving capability in an area improves the capabilities of adjacent ones.



Source: Digital Core survey (Nov 2023): N= 1,500

How does this work in practice? Consider an organization that wants to improve their AI capabilities. We find that advancing AI uplifts almost every layer, but the most impact is felt in security, composable integration and data. AI enhances cybersecurity by managing API security in a much more micro-segmented way, ensuring minimum access with the least privilege, which significantly tightens security protocols. It also accelerates the consumption of AI models from various vendors or marketplaces, allowing composable integration and usage of new AI-enhanced data more swiftly and effectively. AI plays a crucial role in managing data tasks—from generating automated code for data migration to labeling data and creating synthetic data—to streamline and enhance data processes. These enhancements directly contribute to more robust, agile and data-driven operations within the organization.

Addressing technical debt is also essential. Upgrading core applications can improve the efficiency of business functions, vital for maintaining operational effectiveness and a competitive edge. But while AI can accelerate progress across every layer of the digital core, it can also introduce new sources of technical debt, making it crucial to strike a balance. This ensures the digital core remains mature, agile and reinvention-ready. Balancing the big picture with day-to-day operations is challenging, but industry leaders show that it's possible to achieve long-term goals without losing sight of daily tasks. This balanced approach is key to becoming reinventionready.



Where to apply a digital core to reinvent



Kickstarting IT transformation

With a robust digital core in place, the next question for companies is where to apply it—especially their AI and generative AI capabilities—to deliver the greatest impact. Overhauling the office of technology (IT) is the first no-regret move typically made by most companies, according to our research. This prioritization is logical considering that today, every business operates fundamentally as a technology business. IT departments, led by technologists who are naturally at the vanguard of reinvention, directly influence all facets of business operations and strategic direction. With 76% of IT executives identifying IT as the primary area for transformation through generative AI over the next three years, it is evident that enhancing the IT function is crucial to driving reinvention and unlocking efficiency gains, anticipated to be around 23%.

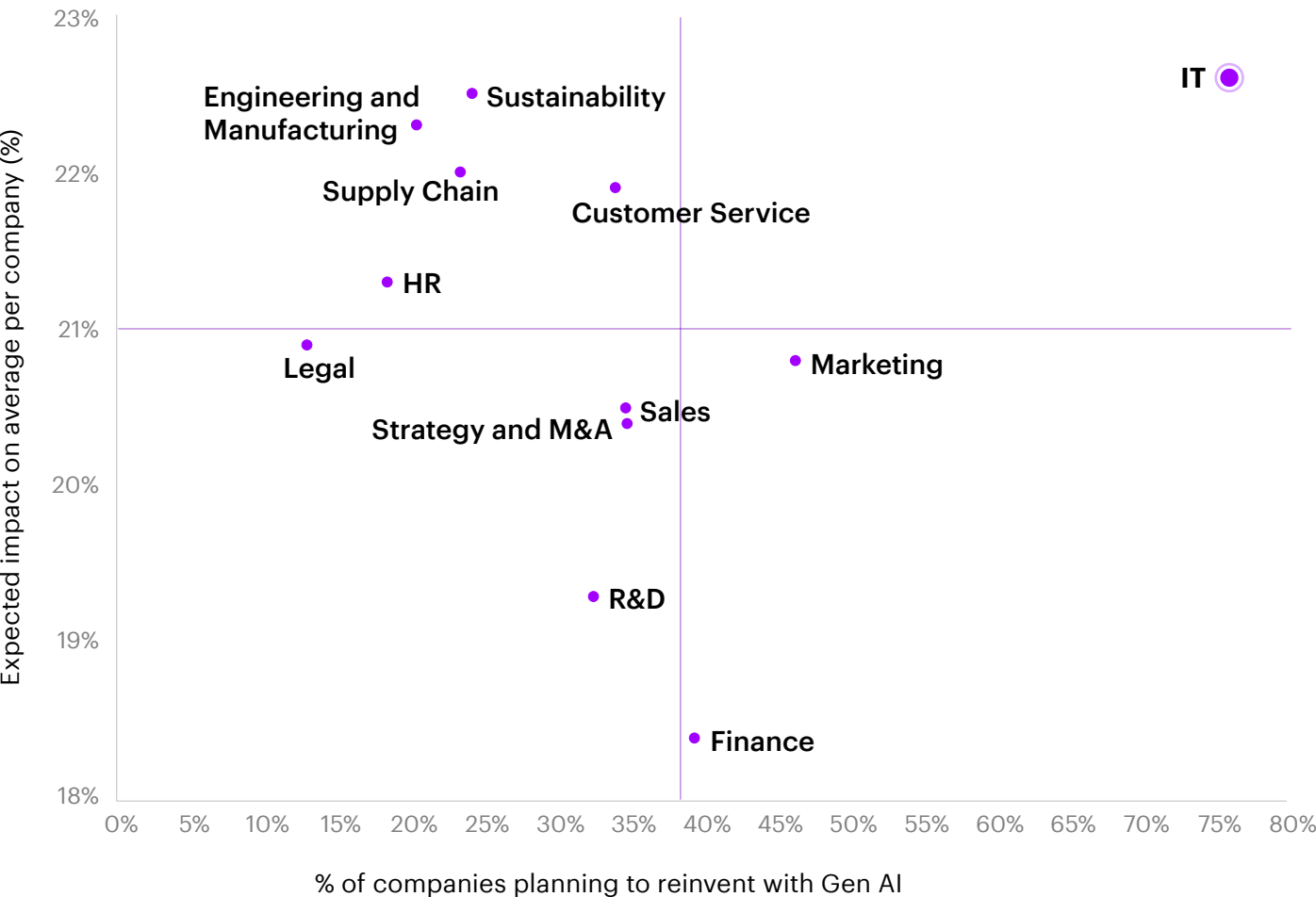
We find focusing on IT transformation for automation and cost savings alone can have negative consequences. Some IT functions

are technically intricate and crucial to the organization's stability, yet their business value is not immediately apparent, such as disaster recovery protocols and complex network management. These areas, often overlooked, are difficult to quantify in terms of direct business benefits, making their case for investment challenging. Indiscriminately automating these critical areas might lead to negative consequences. Instead, applying automation and augmentation thoughtfully across the software development and operational lifecycle can yield significant benefits. The focus should be on key performance indicators such as growth, agility and efficiency, rather than cost-cutting alone.

For those going further, we advise deploying generative AI in no-regret areas while also investing in strategic bets—more complex and core areas of the value chain like supply chain, engineering and sustainability (Figure 9, upper left quadrant).

Figure 9: Transforming IT

76% companies plan to reinvent IT first, underscoring that technology is at the heart of every business reinvention today.



Source: Digital Core survey (Nov 2023): N= 1,500



“We used Agile principles to embed cross-functional Agile teams...[for] problem-solving as the core way to run the business rather than [through] functional silos. And we did use all the Agile principles and...technology enablement in organizational design. So, all new role descriptions and...management processes around Agile and...the way that cross-functional teams are composed, and the Sprint methodology and...cadence—all that is a direct product of Agile and tech enablement.”

—Chief Strategy and Transformation Officer at a consumer goods company

Decentralizing the technology organization to form autonomous and empowered product teams is another strategy applied by highly mature companies. Such teams can make informed decisions and act on them, leading to enhanced efficiency and innovation.

This decentralized model aligns with the overarching goal of adopting agile work models, further enhancing an organization’s ability to navigate the complexities of today’s fast-paced business landscape.

Embracing agile work models

A digital core can be ineffective without new ways of working. To harness the potential of technological advancements, companies must integrate innovative operating models, principles and processes that accommodate rapid adaptation and scaling of new opportunities. This integration ensures that technology not only supports but also enhances business operations and strategy, leading to sustained value creation.

To effectively implement agile work models, flexibility in organizational structures is crucial. Such models are designed to swiftly adapt to evolving business needs and market conditions, ensuring the organization remains responsive and competitive. Sixty eight percent of companies report building strong capabilities around dynamic teams, where team members can rotate on and off based

on project needs, while 67% report building strong multi-disciplinary teams that are cross-functional and integrate technology and other skills⁴.

A word of caution: the sudden influx of generative AI-powered citizen coders can create significant technical debt. We recommend maintaining some teams as long-lived and product-oriented, particularly those focused on integration. By ensuring these teams have longevity, organizations can sustain innovation and adaptability over time—while ensuring that systems remain coherent and manageable. This approach helps mitigate the risk of accumulating unmanageable technical debt, as these dedicated teams can continuously refine and improve AI integrations within the existing digital infrastructure.

Continuing the conversation

The previous chapter of this report revealed that a robust digital core is essential for a company to achieve continuous reinvention, leading to 60% higher growth rates and 40% higher margins for those that applied three straightforward tenets.⁵

This chapter delves into designing and building a digital core using cutting-edge engineering principles and generative AI, unlocking efficiency gains and fueling ongoing reinvention.

But we're just scratching the surface.

Our upcoming insights will discuss multiple aspects of the digital core journey including mitigating technical debt, securing the digital core, and embracing innovative operating models.

Embark on this transformative journey now—the stakes are high, and the rewards as your business evolves with generative AI will be substantial.



About the research

Quantitative Executives Survey

The survey of 1,500 global C-Level IT executives was completed in November 2023. The aim was to collect data on:

- 1. State of their tech stack and maturity of key components of the digital core: digital platforms, data and AI backbone, and digital foundation (cloud-first infrastructure, continuum control plane, security, and composable integration).
- 2. Business landscape, including business structure and transformation; reinvention strategy; and business functions transformation.
- 3. Financial and operational performance via multiple measures.

The graphics below summarize the survey firmographics:

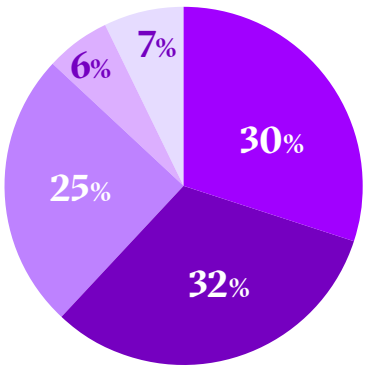
1,500 executives global

52% completed tech transformation

19 industries

C-Level only

Company Size



19 Industries

Financial Services

Banking (83)
Capital Markets (45)
Insurance (86)

Communications, Media & Technology

Media & Communications (80)
High-Tech (82)
Software & Platforms (86)

Resources

Utilities (83)
Energy (Oil & Gas included) (83)
Chemicals (84)
Natural Resources (81)

Health & Public Service

Healthcare (78)
Public Services (40)

Products

Retail (115)
Consumer Goods & Services (113)
Airline, Travel, Transport (80)
Aerospace & Defense (41)
Industrial Equipment (80)
Life Sciences & Pharmaceuticals (79)
Automotive (81)

10 Countries

Australia (50)	India (80)
Canada (70)	Italy (50)
China (80)	Japan (100)
Germany (130)	United Kingdom (130)
France (90)	United States (720)



Digital Core Index

We built a composite indicator (an index) to measure the strength of a company’s digital core capability based on 39 assessment questions. We applied a two-step aggregation process corresponding to the digital core component definitions and normalized the overall score on a 0-100 scale, where 0 means lack of digital core strength across the components and 100 means maximal strength across all components.

As a next step, we created three groups of companies based on overall Digital Core Index score distribution. The top group corresponds to the top quartile of the Digital Core Index, the bottom group to the bottom quartile of the index. The mid group is the rest of the index. Next, we analyzed characteristics of the groups.

The 60:40 effect estimation

We estimated the 60:40 effect by combining the survey data (including Digital Core Index) input and financial performance metrics of companies in our survey sample. Leveraging econometric modelling, we estimated the relation between:

1. Companies’ revenue growth
(CAGR 2020-2023; 3 year-end readings)
2. Companies EBITDA margin
(Average 2021-2023; 3 year-end readings)
3. The three tenets needed to achieve a reinvention-ready digital core:
 - Build an industry-leading digital core
 - Boost investments in strategic innovation
 - Balance growing technical debt

As the top-rated companies constitute only a small percent of analyzed sample (-3%), we tested the relation with the use of continuous variable (with scoring across the sample). The model controls for companies’ size, HQ country, industry and selected operational characteristics.

Our research showed that companies that apply the three tenets of a reinvention-ready digital core experience a 60-40 effect.

During the period of 2020-2023, the estimated CAGR revenue growth rate (3 year-end growth reading: 2020-21, 2021-22, 2022-23) of companies with reinvention-ready digital core (i.e., that adhered to all three tenets) was 11.1%. For the companies that did not satisfy any of the three tenets, it was 7.1%. The outperformance in revenue growth rate = $(11.1\% - 7.1\%) / 7.1\% \times 100\% = 56.34\%$ rounded to 60%.

Similarly, during that same period (2021-2023; again 3 year-end readings), the estimated average profitability (measured with EBITDA margin) of companies with a reinvention-ready digital core was 19.4%. For companies that did not follow any of the three tenets, it was 14.2%. The outperformance in profitability = $(19.4\% - 14.2\%) / 14.2\% \times 100\% = 36.62\%$ rounded to 40%.



Logistic regressions

We also analyzed the relation between satisfying the three tenets needed for a reinvention-ready digital core with probability that:

- The company's enterprise systems enable them to identify and mitigate risks (cyber, regulatory, Responsible AI, etc.) across multiple technologies, applications, and ecosystem partners
- The company's existing IT estate helped diversification into other geographies and industries
- The company's existing IT estate enabled their non-IT employees to create their own customized solutions using low code/no code tools

For these analyses we leveraged logistic regression approach controlling for companies' size, HQ country and industry.

Interviews and case studies

We triangulated our findings from the large-scale primary data from the survey with qualitative research, specifically 20 in-depth interviews (10 business executives and 10 IT) and 26 case studies. Overall, we collected 46 case studies through secondary research and interviews, focusing on issues organizations are facing with respect to the rapidly evolving business environment as well as technology landscape.

To analyze the qualitative data, we used Accenture research gen AI tools to identify significant patterns in maturity of various components of the digital core.

Acknowledgements

Project lead:
Shachi Jain

Research team:
Prashant Shukla, Gargi Chakrabarty, Emily Thornton, Katarzyna Furdzik, Krish Jhaveri, Juan Pablo Romero, Ajay Garg, Devraj Patil, Jakub Wiatrak, Amal Sebastian, Toms Bernhards Callahan, Megan Bernardi, Chiara Addis, Avimany Basu, Balu Mahendran, Abhishek Mishra

Marketing team:
Mark Klinge
Laurence Mackin
Janine Stankus
Micaela Soto Acebal

The authors would like to extend a special thanks to Jim Wilson, Andrew Long, Emily Miller and Madhav Shenvi for the insights and contributions to this research.

References

1. [S430_How Unilever Digitized Its Distributive Trade Route to Market Globally_1712851649633001dolb.pdf \(rainfocus.com\)](#)
2. [The next fundamental shift in business tech arrives at MACH One \(diginomica.com\)](#)
3. [How SHEIN and Temu Conquered Fast Fashion—and Forged a New Business Model - HBS Working Knowledge](#)
4. Accenture research and analysis based on the report - [Reinvention in the age of generative AI | Accenture](#)
5. [Reinventing with a Digital Core | Accenture](#)



About Accenture

Accenture is a leading global professional services company that helps the world’s leading businesses, governments and other organizations build their digital core, optimize their operations, accelerate revenue growth and enhance citizen services—creating tangible value at speed and scale. We are a talent and innovation led company with 738,000 people serving clients in more than 120 countries. Technology is at the core of change today, and we are one of the world’s leaders in helping drive that change, with strong ecosystem relationships. We combine our strength in technology with unmatched industry experience, functional expertise and global delivery capability. We are uniquely able to deliver tangible outcomes because of our broad range of services, solutions and assets across Strategy & Consulting, Technology, Operations, Industry X and Accenture Song. These capabilities, together with our culture of shared success and commitment to creating 360° value, enable us to help our clients succeed and build trusted, lasting relationships. We measure our success by the 360° value we create for our clients, each other, our shareholders, partners and communities.

Visit us at www.accenture.com

Disclaimer: The material in this document reflects information available at the point in time at which this document was prepared as indicated by the date in the document properties, however the global situation is rapidly evolving and the position may change. This content is provided for general information purposes only, does not take into account the reader’s specific circumstances, and is not intended to be used in place of consultation with our professional advisors. Accenture disclaims, to the fullest extent permitted by applicable law, any and all liability for the accuracy and completeness of the information in this document and for any acts or omissions made based on such information. Accenture does not provide legal, regulatory, audit, or tax advice. Readers are responsible for obtaining such advice from their own legal counsel or other licensed professionals. This document refers to marks owned by third parties. All such third-party marks are the property of their respective owners. No sponsorship, endorsement or approval of this content by the owners of such marks is intended, expressed or implied.

Some images included in this document have been generated using artificial intelligence technology.

Copyright © 2025 Accenture. All rights reserved. Accenture and its logo are registered trademarks of Accenture.

About Accenture Research

Accenture Research creates thought leadership about the most pressing business issues organizations face. Combining innovative research techniques, such as data-science-led analysis, with a deep understanding of industry and technology, our team of 300 researchers in 20 countries publish hundreds of reports, articles and points of view every year. Our thought-provoking research developed with world leading organizations helps our clients embrace change, create value and deliver on the power of technology and human ingenuity. For more information, visit Accenture Research on www.accenture.com/research.