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QUARTERLY®

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LEADERSHIP FOR THE NEXT DIGITAL AGE

Bioscience Breakthrough

FOLLOWING THE WORLD'S FIRST SUCCESSFUL TRANSPLANT OF A GENETICALLY MODIFIED PIG KIDNEY INTO A HUMAN PATIENT, **eGENESIS CEO DR. MIKE CURTIS** AND TEAM ARE CLOSER THAN EVER TO **SOLVING THE GLOBAL ORGAN TRANSPLANT CRISIS.** PAGE 38

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Our groundbreaking transplant heralds a new era in medicine in which we have the potential to eliminate organ supply as a barrier to transplantation and realize our vision that no patient dies waiting for an organ

—Dr. Mike Curtis
President & CEO, eGenesis



Over 30 years ago, Insigniam pioneered the field of organizational transformation. Today, executives in large, complex organizations use Insigniam’s consulting services to generate breakthroughs in their critical business results. Insigniam’s innovation consulting enables enterprises to identify and cross into new strategic frontiers to rapidly generate new income streams. Insigniam provides executives of the world’s largest companies with management consulting services and solutions that are unparalleled in their potency to quickly deliver on strategic imperatives and boost dramatic growth. Insigniam solutions include Enterprise Transformation, Strategy Innovation and Innovation Projects, Breakthrough Projects, Transformational Leadership and Managing Change. Offices are located in Philadelphia, Laguna Beach and Paris. For more information, please visit www.insigniam.com.



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THE SECRET TO SUCCESS IN THE DIGITAL AGE: YOU.

To say that my batteries were recharged following the 2024 Insigniam Executive Summit would be a massive understatement. I was thrilled to join over a hundred C-level and senior executives to reveal critical insights and leading-edge ideas that will define successful “Leadership in a Digitally Enabled World.”

If you see a recurring theme here with this month’s issue of *IQ*, it’s no accident. At Insigniam, we’re laser focused on the evolving role leaders will play in a world where digital advancements are reshaping industries overnight. For me, one of the most promising (and inspiring) aspects of our tech-enabled future is the blending of human skills with emerging technologies to unlock the best of what it means to *be human*. That’s why I feel so strongly that leaders today must not only understand the cutting-edge tools and data at their fingertips, but also how to inspire their teams to think creatively and act boldly.

This issue of *IQ* explores how leaders can and will redesign jobs and ways of working to align with the latest and greatest tech-tools to spur innovation, unlock efficiencies, and create the working world of tomorrow. Importantly, all of this necessitates that leaders create environments where innovation can thrive and where employees feel empowered to leverage new tools effectively.

As we move forward, I’m highly optimistic that emerging technologies will propel the human experience to reach new heights in terms of creativity and adaptability. I invite you to explore the articles and perspectives shared in this edition. Together, let’s embrace the opportunities that a digitally enabled world presents and lead with vision, passion, and a healthy dose of human ingenuity. **IQ**



Shideh Sedgh Bina
Founding Partner, Insigniam &
Partner, Elixirr

Summer 2024

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FOR THE NEXT
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—**Dominique Shelton Leipzig**, Author, *Trust: Responsible AI, Innovation, Privacy and Data Leadership*

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ON THE COVER



Dr. Mike Curtis, CEO, eGenesis. Photography by **Kelly Davidson**.



IS DATA BIAS SABOTAGING YOUR BOTTOM LINE?

AI built on bad data can be enormously costly. Here's what to look out for.

By Anna Islamova

The issue of AI bias isn't just a moral quandary—it can be costly for businesses, leading to revenue losses, customer attrition, employee turnover, legal expenses, and damage to reputation.

A 2021 survey of 350 IT leaders revealed that 62% of companies experiencing AI bias reported losing revenue, while 61% reported losing customers.

Mitigating bias starts with understanding its sources: data, algorithms, human factors, and context. If left unchecked, these biases can create poor outcomes. The primary categories for introducing AI bias include:

- **Data Bias:** High-quality, diverse data is essential. For example, cancer diagnosis data can be influenced by a patient's skin tone, leading to inaccurate results.
- **Algorithmic Bias:** Flawed algorithms can favor certain groups unfairly. Amazon's AI recruiting tool, for example, favored men over women for technical roles. Many AI models are 'black boxes,' with complex algorithms that aren't transparent.
- **Human Factor:** Historical data contains biases, and developers can unintentionally embed their own biases into AI systems. Decisions about which problems to solve and how to interpret AI predictions contribute to bias.

- **Context of Usage:** Using AI models in contexts they weren't designed for can amplify biases. For instance, a credit scoring model from one country might not work fairly in another without considering local economic conditions.

AI can process data and identify patterns, but it doesn't understand the human impact of its decisions. Technical fixes aren't enough; human judgment and ethics are crucial, as is forming an AI Ethics Committee or similar oversight group within an organization.

Forbes Counsel Member Satyen Sangani says, "Companies need to train anyone who touches data—whether they're managing it, producing it or consuming it—to be aware of introducing bias."

Furthermore, says Mr. Sangani in his Forbes op-ed entitled, *Curbing Unconscious Bias In AI*, "This is no different from training scientists to avoid procedural bias when designing an experiment. The challenge with most AI is that the real world is rife with unpredictable and confounding variables."

Mr. Sangani believes that companies that put in place checks and balances such as monitoring both inputs and outputs will benefit from the potential of AI without falling prey to hidden bias. This will be incumbent of visionary leaders who see the opportunity to ensure AI builds an inclusive, ethical, and safe world. **IQ**

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“Companies need to train anyone who touches data—whether they're managing it, producing it or consuming it—to be aware of introducing bias.”

-Satyen Sangani, Forbes Counsel Member

GRAPPLING WITH THE GLOBAL AI MARKET?

The global AI market is booming, set to grow from over \$100 billion (USD) in 2024 to nearly \$2 trillion by 2030. Yet, as AI regulations and foundational models increase, companies will be forced to navigate ethical concerns, high costs, and data complexity in order to harness AI's full potential for driving business efficiency and innovation. Here's a look at the current market, as well as where CXOs are pouring investments now—and what's keeping them from adopting AI as the driver for both current and future growth.

PRIMARY USE CASES

Despite a litany of potential applications, CXOs are prioritizing the customer experience as a primary use case for AI integration.



THE CURRENT MARKET

\$200B The total value of the global AI market in 2024. This includes \$25B from private investments in generative AI in 2023. Additionally:

80%

Percentage of retail executives that plan to harness AI to enhance automation capabilities by 2025.

85M

The number of jobs AI is expected to eliminate by 2025. However, 97 million new jobs are anticipated—a net gain of 12 million.

149

The number of new AI foundational models released in 2023—more than double the number from the previous year.

56%

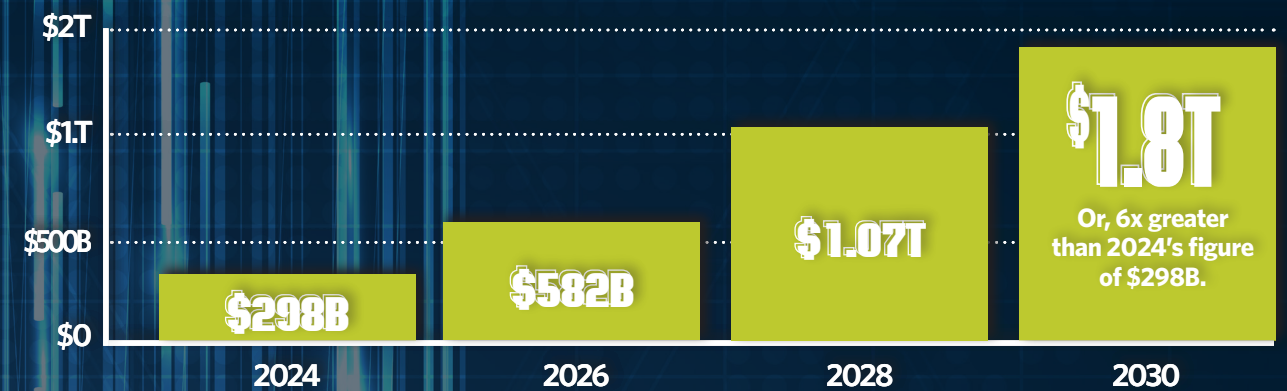
Percentage that AI regulations grew in 2023. In 2016, there was just one 1 mandated AI-related regulation.

\$3.1T

The estimated cost that bad data baked in AI systems costs companies in the U.S. alone annually.

GROWTH PROJECTIONS

Between 2022 and 2030, the global AI market is expected to grow at a CAGR of 32.9%, says research firm NextMSC. Here's how year-over-year growth will unfold:



BARRIERS TO ADOPTION

According to IBM's Global AI Adoption Index, several concerns are hindering AI adoption by CXOs, including:





“If board directors will ultimately be accountable for how AI technologies are deployed and leveraged within their enterprises, then it’s critical that **executive leaders no longer view data as solely the purview of IT.**”

—Dominique Shelton Leipzig
Partner, Mayer Brown &
Author, *Trust: Responsible AI, Innovation, Privacy and Data Leadership*

AI ACCOUNTABILITY IS COMING FOR YOUR BOARDROOM

A tsunami of legislation could soon change how your board applies oversight to AI activities—and you could be held personally accountable if and when trouble arises.

By Bonnie Wingate

In January 3, 2024, the U.S. Securities and Exchange Commission (SEC) ruled that two of the world’s largest publicly traded companies—Apple and Disney—must allow shareholders to vote on their use of artificial intelligence (AI). The shareholder proposals were filed by a pension trust of the AFL-CIO, the largest American labor union federation, despite opposition from both companies, who sought to exclude these votes from their annual meetings.

At Apple, the AFL-CIO requested a report on the company’s use of AI in business operations and the disclosure of any ethical guidelines regarding AI technology. Similarly, at Disney, the proposal

called for a report on the board’s role in overseeing AI usage.

Although both measures ultimately failed to garner the number of proxy votes required to pass, the SEC’s ruling mirrors signals from the U.S. Justice Department, which, since 2022, has been actively charging ahead with policies that would make CEOs and board directors personally accountable for the effectiveness and safety of their AI compliance programs. In practice, SEC rules would have required Disney and Apple to publish annual reports describing the board’s oversight of cybersecurity threats, including identifying the persons responsible for how the board is informed about and responds to risks.

Both moves hint at what’s on the horizon:

scrutiny over AI in the corporate world is reaching a fever pitch, driven by institutional investors clamoring for responsible AI development and shareholders’ concerns regarding executive oversight into how these technologies are used.

From a regulatory perspective, board directors and corporate governors are best situated to ensure that their companies are on track to reap the benefits of AI while avoiding its harms and litigation risks. Thus, they will undoubtedly find themselves squarely in regulators’ cross-hairs as legislation becomes codified.

The startling truth is that board directors may face increased personal liability for AI-related mishaps if current litigation

Accountability Partner
One of the U.S.’ top privacy, artificial intelligence and data lawyers, Dominique Shelton Leipzig helps clients navigate the evolving legal compliance issues related to privacy, artificial intelligence and data security for their digital data initiatives. In her fourth book, *Trust: Responsible AI, Innovation, Privacy and Data Leadership*, Ms. Shelton Leipzig has pioneered a step-by-step approach for board members to successfully optimize digital technologies through responsible data stewardship.

PHOTO COURTESY OF DOMINIQUE SHELTON LEIPZIG

“As a first step, the board and CEO will want to ensure that the AI governance teams are identifying each and every use case, as previously mentioned, and include a ranking for each.”

—Dominique Shelton Leipzig

trends serve as an indicator. Board governors risk legal liabilities—for the company and themselves—if they fail to fulfill their fiduciary duty and mitigate preventable harms from AI systems created or deployed by the companies they oversee.

In addition to actions taken by the SEC and U.S. Justice Department, a medley of legislative and regulatory activities are underway across the US, UK, and EU.

In the U.S., the Federal Trade Commission (FTC) is advocating for boards to oversee AI as a mission-critical operation. Additionally, U.S. companies using AI in products and services directed to EU residents will be subject to a sweeping set of new governance obligations that will most likely take effect in 2026, underscoring the need for global companies to understand the new requirements now so they can tailor their expenditures to align with the forthcoming expectations.

In Europe, one of those expectations—as laid out in a recent draft of the EU AI Act—is to codify “trustworthy AI” to ensure a high level of protection of health, safety, fundamental rights, democracy, the rule of law, and the environment from the harmful effects of artificial intelligence systems.

“These developments signal a significant shift towards increased accountability and transparency in corporate AI practices, emphasizing the need for ethical guidelines and oversight at the board level,” says Dominique Shelton Leipzig, the author of *Trust: Responsible AI, Innovation, Privacy and Data Leadership*, published by Forbes Books in December 2023.

In addition to *Trust*, Ms. Shelton Leipzig is a partner at Mayer Brown, an international law firm representing global corporations, investment funds and financial institutions. There, she is a member of the firm’s cybersecurity and data privacy practice and leads the ad tech privacy and data management

team. She is also leader of the firm’s Global Data Innovation team that provides CEOs and Board Members with advice regarding effective digital governance. In *Trust*, she provides CEOs and board directors with a step-by-step approach for successfully optimizing digital technology through responsible data stewardship.

“Enhanced scrutiny and codified legislation regarding corporate AI practices is just around the corner,” says Ms. Shelton Leipzig. “If board directors and corporate governors will ultimately be accountable for how these technologies are deployed and leveraged within their enterprises, then it’s critical that executive leaders no longer view data as solely the purview of IT.”

Understanding the Board’s Role in the Coming Compliance Tsunami

To establish trustworthy AI frameworks that meet stakeholder demand and weather the looming compliance storm is crucial., Ms. Shelton Leipzig provides directors with an actionable playbook for transforming their organizations into ethical data leaders.

By utilizing trustworthy AI frameworks and aligning their data strategy with long-term growth, enterprises can build stakeholder engagement and avoid costly missteps. She advises corporate governors to prioritize the following six variables as part of their oversight strategy:

1. Human oversight is key to AI success.
2. Accuracy and cybersecurity are critical to protect the integrity of the data collected for the AI and the algorithms’ output, especially in machine learning, with machines generating their own patterns.
3. Processes should be in place for testing and monitoring algorithms to ensure unintended consequences do not emerge.

4. If you lead a large technology company that creates generative and other AI offerings as a service, you should conduct an antitrust analysis (of increased focus by regulators) to protect against monopolization charges based on AI.
5. Ensure testing and verify accuracy after routine changes have been made to systems, such as operating system changes or software changes.
6. Ensure diverse teams are involved in algorithmic development, data training, and system protection, which will help insulate companies from drawing a regulator’s ire about a lack of diverse perspectives used to train models.

“With a groundswell of regulatory legislation on the horizon, now is the time for boards to get ahead of AI-related concerns and risks in order to build a foundation of trust with stakeholders,” says Ms. Shelton Leipzig. “It’s important to comprehend the sheer volume of draft legislation that exists, which currently amounts to over 3,000 pages of relevant proposed legislation.”

Furthermore, says Ms. Shelton Leipzig, the regulatory tsunami is not just a factor in the US and EU, but also on six different continents and in seventy-six countries, which sits on top of the existing (less comprehensive) AI laws in 127 countries that are already in place, having been enacted since 2016.

“Among the nations drafting regulations to govern AI, the US has been active, largely inspired by the commercialization of generative AI,” she says. “Right now, there are 146 state and federal bills pending in state capitols and the US Congress.”

While it’s completely understandable that most C-suite executives, board members, and their legal counsel would not yet have had the opportunity to wade through all of these various provisions, it’s important to know that substantial similarities exist among the vast majority of these legislative measures. “There are certainly numerous explanations for these commonalities,” says Ms. Shelton Leipzig.

PHOTO COURTESY OF DOMINIQUE SHELTON LEIPZIG

“To begin with, although this technology might be bleeding edge, these aren’t new ideas or concepts. These trusted AI legal frameworks have been contemplated and in development by governments around the globe, in conjunction with research scientists, for a relatively long time, since at least 2017.”

Additionally, she advises that when you have a mountain of draft legislation that addresses the same core criteria, corporate directors would be well-served to future-proof their digital activities by mapping legislative trends into a reasonably predictable future.

“It’s very important for our C-suite, board, and in-house communities to understand that one of the most obvious similarities among these regulatory efforts is that the vast majority do not attempt to legislate by dealing with the AI technology in the abstract,” counsels Ms. Shelton Leipzig. “These legislative provisions almost uniformly hone in on the particular use case and trigger governance with very specific focus and intention. Of particular importance, the vast majority of these efforts call for a ranking of risk according to prohibited uses, high and medium, and low risk.”

To address these concerns, Ms. Shelton Leipzig introduced a “traffic light” framework to aid companies in managing AI governance and decision-making based on proposed legislation:

1. **Red-Light Use Cases (Prohibited):** Legal frameworks have identified 15 scenarios where AI should not be used. For instance, AI should be excluded from surveillance related to democratic activities like voting or ongoing public surveillance. Remote biometric monitoring and social scoring—where social media activity influences decisions on loans or insurance—are also discouraged. “Governments don’t want private companies doing this due to the potential for significant harm,” Ms. Shelton Leipzig noted.
2. **Green-Light Use Cases (Low Risk):** These include AI chatbots and product recommendations, which are generally deemed low-risk and safe from bias or other concerns. Many of these uses have a proven track record of safety.



Dominique Shelton Leipzig
Partner, Mayer Brown & Author, *Trust: Responsible AI, Innovation, Privacy and Data Leadership*

Dominique Shelton Leipzig is one of the U.S.’ top privacy, artificial intelligence and data lawyers, and is a Chambers-ranked partner at Mayer Brown’s Los Angeles office. She is a member of the firm’s cybersecurity & data privacy practice, and she also leads the firm’s ad tech privacy & data management team. At Mayer Brown, Ms. Shelton Leipzig advises CEOs and board members on their fiduciary duty of oversight related to emerging digital and data technologies, including generative AI.

In her fourth book, *Trust: Responsible AI, Innovation, Privacy and Data Leadership*, Ms. Shelton Leipzig has pioneered a step-by-step approach for successfully optimizing digital technology through responsible data stewardship.



Act Now, Don't Delay

Ms. Shelton Leipzig advises companies not to delay adopting crucial AI governance measures despite evolving legislation. "Waiting for final laws is unnecessary," she says. "Implementing these guardrails offers visibility into AI operations and ensures compliance, preventing potential fines or brand damage."

3. Yellow-Light Use Cases (High-to-Medium Risk): Most AI applications fall into this category. These high-risk cases require rigorous governance. Nearly 140 examples—from AI in HR processes, family planning, surveillance, democracy, and manufacturing—fall into this category. High-risk financial applications include evaluating creditworthiness, managing investment portfolios, or underwriting financial instruments.

To aid boards in determining appropriate use cases—as well as applicable and relevant precautions—Ms. Shelton Leipzig created

a "cheat sheet" that directors should ask regarding the use of generative AI in their company, which are mapped to the governance best practices outlined in the hundreds of pages of legislation introduced around the world. They include:

- How are we using AI?
- Have we segregated training data to know its provenance?
- Are we using protected data that can be subject to opt-out or removal requests?
- How are we testing, monitoring, and auditing for accuracy, fairness, bias elimination, and privacy, considering cybersecurity, product safety, IP, and

antitrust? Are these efforts logged and reflected in the AI system's metadata?

- How can we review and approve AI governance policies, including human oversight?
- Are we developing AI in line with legislative and regulatory expectations and mapping our governance to the draft EU AI Act?

"Based on my experience in the privacy world, these questions are important to ask since much of the pending legislation continuously calls for the same types of protections around the world," she says. "It is rare that less governance will be contemplated

ISTOCK

by regulators."

A Seven-Step Playbook for Board Directors

In addition to formulating questions that board directors should pose to teams managing AI implementations, Ms. Shelton Leipzig also offers a prescriptive path for corporate governors to assemble a playbook for developing trustworthy AI frameworks.

"As a first step, the board and CEOs will want to ensure that the AI governance teams are identifying each and every use case, as previously mentioned, and include a ranking for each," she says.

In the event that high-risk use case profiles are identified, prevailing trends strongly indicate that regulators and legislators intend to audit licensors of AI models, as well as licensees, to ensure that their enterprises are following a seven-step AI governance program, as follows:

Step One: Confirmation of High-Quality Data Use:

The first step is to determine if any projects use high-quality data, as defined by each piece of legislation. "High-quality data" generally means data that is relevant and material to the exercise. Specific additional factors may apply, but this definition suffices for immediate purposes.

Step Two: Continuous Testing, Monitoring, and Auditing:

Once identified, the second step is to ensure continuous testing, monitoring, and auditing of high-risk AI in areas like algorithmic impact, IP, accuracy, product safety, privacy, cybersecurity, and antitrust. Boards should ensure they receive cyber reports on high-risk AI—and understand high-risk AI use in relevant jurisdictions—and whether their AI systems have testing, monitoring, and auditing capabilities.

Step Three: Risk Assessment:

Next, conduct a risk assessment based on pre-deployment testing and ensure this is reflected in the AI system's logging and metadata, including mitigation efforts. It's crucial not to wait until after deployment for testing capacity. Instead, board members should maintain close communication with the AI governance team

"With a groundswell of regulatory legislation on the horizon, now is the time for boards to get ahead of AI-related concerns and risks in order to build a foundation of trust with stakeholders."

—Dominique Shelton Leipzig



to ensure that necessary measures for required testing, auditing, and monitoring are in place and up-to-date to future-proof the AI.

Step Four: Technical Documentation: It is important to factor into operational strategies that these required testing, monitoring, auditing, and mitigation measures need to be appropriately documented and reflected in the AI technical system itself. The capacity to test is crucial across various AI frameworks globally, including those in Singapore, the EU, Australia, Canada, and other jurisdictions. Enterprises must engage their AI governance teams to discuss these critical issues and ensure compliance. For those licensing large language models, enabling testing within the AI system is essential. Continuous monitoring and auditing must also be in place post-testing to reflect logging data and metadata accurately. Coding within the AI system is necessary for testing, monitoring, and auditing functions. Incorporating these features during the building phase is relatively inexpensive compared to retrofitting afterward.

Step Five: Transparency: Licensors and licensees of high-risk AI must inform end-users about AI capabilities and limitations, ensuring the system’s explainability to third-party auditors or regulators. Pending legal AI frameworks emphasize transparency to users about AI interactions and abilities, reflecting the evolving nature of technology and the need to inform users about AI presence, capabilities, and potential third-party auditing.

Step Six: Human Oversight: Trusted legal frameworks mandate human intervention to address deviations promptly, ensuring real-time protection of the brand and prevention

“Regulatory changes make AI accountability and transparency essential. Boards that adopt strong AI governance can fast-track their ability to meet stakeholder and regulatory demands, while also establishing AI oversight as a core component of their business.”

—J.W. Dobbe,
Consultant, Insigniam

of safety issues. For example, if real-time monitoring detects a departure from safety parameters, a designated human AI expert should adjust the model. Boards and executives need assurance of notification systems to alert governance teams of deviations, allowing immediate corrective action to maintain safety standards and brand integrity.

Step Seven: Fail-Safe: In the event that the AI cannot be restored to the approved parameters set in the testing phase, fail-safes must be in place to terminate its use.

Although further exploration and discussion will most likely be needed to fully understand these factors, Ms. Shelton Leipzig advocates for actionable insights to empower board members and CEOs to make informed decisions about risk, opportunity, and avoidance.

The Time for Action is Now

Looking ahead, Ms. Shelton Leipzig advises companies not to delay adopting crucial AI governance measures despite evolving legislation. Emphasizing that AI governance requires collaboration among stakeholders, she highlights the importance of involving the board of directors, general counsel, and CEO throughout the process.

“Waiting for final laws is unnecessary,” she says. “Implementing these guardrails offers visibility into AI operations and ensures compliance, preventing potential fines or brand damage.” **IQ**



Great
Minds
Don't
Always
Think
Alike

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BEYOND SAP: A PRIMER FOR DIGITAL TRANSFORMATION

As companies race to migrate to SAP S/4HANA, experts say ERP software is just one variable in a larger equation. True digital transformations are more complex—and far more impactful.

By Cody Cerny



Enterprises worldwide are at a pivotal juncture with SAP’s announced phase-out of its ERP Central Component (ECC) software—a core ERP product within the SAP business suite—by 2027. The move is driven by the introduction of the cloud-friendly, in-memory database SAP S/4HANA, designed to handle

transactions and analytics on one system. This shift goes beyond a mere technical upgrade; it catalyzes a strategic overhaul impacting fundamental business operations.

While S/4HANA introduces benefits like streamlined data models and real-time analytics, its successful implementation requires deep integration with emerging technologies—such as generative AI—and broader digital transformation strategies to truly enhance organizational efficiency and agility.

Having led some of the world’s most recognized brands through ERP and Digital transformations over the past 30 years, Elixirr Partners Brandon Bichler and Eric Rich believe large SAP-enabled enterprises that approach the ECC to S/4 transition as “another mandatory SAP technical upgrade” will miss out on a massive breakthrough transformation opportunity—and potentially burn through millions in IT upgrades that could be more strategically invested in revenue growth and customer experience initiatives that rely on technology and data innovation.

Instead, Mr. Bichler and Mr. Rich advise companies to consider the “end of ECC support” deadline as an opportunity to

examine how their businesses have evolved, understand how customer expectations and buying behaviors have changed, review future state vision and growth strategies, and work collaboratively – Business and IT - to determine what ERP, digital, and data capabilities will be needed to support successful execution and delivery of results into the future. Simply put, your ERP / Digital enablement initiative should foster business model innovation the underlying operating models that will sustain it. Your ERP and digital roadmap and upgrade plan should be tightly linked to the strategic enterprise roadmap and the delivery of defined business targets.

“First of all, I think the discontinuation of ECC support is an opportunity for people to re-evaluate their large ERP transformations from a decade or two ago,” says Mr. Bichler, who helps Elixirr clients create an environment for innovation and growth to thrive within their organizations. Before joining Elixirr in 2014, Mr. Bichler was a partner at Infosys Consulting, where technology-enabled transformation and complex organizational change were his primary focus areas.

“In the market, it’s not just SAP; this is happening across many packaged

technologies,” says Mr. Bichler. “Anytime you upgrade or re-platform your ERP, you’re touching the core of your business—the very essence of how you operate. This presents an opportunity to think more holistically and wisely about what this means and the opportunity it brings.”

Underscoring Mr. Bichler’s comments is Mr. Rich, who advises clients focused on innovation, operating model enhancements, and technology-enabled business transformation.

“Many businesses we work with see the migration as an opportunity to do something more transformative around their operating model, which might entail retooling operating processes or reinventing people’s roles and responsibilities. Clients are thinking big picture too, asking what the migration means in terms of how they can upscale and evolve their organizations,” says Mr. Rich, who led many SAP-enabled business transformation programs as a Partner at PwC and Infosys Consulting before joining Elixirr in 2016.

“Senior executives often ask us, ‘How do we optimize and streamline processes, especially when a business gets more complex over time?’”

According to Mr. Bichler and Mr. Rich, clients are often well-served by taking a

“One primary challenge is the potential disruption to operations during the transition period. Downtime can result in significant financial losses, especially for companies heavily reliant on their ERP systems.”

—Eric Rich
Partner, Elixirr

Run Simple...And Better

S/4HANA offers enhancements like streamlined data models and real-time analytics, but its successful implementation requires deep integration with emerging tech—such as generative AI—and broader digital transformation strategies to truly catapult organizational efficiency and agility.

moment to better understand, identify, and articulate the true ambition driving their desire to embark on a comprehensive digital transformation. This is imperative for organizations, especially for those embracing AI as a catalyst for innovation within comprehensive digital transformation efforts.

“Digital transformations are enormously consequential, which is why this discussion needs to ultimately be owned by the CEO and the executive committee,” says Mr. Bichler. “They must assess and steer the strategy, approach, and execution to succeed.”

However, says Mr. Bichler, before diving into an ERP initiative, companies should lay the groundwork for a successful implementation—and ultimately, operational transformation—by addressing their current limitations with technology and data. This is especially relevant for companies with fragmented tech stemming from past mergers and acquisitions or those who have taken on technical debt as their business has grown over several decades.

Despite this, says Mr. Bichler, this shift opens the door to new experiences and data-driven organizations and enables new business models.

Before embarking on your S/4HANA upgrade, Mr. Rich and Mr. Bichler advocate an upfront investment, or a “pre-upgrade sprint” aimed at driving business and IT exec alignment on strategic business objectives to be delivered by the ERP migration, as well as getting their commitments to fund and support the agreed ERP upgrade strategy, roadmap, and target outcomes. This exercise should explore key topics around growth and M&A strategy, targeted operating models, customer and user expectations, market and competitive environment, evolving regulatory and compliance requirements, and other strategic factors. This should be done as a pre-requisite



Faster, Better, Stronger
According to Mr. Bichler and Mr. Rich, many businesses see migration as a chance to transform their operating model, retool processes, or redefine roles and responsibilities.

to collaboratively defining the ERP strategy and roadmap. Business and IT execs should jointly assess the following digital transformation drivers to inform key design principles:

- **Existing Systems:** Evaluate the strengths and weaknesses of your current ERP and other digital tools and applications.
- **Processes:** Identify bottlenecks and inefficiencies in existing workflows, as well as improvement and automation opportunities.
- **Data:** Assess the quality, accessibility, and usability of your data, as well as data governance, ownership, and culture.

- **Customer Experience:** Examine how your current systems impact customer interactions and satisfaction.

Understanding the S/4HANA Migration
At its core, S/4HANA is designed to simplify and accelerate business processes. It achieves this via an in-memory database that processes transactions and analytics in real time.

“The transition from SAP ECC to SAP S/4HANA is creating a sense of urgency, especially when considering the significant improvements over its predecessors, such as simplified data models and a more intuitive user experience,” says Mr. Rich.

“When implemented effectively, these features can help companies operate more efficiently, generate useful insights to make better business decisions, respond to market changes faster than competitors, and implement strategic change at pace without stagnating progress. These capabilities are crucial for organizations seeking to become more agile and data-driven while providing instant access to critical business information.”

However, Mr. Rich says the migration process can be complex and fraught with risks.

“One of the primary challenges is the potential disruption to business operations during the transition period,” he notes. “Downtime can result in significant financial losses, especially for companies heavily reliant on their ERP systems.”

Additionally, says Mr. Rich, ERP migrations require substantial investment in time, money, and resources. This necessitates an additional layer of complexity to manage; enterprises must have the right expertise and support to handle the business and technical aspects of the transition.

“Organizations should evaluate and redesign their workflows to leverage the full potential of S/4HANA, which involves identifying bottlenecks, eliminating redundancies, and optimizing processes to enhance efficiency and effectiveness,” he says. “For example, a company might use S/4HANA to automate routine tasks, freeing employees to focus on higher-value activities that drive innovation and customer satisfaction.”

Yet, for organizations that heed Mr. Bichler and Mr. Rich’s advice to envision the successful result, S/4HANA can be a powerful component in a larger transformation.

“While S/4HANA offers a broad range of functional and technical capabilities, it’s also important for companies to ‘re-think the core’ as part of their upgrade strategy,” says Mr. Rich. “We’ve evolved to doing business in a digital world - where computing horsepower makes things happen real-time, mobility allows us to transact wherever and whenever we want, vast amounts of data can be shared seamlessly across systems and applications with APIs, and competitive advantage is gained by capabilities such as machine learning and artificial intelligence. Companies must decide where to draw the lines around the functional scope of their ERP and where they can gain advantages in terms of operational effectiveness, process

efficiency, cost optimization, and revenue growth from other emerging tech capabilities that tie into their core ERP.”

AI as a Transformative Catalyst

In conjunction with S/4HANA, Mr. Bichler and Mr. Rich believe generative AI platforms can further enhance ERP capabilities by introducing advanced functionalities such as natural language processing (NLP), predictive analytics, and task automation.

“AI has undoubtedly become a ubiquitous topic, almost to the point where it might seem over-discussed,” says Mr. Bichler. “However, AI is a powerful tool to analyze historical and real-time data to forecast trends, for instance, as well as customer behaviors and market demands, with heightened accuracy.”

This predictive capability improves decision-making and automates complex tasks across various business functions, liberating humans to focus on innovation and enhancing customer engagement.

AI-driven insights derived from customer interactions and feedback, combined with transactional data from S/4HANA, can also enable personalized customer experiences through optimized journeys, increasing customer loyalty and retention.

From an ERP implementation perspective, AI is being used to streamline activities across the Software Development Lifecycle (SDLC)—from business requirement documentation to system configurations—AI-enabled automation of these tasks is not about replacing humans but redefining their roles. It’s plausible to consider how AI can significantly reduce the time and effort associated with ECC to S/4 migration programs, minimizing upgrade activities’ impact on business operations and competing business initiatives.

For historical perspective, Mr. Bichler recalls how the development of the Internet and the onset of globalization were driving forces behind the labor arbitrage model—where highly talented individuals located offshore could execute tasks at a fraction of traditional costs.

“Looking at today, AI marks another inflection point akin to the global delivery model’s advent,” says Mr. Bichler. “Amid the initial wave in the early 2000s, significant cost efficiencies were achieved, upwards of 30% savings, by deploying a global delivery model. This wasn’t merely about relocating



BIO: Brandon Bichler, Partner, Elixirr

Brandon Bichler is a recognized thought leader in innovation, transformational change, strategy and operations, with over 20 years experience building and growing businesses in the tech, consumer, travel, manufacturing, financial services, automotive and resources sectors.

As a partner at Elixirr, Mr. Bichler helps his clients create an environment for innovation and growth to thrive within their organizations, establishing relevant external partnerships and driving the necessary cultural, behavioral and operational change to make it work. He stays well-connected to the startup and venture capital communities across Silicon Valley, New York, London, Tel Aviv, Bangalore and Beijing and advises several startup businesses.

Mr. Bichler is also a mentor for startups in the Envestnet / Yodlee Incubator.

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“Clarity of vision is essential for developing a strategic and tactical roadmap that aligns everyone involved and guides the organization towards its goals.”

—Eric Rich
Partner, Elixirr

tasks to cheaper locales; it revolutionized how ERP programs were run. Companies streamlined workflows by pooling process, technical expertise, and delivery capabilities into centers of excellence in offshore and nearshore locations, slashing costs while enhancing effectiveness.”

Mr. Bichler believes that as generative AI is further integrated into how software is delivered across organizations worldwide, there will be another wave of significant productivity and efficiency improvement, potentially adding another 20-30% of savings for enterprises implementing ERP and other packaged software.

As Mr. Rich notes, grasping the emerging tech paradigm shift has become the crux of the target architecture design for business leaders embarking on their digital transformation journeys.

“Take an example of a GenAI-enabled Sales Prospecting tool in a B2B environment – let’s assume prospecting a qualified lead consumes 40% of the effort to close a sale and leads are generated from 6 unique data sources. GenAI can perform the prospecting process 99% faster while increasing the quality of leads substantially and equipping the sales exec with a target value prop and pricing strategy for the customer. This allows the salesperson to focus on generating a winning proposal and closing the deal with a much higher probability. In this context, some perceive AI as a cost-saving measure and would anticipate a reduction in salesforce size while the business maintains sales figures,” he notes. “Yet, visionary leaders will recognize AI’s ability to elevate existing talent, potentially driving exponential business growth by enhancing the existing team’s performance results through the power of AI.”

As Mr. Bichler says, “Leaders who fail to establish the flexibility needed to pivot critical aspects of their business and operations quickly

in the face of rapid technological shifts will find themselves at risk of being left behind.”

The Impacts of a Digital Transformation

Successful digital transformations begin with a clear strategic vision set by the executive leadership team. Senior leaders must articulate a compelling vision for the future that aligns with the organization’s overall goals. To realize the expected impact, they must foster a culture that embraces change, innovation, and continuous improvement. Adopting new technologies such as cloud computing, artificial intelligence, machine learning, and advanced data analytics is imperative for growth.

“The use of emerging tech capabilities within a company’s operating model and IT architecture is no longer optional. Every business must have an integrated IT, Digital, and Data Strategy where all capabilities and IT initiatives map directly to realizing specific business goals,” says Mr. Rich. “This is where critical tech components like S/4HANA factor into the equation - it provides a foundational layer of capabilities the organization needs to be more agile and responsive. The fun part is deciding how the foundational layer should be defined and implemented in the context of a seamlessly integrated, digitally-enabled, data-driven enterprise poised to achieve breakthrough business results.”

Mr. Rich says, “Holistic digital transformations require analyzing and redesigning existing business processes to eliminate inefficiencies. This means addressing pain points that developed over time due to significant changes in the business environment being ignored or handled with manual workarounds, as opposed to making corresponding process and IT changes as requirements evolved. Historically, we haven’t seen large enterprises with the agility and flexibility necessary to adapt to significant

business changes when they occur. They’ve simply forged ahead until the next major transformation program opportunity or upgrade comes around—and by then, the workaround process has been accepted as ‘this is how we do things’, making it a business requirement for the new solution design to handle it the old, inefficient way.”

“But today, we see organizations using data-driven insights to drive change in how they do business...in their products, services, pricing and marketing strategies...even altering their business model...ahead of the market change curve. Processes and systems must be adaptable to change, and continuous improvements are necessary to help organizations respond quickly to market dynamics and evolving customer needs,” he adds.

For a company to transform into a digitally-enabled, data-driven business, an emphasis must also be placed on modernizing the organization and culture. “Successful transformation requires effective change management, which involves preparing, supporting, and helping employees adapt to new technologies and ways of working,” says Mr. Bichler. “Setting clear performance metrics with owners who are held accountable is critical to achieving the expected returns on investment. Enrollment starts at the top of the house but must also be effectively cascaded and embedded by leaders across the wider organization.”

Lastly, an enterprise-wide understanding of what awaits the organization is essential. Digital transformations are not merely upgrades of existing technology, but rather a fundamental way of rethinking how an organization operates and delivers value to its customers, thereby requiring enrollment at all levels of an organization.

“From start to finish, a successful digital transformation requires strategic vision from the C-suite, as well as modern technology integrations, optimized processes, effective data management, enhanced customer experiences, and a supportive organizational culture with robust governance and a commitment to continuous improvement,” says Mr. Bichler.

A Transformative Future Awaits

Leading a successful digital transformation is a complex and demanding task. It requires a clear vision, strong leadership, and a willingness to embrace new technologies

and ways of working. By beginning their transformation from this mindset, CEOs can guide their organizations through the challenges and opportunities of digital transformation, ensuring they remain competitive and innovative in an ever-changing business environment.

“As global businesses navigate an uncertain future amid a changing corporate landscape, strategic adoption of S/4HANA and generative-AI isn’t just about integrating new technologies; it’s about fostering a culture of innovation and adaptation—one that touches the core of the organization,” says Mr. Bichler.

“Successful leaders recognize the inherent potential of a digital transformation—not only to optimize existing processes but also to pioneer new paradigms. They understand that AI isn’t a panacea but a powerful tool requiring strategic vision, iterative refinement, and a commitment to continuous learning.”

Mr. Rich recommends that a CEO’s initial focus should not be on the “how” but on the “why” of the transformation. He points out that enterprises often jump into organizational changes or digital transformations without clearly understanding the business intent behind these initiatives. Therefore, he advises leaders to first articulate their efforts’ purpose and desired outcomes.

“This clarity of vision is essential for developing a strategic and tactical roadmap that aligns everyone involved and guides the organization towards its goals,” says Mr. Rich. Both Mr. Bichler and Mr. Rich agree that having a clear strategic vision and alignment simplifies the execution process. Strategic clarity, well-defined objectives, and shared accountability form the bedrock of successful transformation efforts. The focus should always be on the business intent, ensuring that all actions taken align with the organization’s broader goals.

“That’s exactly where we’re going with S/4HANA and AI, which are critically important tools within a large digital transformation initiative,” says Mr. Bichler. “The future belongs to those who embrace the digital frontier not as a trend but as a transformative force driving the next era of enterprise evolution.” **IQ**



BIO: Eric Rich Partner, Elixirr

Eric Rich leads the growth of Elixirr’s U.S. business. He has more than 25 years of consulting experience and is a recognized leader in advising clients around innovation operating models and design thinking, technology-enabled business transformation, and cost reduction / process improvement initiatives. Mr. Rich has spent his career driving complex transformation programs for some of the world’s largest global companies across most major industry segments and geographies.

Before joining Elixirr, Mr. Rich was one of the founding Partners of Infosys Consulting, where he led the consulting business across all major geographies and consulting service offerings. He personally led some of the most complex business transformation client engagements that Infosys was involved in. At the start of his career, Mr. Rich spent 10 years with PwC and two years with IBM, focused on ERP transformation consulting.



THE TRUTH ABOUT TECH-DRIVEN INNOVATION

As CXOs eyeball emerging tech to spur innovation, experts say to ignore the buzz and identify areas ripe for transformation.

By Gregory Trueblood

With a slew of new AI tools coming to market, global CXOs are increasingly looking to harness the potential of AI, machine learning, and large language models to drive innovation throughout their organizations. However, as the old saying goes, “A tool is only as effective as the skillfulness of the hands that wield it.” Cliché as it may be, this sentiment perfectly underscores why leaders across the C-Suite should first understand how and where these emerging technologies can provide significant value across their enterprise, and likewise, where they cannot.

To better understand how CXOs can leverage AI and other emerging tech to spur innovation, IQ spoke with Daniel Garsin, partner at global consulting firm Elixirr, where he is a leading voice in the firm’s digital strategy and innovation practice.

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The Fast Lane to Insights

If leveraging emerging tech such as generative AI to find the fastest path to customer insights, CXOs should focus on quickly gathering and analyzing data to inform their decision-making.

Having spent the last 15 years counseling many of the world's most complex, dynamic organizations on how to leverage digital tools and technologies to achieve meaningful, customer-centric innovations that drive change, Mr. Garsin believes that rather than chasing the latest buzz, a targeted approach that focuses on identifying areas ripe for transformation is critical.

By mapping out the target customer and internal user experience and pinpointing opportunities for automation and

improvement, businesses can strategically apply technologies like AI and machine learning to maximize efficiency gains while minimizing disruption

Importantly, Mr. Garsin believes that while investing in technology is essential, it is equally important to empower employees with the skills and knowledge needed to leverage these technologies effectively and have them involved as much as possible in designing the target state to increase the chances of adoption. By embracing a

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mindset of continuous learning and innovation, organizations can unlock their full potential and drive lasting change within their industries.

IQ: In today's rapidly evolving landscape, what emerging technologies do you see as the most promising for driving innovation and transforming enterprise performance?

Mr. Garsin: When discussing emerging technologies, it is important to clarify what is meant by 'emerging.' The technology that has certainly created the most buzz and demonstrates the greatest potential is Artificial Intelligence (AI), particularly Generative AI, when applied correctly. AI has evolved rapidly over the past few years, transitioning from a longstanding concept into an enterprise-ready tool. Its ability to automate repetitive manual processes and increase productivity is profound and we are only starting to see the potential here – even in the consulting industry.

I found a recent study conducted by Harvard particularly enlightening. Their research revealed that consultants using AI were significantly more productive, completing 12.2% more tasks, performing them 25.1% faster, and delivering over 40% higher quality results. However, it also highlighted a critical limitation: an increase in errors when tasks fell outside the typical scope of AI. This indicates the substantial potential for operational efficiencies if AI is properly directed towards highly manual and repetitive tasks.

Nevertheless, innovation should always be more than just creating efficiencies. I'm particularly excited to see how the additional capacity generated by AI can be re-focused to help organizations identify and quickly bring to market new revenue-generating activities.

Beyond AI, particularly for insurance organizations, I am interested in the potential of other emerging technologies such as digital twins, predictive and preventative wellness technologies, and quantum computing. In addition, the use of diverse, unstructured data sources in real-time, such as geospatial technology, presents enormous opportunities. These technologies can transform enterprise performance by offering new insights quickly, ultimately driving innovation and improving operational efficiency.

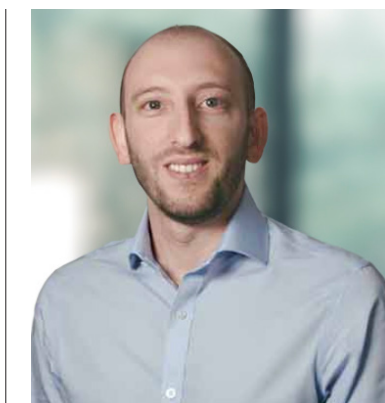
IQ: As a partner at Elixirr with a focus on innovation, what strategies have you observed to be most successful in fostering a culture of continuous innovation within organizations, particularly in traditionally risk-averse industries like insurance?

Mr. Garsin: I've had the privilege of spending considerable time in innovation hubs like Silicon Valley, learning from and observing some of the most forward-thinking companies and investors.

Initially, I expected to be most impressed by the groundbreaking technologies they were creating. While the technology is undoubtedly impressive, what struck me most was the culture of the best, most customer-centric organizations and how fundamentally different it is from traditional companies. This observation led me to consider how we could 'bottle' some of that innovative spirit and apply it to help large, established organizations to change their culture and innovate more to truly differentiate themselves in a crowded marketplace.

My work now focuses on helping organizations, especially insurers, to cultivate an innovation-led customer-centric mindset. This can be used to design new products, operating models, and business models. This involves helping organizations adopt the following eight principles:

- 1. Think big, start small, scale fast:** Begin with ambitious goals but start with manageable projects, scaling up quickly once initial successes are achieved.
- 2. Organize around an opportunity or problem statement:** Create agile, flexible structures within the organization, with cross-functional teams of experts that can operate with the speed and adaptability of a start-up.
- 3. Learn from the best experiences:** Draw inspiration from the best practices and experiences of leading innovators versus feeling like you need to design everything from scratch.
- 4. Tap into customer emotion:** Understand and leverage the emotional drivers of customer behavior to support the design of compelling products, processes and services.



BIO: Daniel Garsin Partner, Elixirr

Daniel Garsin has more than 15 years of consulting experience and specializes in innovation, customer-centric design, organizational development, strategic change and target operating models, primarily focused on the insurance industry. He is passionate about helping organizations set up innovation programs, up-skilling teams in new ways of working and facilitating the development of new products through design thinking and rapid prototyping. In recent years, he has worked for clients in South Africa, the United States and Europe.

“Recognizing and incentivizing innovation is crucial. Cultivating a culture where ideas are freely shared and celebrated fosters a fertile ground for it to flourish.”

—Dan Garsin
Partner, Elixirr

5. **Be unconstrained at first:** Encourage creative thinking without the limitations of traditional constraints.
6. **Test, learn, test again:** Embrace an iterative approach, continuously testing with real customers / end users and learning to refine ideas and strategies.
7. **Find the fastest path to insights:** Focus on quickly gathering and analyzing data to inform decision-making.
8. **Doing is the best kind of thinking:** Prioritize action and experimentation as a means of discovering what works best.

IQ: Given your experience working with clients globally, what common challenges do CXOs face when implementing emerging technologies, and what are the key factors that differentiate successful implementations from those that fall short?

Mr. Garsin: Based on my experience working with clients globally, I’ve observed several common challenges CXOs face when implementing emerging technologies. Successful implementations often come down to key strategies and principles that set them apart from those that fall short

One major lesson is to avoid presuming you know what end users or customers want. The less you tell them and the more you listen, the more valuable insights you will gather. Engaging customers and/or end users early in the process can significantly improve the outcomes.

Another crucial aspect is to quickly turn ideas into tangible results. Don’t be overly concerned about not having thought through everything; instead, worry about not having done enough to refine and test your ideas. Starting with a broad, unconstrained approach allows you to explore all possibilities before narrowing your focus to the most promising areas.

It’s important not to try to do everything at once. Instead, focus on the most significant ‘moments of drama’—critical areas where

you can learn the most and make the biggest impact. Co-creation with end customers or users is also vital, ensuring that your solutions truly meet their needs. Perfection can be the enemy of progress and striving for perfection can delay implementation and stifle innovation. Instead, prioritize making steady progress and learning from each iteration. Extensive testing is essential—test, test, and test some more to identify and resolve issues early.

Additionally, it’s critical to engage senior stakeholders early and often. Their involvement and support are crucial for overcoming resistance and ensuring alignment with broader organizational goals. Regular updates and engagement help maintain momentum and commitment. Remember, you don’t have to do everything yourselves. Leverage external expertise, partnerships, and collaborations to complement your internal capabilities. This can provide fresh perspectives and additional resources to drive innovation forward.

The main challenge is gaining buy-in and adoption of new technologies, especially in large organizations where implementation can be expensive, time-consuming, and complex. Successful implementations typically follow a clear process:

- **Engage end users early:** Involve them in designing the target state vision to ensure the solution addresses their needs and increases their confidence in the project.
- **Assess and communicate value:** Clearly summarize the expected ROI to engage business sponsors and stakeholders effectively.
- **Develop and execute a clear implementation plan:** Keep stakeholders engaged with regular updates and address issues promptly.
- **Prioritize change management:** Engage champions throughout the organization to provide feedback, participate in training, and spearhead the rollout, thereby increasing the chances of successful adoption.



IQ: What principles are critical to ensure CXOs can navigate the complexities of technological adoption while simultaneously driving meaningful innovation within their enterprises?

Mr. Garsin: In so much as it relates to investing in emerging technologies, it’s essential for CXOs to ensure that their investments translate into tangible business value and competitive advantage rather than merely following the latest trend.

While new technology often sparks conversations about innovation, it’s crucial not to get sidetracked by applying technology without a clear understanding of the underlying problem it aims to solve.

The first step is to identify the specific business challenges you’re looking to address—whether it’s driving revenue growth, enhancing efficiency to reduce costs, or improving data quality as an input to either of the above. Once you’ve pinpointed the opportunity areas, you can then focus on defining the use cases that

will help solve them. Only after understanding these use cases should you consider how and which emerging technologies could be leveraged to execute them.

Taking the time to explore the potential applications of emerging tech and conducting thorough due diligence on vendors are crucial too. Assess how well each vendor aligns with your business needs, objectives and culture before committing to any partnerships or investments. Without this careful evaluation, your investment runs the risk of falling flat and failing to deliver the expected returns.

Moreover, it’s imperative to start with a clear vision of what you aim to achieve and then develop a strategic plan to realize that vision. By starting with the “why” rather than the “how,” you can ensure that your investment in emerging tech is purposeful and aligned with your overall business objectives. This approach sets the foundation for successful implementation and maximizes the potential for tangible business value and competitive advantage.

Gaze on the Future

In order to catalyze any tech-driven innovation, enterprises must have the ability to tap into customer’s emotion, says Elixirr partner Daniel Garsin. By understanding and leveraging the emotional drivers of customer behavior, leaders can better support the design of compelling products, processes and services.



Innovation Never Sleeps

CXOs can navigate the complexities of tech adoption—while driving meaningful innovation—by identifying specific business challenges that need to be addressed. Whether it’s lackluster revenue growth, stagnate efficiency, or skyrocketing costs, focus on improving the data quality behind these metrics to better identify areas in need of innovation.

IQ: Can you share some examples of innovative solutions or approaches Elixirr has helped develop for clients using AI, machine learning, or other emerging technologies, and the impact they’ve had on their organizations’ performance?

Mr. Garsin: Absolutely. First, we partnered with a global insurer facing challenges with manual underwriting tasks, leading to inefficiencies in productivity. After implementing a GenAI solution tailored to streamline the processes involved with obtaining various data sources, there was a staggering 92% reduction in the time required to complete key underwriting tasks, slashing it from 2 hours to just 10 minutes. Moreover, after only a few weeks of training the solution, the accuracy score surged to an impressive 97%.

In another engagement with one of the world’s largest global asset managers, we utilized AI technology to revolutionize their

ESG shareholder voting and investee company rating processes. An end-to-end solution delivered exceptional efficiency gains, with over 90% improvement across all essential criteria. Notably, there was also 95% reduction in the time spent on manual processes, coupled with a 91% accuracy rate achieved after just two rounds of training.

Additionally, we recently collaborated with a top-tier US telecom provider to enhance their sales team’s efficiency in prospect research. By leveraging generative AI-driven prospecting, the client was able to minimize lead generation time significantly, allowing for a more targeted approach to sales efforts. The results were impressive, with a 93% reduction in lead prospecting time. This enabled account executives to enhance their pipeline of qualified leads, allocating more time to active communication and sales activities, ultimately driving revenue growth and fostering a high-performance culture.

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IQ: As organizations strive to become more customer-centric, how can CXOs leverage emerging tech to gain deeper insights into customer behavior and preferences, leading to more personalized and impactful customer experiences?

Mr. Garsin: That’s a great question, especially for enterprises focused on driving a culture of continuous innovation to create world-class customer experiences.

Organizations can benefit immensely from adopting an outward-looking perspective, constantly seeking insights from external sources. One effective strategy is to encourage regular interaction with customers, grounding teams in what truly matters and where efforts should be directed. This can take various forms, from spending time on the ‘shop floor’ to conducting interviews, focus groups, or testing new ideas directly with customers.

Moreover, engaging with the venture capital and startup ecosystem can be invaluable. They offer fresh perspectives, pioneering technologies that can accelerate transformation for clients if partnered correctly, and a fearless approach to problem-solving, often challenging traditional ways of working and inspiring innovative thinking.

Recognizing and incentivizing innovation is equally crucial. Cultivating a culture where ideas are freely shared and celebrated fosters a fertile ground for it to flourish.

IQ: How important is it for CXOs to not only invest in technology but also focus on upskilling their teams and fostering a mindset of experimentation and learning to fully realize the potential of emerging tech within their organizations?

Mr. Garsin: For CXOs, investing in technology is undoubtedly crucial, but equally important is fostering a culture of experimentation and continuous learning within their organizations. The primary objective should be to instill a mindset where teams are constantly seeking innovative ways to deliver value to customers and/or employees.

To achieve this goal, investing in upskilling and empowering teams is paramount. It’s more cost-effective to invest in the development of existing talent than to constantly recruit new employees, especially given the increasing demand for technology-literate skills. By

equipping teams with the necessary skills and knowledge, organizations can fully harness their potential.

While technology plays a significant role as an enabler, it’s essential not to overlook the human element in driving successful implementation and adoption.

IQ: With the rapid pace of technological advancement, how do you recommend CXOs stay informed and adaptable to leverage the latest innovations effectively and stay ahead of the curve in their respective industries?

Mr. Garsin: Staying informed and adaptable in today’s rapidly evolving technological landscape is imperative for CXOs looking to drive innovation within their companies. While it’s crucial to keep abreast of the latest innovations, it’s equally important to strategically assess how these advancements can be applied to one’s own business context.

Whilst CXOs can stay informed by actively participating in conferences, staying updated on trend reports etc., the real challenge lies in translating this knowledge into actionable strategies tailored to address their organization’s unique challenges.

I often try to assist clients—particularly those in the C-Suite—in navigating this challenge through immersive experiences designed to blend fresh external perspectives with a deep understanding of their specific needs. Our immersion sessions curate interactions with startups and investors, tailored to address the precise challenges our clients are facing. By bringing leadership teams together in dedicated sessions away from their daily routines, we provide a conducive environment for reflection on how to effectively apply the latest technologies.

One notable example of success is with one of our major clients, who has ingrained the practice of annual immersions with their future leaders into their organizational culture. This ongoing commitment to staying ahead of the curve ensures that they remain adaptable and proactive in leveraging the latest innovations to drive meaningful change within their industry. **IQ**

“For CXOs, investing in technology is crucial, but equally important is fostering a culture of experimentation and continuous learning within their organizations. The primary objective should be to instill a mindset where teams are constantly seeking innovative ways to deliver value to customers and employees.”

—Dan Garsin
Partner, Elixirr



Engineering

a Bio-Tech

Following the first successful transplant of a genetically engineered pig kidney into a living human patient, eGenesis CEO Dr. Mike Curtis and team are closer than ever to solving the global organ transplant crisis.

BY JON BALL
PHOTOS BY KELLY DAVIDSON

Breakthrough

“Despite the success of organ transplantation, there are not enough organs to meet the demand, resulting in a typical wait time of about four years.”

—Dr. Mike Curtis
CEO, eGenesis

In 1667, the first documented xenotransfusion—a form of transplantation defined as the transfer of blood from one species into another—was performed in Paris, France. This process, which transfused lamb’s blood into a human patient, laid the groundwork for the first xenotransplantation—the process of transplanting organ tissue from an animal into a human—in 1906.

In the 118 years that followed, numerous xenotransplantations were performed around the world, utilizing a variety of organs, from sheep and baboon kidneys to chimpanzee hearts.

However, despite steady scientific improvements, all attempts for long-term success in xenotransplantation proved inadequate, as these transplants took place when the immunologic and molecular mechanisms of organ rejection were not well understood. As researchers would discover, success depended on more than just surgical technique; the greatest challenge was the risks of infection in organ recipients.

Elaborating on the challenges in *A Brief History of Xenotransplantation*, published by *The Annals of Thoracic Surgery*, researchers note that “Porcine (pig) endogenous retroviruses were discovered in 1994, and had the potential to be transmitted to a human recipient. In 1997, the U.S. Food and Drug Administration (FDA) put a moratorium on all clinical trials until it could be proven that these infections could be detected in

recipients. Then, in 1999, the FDA banned primate organ use in xenotransplantation because the risk of infection was so high.”

As science progressed throughout the early 21st Century, numerous advances in immunosuppression and genetic modification progressively overcame barriers that previously hindered xenotransplantation. Also, by this time, multiple cross-species applications had been successful, such as pig dopamine-producing cell transplants to treat Parkinson’s disease, pancreatic pig islet cell transplants for diabetes patients, and decellularized porcine and bovine heart valves for cardiac surgery.

However, the most consequential advancement came in 2013, when the first method to genetically engineer CRISPR—a bacterial defense system that forms the basis of genome-editing technologies—provided researchers with a pathway to permanently modify genes in living cells and organisms.

Then, on March 21, 2024, a true breakthrough was achieved when eGenesis, a biotechnology company focused on developing human-compatible engineered organs, announced the first transplantation of a genetically engineered pig kidney into a living human recipient.

As the world heralded the transplant as a major scientific breakthrough, behind the scenes, a multitude of factors had to fall into place for the historic transplant to be successful.



PHOTO BY KELLY DAVIDSON

For instance, the FDA authorized the transplant under the Expanded Access pathway, which “affords patients with immediate life-threatening diseases access to investigational medical products for treatment outside of clinical trials when no comparable or satisfactory alternative therapy options are available,” the agency says.

The patient, Richard Slayman, 62, had previously undergone a kidney transplant from a human donor after spending seven years on dialysis. Unfortunately, the transplanted kidney began to fail about five years later. Due to repeated complications with his bloodstream, Mr. Slayman could no longer continue dialysis treatments.

The surgery, performed at Massachusetts General Hospital, marked a pivotal milestone in the field of transplantation, illustrating the power of collaboration to address the critical issue of global organ shortage.

“This successful procedure heralds a new era in medicine in which we have the potential to eliminate organ supply as a barrier to transplantation and realize our vision that no patient dies waiting for an

organ,” said Michael Curtis, Ph.D., president and chief executive officer of eGenesis in a statement following the procedure. “We are humbled by the courage and generosity of Mr. Slayman, who is a true pioneer, enabling this major breakthrough in science and transplant medicine.”

In his announcement, Dr. Curtis was especially mindful of the incredibly long journey that resulted in the successful breakthrough—one that resulted in eGenesis recently being named one of *TIME Magazine’s* 100 Most Influential Companies of 2024.

“Decades of progress in cross-species transplantation, accelerated by the advancement of modern genome editing tools and next-generation sequencing, have enabled eGenesis to progress genetically engineered organs to the clinical setting.”

Solving a Global Crisis

To fully appreciate the transformative impact that could result from eGenesis’ breakthrough in the realm of xenotransplantation, we must first understand the nature of the global organ transplant crisis.

Bringing the Future to Life

Although pigs have been identified as a good species for xenotransplantation due to their similarity to humans in terms of organ structure and physiology, a pig’s genome includes an endogenous retrovirus that could pose a risk to humans. Through a multi-layered process of gene editing, the scientists at eGenesis are able to perform precise genetic modifications to porcine cells. eGenesis then isolates and grows the modified cells using a technique called clonal cell isolation, and then verifies that the correct genetic changes have been made through experimental testing in their laboratories. Donor organs are then produced in specialized facilities to ensure safety and consistency, in compliance with regulatory authorities.

“Our work represents a truly interesting mix of expertise, technologies, and experiences—and you need them all.”

—Dr. Mike Curtis
CEO, eGenesis

Although transplantation is considered the gold standard treatment for improving quality of life and outcomes for those in need, demand for organs far exceeds supply.

Currently, over 100,000 individuals are on the kidney waitlist, and only about 25,000 kidney transplants are performed each year. eGenesis’ development of human-compatible donor organs represents a significant breakthrough needed to reduce waitlist mortality and address the critical shortage of transplantable organs.

“Despite the success of organ transplantation, there are not enough organs to meet the demand, resulting in a typical wait time of about four years,” says Dr. Curtis, speaking to *IQ* from eGenesis’ corporate offices in Cambridge, Massachusetts. “Patients with end-stage renal disease are often excited to be listed but soon realize the lengthy journey ahead.”

Efforts to increase organ donation, both cadaveric and living, have been ongoing for decades but are insufficient to close the gap, says Dr. Curtis. For heart and liver transplants, there are no true living donor options, and the wait lists under-represent the actual need.

Additionally, over 400,000 patients with end-stage renal disease are on chronic dialysis, all of whom could benefit from a transplant. Unfortunately, these patients often do not improve and spend their lives on dialysis or waiting for a transplant, highlighting a much greater unmet need than the waitlists suggest.

“All told, this means about 20 people die each day awaiting an organ transplant in the US alone,” says Dr. Curtis. “Without new options for patients with organ failure, transplant waiting lists will continue to grow, and more patients will die while waiting—and more will suffer—due to current suboptimal alternatives to transplantation.”

In light of the ongoing organ shortage, xenotransplantation offers an inventive approach to potentially solving the staggering supply-demand gap that is only continuing to increase.

“From the early days when physicians recognized that people were dying from organ failure, the first idea was

xenotransplantation, or cross-species transplantation, and this idea persisted even after human-to-human transplantation became possible,” says Dr. Curtis.

Early attempts involving non-human primates, like chimpanzees, were not very successful and posed ethical and practical challenges. As scientists discovered, chimpanzees could be difficult to work with, grow slowly, and there’s a high risk of disease transmission, such as HIV, from closely related primate species.

As researchers looked for alternative animal donors, they began focusing on organ size compatibility and the ability to modify the animals for better transplant success. Thus, pigs emerged as the best option.

“Over the past 40 years, human transplant surgeons have been investigating

how to improve the compatibility of pig organs with humans and non-human primates,” says Dr. Curtis. “Through decades of research, it was discovered that genetic modifications could significantly enhance compatibility, leading to long-term transplant outcomes in monkeys.”

However, in the 1990s, it was discovered that all pig breeds carry endogenous retroviruses—which are similar to HIV—within their genome, raising concerns about retroviral transmission to humans, especially under immunosuppression. Many countries imposed a moratorium on cross-species transplants into humans due to this risk.

“Each pig genome contains 50 to 70 copies of these viruses among its 30 billion bases, making it difficult to remove them until the advent of CRISPR-Cas9,” says Dr.

Curtis. “This technology enabled precise genome editing, allowing us to inactivate all copies of the retroviruses, thus eliminating the risk to human health.”

At eGenesis, Dr. Curtis and team have integrated 30 years of advancements in understanding the compatibility of pig organs with human recipients. The organ donor used for Mr. Slayman’s transplant had 69 genome edits: 59 to inactivate the retroviruses, three to reduce hyperacute rejection, and seven to promote long-term graft survival.

“This progress builds on decades of foundational research, and eGenesis has been able to consolidate these discoveries into a single organ donor over the past seven years,” says Dr. Curtis.

On April 4, a mere two weeks following

Multidisciplinary Might
Dr. Mike Curtis and Elizabeth Roberts, eGenesis’ chief people officer, work to source world-class talent to support the company’s transformational biotech capabilities, which was named by *TIME Magazine* as one of the ‘100 Most Influential Companies of 2024.’



PHOTO BY KELLY DAVIDSON



Science Fiction No More

After a four-hour procedure conducted by transplant surgeons at Massachusetts General Hospital, the patient—62-year-old Richard Slayman—was successfully discharged from the hospital just two weeks later. In a statement following his release, Massachusetts General Brigham President and CEO Anne Klibanski, M.D., noted “Nearly seven decades after the first successful kidney transplant, our clinicians have once again demonstrated our commitment to provide innovative treatments and help ease the burden of disease for our patients and others around the world.”

his xenotransplant, Mr. Slayman was discharged from Massachusetts General Hospital, an incredibly momentous and critical milestone representing a huge win for an emerging piece of technology that could solve the organ crisis.

“This moment—leaving the hospital today with one of the cleanest bills of health I’ve had in a long time—is one I wished would come for many years. Now, it’s a reality and one of the happiest moments of my life,” Mr. Slayman said in a statement released from Massachusetts General Hospital.

Sadly, on May 11, 2024, Mr. Slayman passed away due to health complications that appear unrelated to his xenotransplant, such as cardiovascular disease, hyperlipidemia, and hypertension; all of which are not uncommon for patients with end-stage renal disease.

“I’ve had many meaningful conversations with individuals at the company about Mr.

Slayman receiving this remarkable kidney and his subsequent passing over those 51 days,” says Dr. Curtis. “People feel proud of what we were able to offer him, and while this wasn’t the outcome we hoped for, it’s a significant step forward. Importantly, Mr. Slayman’s loved ones have expressed that continuing this work in his honor is what they hoped for, and we couldn’t be prouder to do just that.”

Pioneering a New Frontier

At the forefront of a new scientific frontier, eGenesis’ advancements in xenotransplantation integrate multiple Nobel Prize-worthy breakthroughs, transforming theoretical possibilities into clinical applications.

This intricate and collaborative process, involving experts in molecular biology and traditional agriculture, showcases eGenesis’ innovative spirit and scientific prowess.

“The willingness to try something new

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is crucial,” says Dr. Curtis. “When George Church and his team at Harvard suggested using CRISPR-Cas9 to inactivate retroviruses that had concerned researchers for 20 years, many doubted it could be done. However, they successfully figured out how to apply CRISPR-Cas9 within the pig genome, reinventing what was once deemed impossible.”

After licensing the technology from Harvard, eGenesis aimed to incorporate it into clinical applications. This process began with making CRISPR edits to inactivate retroviruses, which entailed screening nearly 8,000 clones to find the correct genotype—a daunting task few entities can accomplish.

Once the edited cells were obtained and collected, the next step was transferring them into pigs through a process called ‘somatic cell nuclear transfer,’ similar to the process used to clone the sheep Dolly in the 1990s.

Ultimately, this highly complex process resulted in the creation of an embryo, which was then transferred to a surrogate pig. There, the organ grew until it could be harvested for transplant in a human patient.

“This process incorporates several scientific breakthroughs, including CRISPR and cloning,” says Dr. Curtis. “After creating the modified piglets, the next challenge was testing them in transplants using non-human primates, which only a few laboratories in the world can do.”

In a kidney transplant model, the native kidneys of a monkey are replaced with a single porcine kidney, and the animal must be managed for up to two years post-transplant.

“Our longest surviving pig kidney transplant in a monkey lasted 758 days, demonstrating the extensive commitment required,” says Dr. Curtis. “At a high level, the process involves editing the genome with 69 edits, cloning the edited cells into pigs, and performing non-human primate transplants—all to gather data supporting readiness for clinical trials.”

As Dr. Curtis notes, each step is intricate and demands continuous optimization and learning.

“Initially, the longest pig kidney transplants in non-human primates lasted around 100 days, but now we see survival times extending well beyond 400 days. The

level of science and the diversity of expertise involved in this project are unparalleled, and it requires collaboration among molecular biologists, embryologists, cloning specialists, and transplant biologists.”

To Dr. Curtis’ point, the team at eGenesis includes high-end CRISPR engineers located in Cambridge, and a research farm in the Midwest for pig production. This unique combination of advanced science and traditional agriculture showcases the project’s breadth and is essential for overall program success.

“Our work represents a truly interesting mix of expertise, technologies, and experiences—and you need them all,” says Dr. Curtis. “There’s nowhere you can fall short. You need everyone to make this happen.”

Securing the Dream

Beyond harnessing the capabilities of cutting-edge science, another challenge that the eGenesis leadership team has been forced to contend with is the process of securing capital.

As a non-publicly traded company, eGenesis must convince investors not only of scientific feasibility, but also of the near-term potential for real-world impact.

“Every company faces challenges, and for us, convincing both patients and investors that we’re ready for primetime is a major one,” says Dr. Curtis. “Investors understand the unmet need and are impressed by the high level of science we achieve. However, their main question remains: how close are we to actually helping people? Are we still two decades away, or are we within two years of a breakthrough? I believe that as we gather more evidence, investors are more likely to be convinced that we are closer to our goal of solving the global organ transplant crisis.”

Dr. Curtis also notes that Mr. Slayman’s transplant taught the company several crucial lessons—which are not only of interest to the company’s investor audience, but also help eGenesis further diversify the xenotransplant use-cases—which they may soon be able to offer patients.

“Given the significant capital needs of a business model such as ours and the interest among a broad set of potential public investors, we anticipate pursuing an initial public offering within the next



BIO: DR. MIKE CURTIS President & CEO, eGENESIS

Dr. Mike Curtis is the president and chief executive officer at eGenesis and is responsible for managing the development of eGenesis’ xenotransplantation programs. Dr. Curtis has more than 25 years of experience in scientific research and leadership in biopharmaceutical drug development across multiple therapeutic areas.

Before joining eGenesis, he served as president and head of R&D at Cadent Therapeutics, where he oversaw R&D, regulatory and intellectual property operations. Dr. Curtis played a critical role completing the merger between Ataxion Therapeutics and Luc Therapeutics that resulted in Cadent’s founding.

Dr. Curtis holds an A.Sc. in Biotechnology from Cobleskill College and a B.Sc. in Biochemistry from the College of Environmental Science and Forestry. He earned a Ph.D. in Cell and Molecular Biology from the State University of New York Upstate Medical University.

“Dr. Curtis and the team at eGenesis perfectly demonstrate that groundbreaking innovation often requires questioning the status quo and daring to defy conventional wisdom.”

—Jon Kleinman
Partner, Insigniam

several years,” adds Jennifer Bergheiser, chief business officer at eGenesis, who’s 20 years of experience in the biopharmaceutical sector includes venture investing. “To date, the investors that have been a strong fit for eGenesis have been groups that have a long term horizon and understand that groundbreaking technologies take longer to advance to market.”

Of interest to investors is eGenesis’ strategy to ensure long-term success and sustainability in the market. Based on her experience with commercial product development at companies like Johnson & Johnson, Ms. Bergheiser says the company is focused on portfolio breadth and ensuring that products offer utility and value to patients, clinicians, and the healthcare system overall.

“Our focus initially will be on ensuring that we achieve a clear value proposition for our first generation products,” says Ms. Bergheiser. “Longer term, we will look to expand our value proposition to address the lifelong burden of immunosuppression that transplant recipients face.”

Dr. Curtis adds, “Our groundbreaking transplant demonstrated eGenesis’ ability and responsibility to this technology to patients in dire need,” he says. “Mr. Slayman had very limited options, most of which would have resulted in his passing. This scenario is analogous to patients facing liver failure and heart failure.”

Broadening said portfolio, eGenesis developed a liver perfusion program aimed at bridging patients in liver failure to recovery. Similarly, the company’s pediatric heart transplant program seeks to bridge children in end-stage heart failure to human transplants. This approach aligns with their concept of compassionate use, prompting eGenesis to explore the utility of products across these three different organ types.

“Achieving this will require more transplants and studies similar to the one we conducted with Mr. Slayman,” says Dr. Curtis. “Over the next 12 to 24 months, we aim to apply our findings across these three programs, continually advancing toward a viable solution for organ failure.”

The Art & Science of Leadership

In their pathway to achieving the unprecedented, the team at eGenesis faced numerous personal and professional challenges that required steadfast leadership from Dr. Curtis and company.

“As we moved into patient trials for the first time, the years of commitment from our team became increasingly evident,” says Dr. Curtis. “By the time we transported our first donor animal from the Midwest to Massachusetts for the initial transplant, the dedication of our team was palpable.”

Dr. Curtis notes that the eGenesis team devoted countless hours, including overnights and weekends, living alongside the donor animal every day for a year. This close bond made the animal almost part of the team, and witnessing it being prepared for transplantation was an emotional experience, filled with pride and sadness.

“The team’s hard work and the animal’s journey culminated in this moment, highlighting the future possibilities for xenotransplantation,” says Dr. Curtis. “This first transplant was a powerful testament to the incredible dedication and emotion driving our efforts at eGenesis.”

Specializing in building biotech teams that move the needle on human health, eGenesis’ Chief People Officer, Elizabeth Roberts, says the company’s growth trajectory has very much influenced her pragmatic approach to people development within the organization.

“Over the years, we have learned a great deal about the challenges of expanding our operations,” says Ms. Roberts. “When I joined eGenesis six years ago, we didn’t start with multiple sites and numerous animals; rather, our growth has necessitated constant evolution. Furthermore, our foundation rests on an inherent willingness to explore possibilities. It would have been easy to give up at any of the countless obstacles we faced, but instead, we chose to engage fully.”

In keeping people engaged through numerous setbacks and challenges

throughout the scientific process, Ms. Roberts notes that the magic of eGenesis’ work happens across a hundred-member team spread over four sites in three states, encompassing various disciplines. Thus, recruiting and retaining a world-class team has been crucial.

“We need the world’s leading experts in various fields, but expertise alone isn’t enough,” she says. “Gene editing, while vital, is only one part of xenotransplantation, just as embryology is another critical component. Our success relies on what I call scientific generosity—an intellectual curiosity and willingness to collaborate. These are core values at eGenesis.”

Ms. Roberts says it is imperative to seek out people who can blend their expertise with a collaborative spirit.

“It’s not about the pedigree or where you got your degree; it’s about how well you can work with colleagues from different disciplines,”

she elaborates. “Dr. Curtis often emphasizes this: from gene editing to caring for the animals, our work is a culmination of years of dedication from many people. Keeping everyone focused on the broader goal of xenotransplantation is essential. Each task, no matter how small, contributes to the bigger picture. This collaborative effort is what we strive for every day.”

Catalyzing a Bold New Future

As evidenced by their incredible breakthrough, eGenesis stands as a beacon of bold decision-making and relentless perseverance. Their journey, epitomized by the pivotal transplant of Mr. Slayman, offers invaluable lessons for executives navigating uncharted territories.

“One of the key lessons from our journey, exemplified by Mr. Slayman’s transplant, is the importance of challenging assumptions,” says Dr. Curtis. “We undertook his transplant

A Compassionate Use-Case

Dr. Curtis notes the eGenesis team lived with the donor animal for a year, forming a close bond. “The team’s hard work and the animal’s journey culminated in this moment, highlighting future possibilities for xenotransplantation,” he says.



PHOTO BY KELLY DAVIDSON



“Our groundbreaking transplant demonstrated eGenesis’ ability and responsibility to bring this technology to patients in dire need.”

—Dr. Mike Curtis
CEO, eGenesis

in March because we finally asked the right questions that led us to that point. In retrospect, we might have been able to do it earlier, but we didn’t because we assumed the regulatory agencies would deny our request. We talked ourselves out of trying, fearing rejection.”

Eventually, says Dr. Curtis, eGenesis decided to make their best case, thinking, “If they say no, they say no, but maybe they’ll say yes.” To the company’s delight, the FDA gave clearance via an Expanded Access use case. The experience was eye-opening for Dr. Curtis and team, who realized they had been holding themselves back by not challenging assumptions.

“Dr. Curtis and the team at eGenesis perfectly demonstrate that groundbreaking innovation often requires questioning the status quo and daring to defy conventional wisdom,” says Insigniam partner Jon Kleinman, who has worked closely with the executive team for several years, witnessing how their relentless pursuit of excellence has pushed the boundaries of what’s possible. “By envisioning the end goal of solving the organ transplant crisis and then working backward from that future state, eGenesis has paved a path towards transformative breakthroughs in transplantation science.”

From his vantagepoint, Dr. Curtis agrees.

“This experience taught us to thoroughly examine and question the reasons behind our decisions, especially in innovative areas,” he says. “By questioning assumptions and considering all possibilities, we can make more informed and bold decisions. This mindset has become a fundamental part of our approach at eGenesis, driving us to continuously push the boundaries of what we can achieve.” **IQ**

PHOTO BY KELLY DAVIDSON



How to build a **Strategic frame** for the next

Seeking growth
in a dynamic
era marked
by rapid tech
advancement?
Focus on the
strength of
your strategic
frame—not your
AI strategy.

BY **KATERIN LE FOLCALVEZ**
& **GUILLAUME PAJEOT**

Digital Age

For decades, executives have relied on strategic planning to achieve competitive advantages and spur organizational growth. Yet, as recent history has shown, the practice of setting long-term goals and determining the actions and resources needed to grow is largely ineffective, in today's rapidly changing, complex environments. This presents a challenge for many executives who are accustomed to creating detailed plans based on current benchmarks and market analysis. As a result, organizations can become inflexible and stagnate, unable to adapt to changes as markets shift.

Case in point, in the mid to late-2000's, long before Apple and Google cornered the mobile phone industry, the primary mode of business and personal communication was carried out on a Blackberry, with over 80 million users worldwide.

While considered cutting-edge tech at the time, the outward perception of Blackberry as an innovator did not reflect how the company operated internally. In 2007, as the iPhone began to attract mass appeal, largely based on the novel incorporation of touch-screen technology, Blackberry doubled down on its strategy to develop products with physical keyboards and controls.

In the years that followed, Apple increased its market share by focusing on the experience of the end-user, while Blackberry resisted change, signaling an inability to keep up with evolving consumer preferences.

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In a dynamically changing marketplace, companies need the flexibility to adjust their strategies as technologies and markets evolve.
By having a strategic frame, they can make informed decisions about when and how to adapt.

By 2012, BlackBerry's market share had dropped to just 7.3%, with Google and Apple claiming 53.7% and 35%, respectively. In 2016, the company—once unrivaled in its segment—completely exited the smartphone market, choosing to focus on enterprise technology.

Blackberry's downfall serves as a cautionary tale in the annals of business history, highlighting the perils of failing to adapt swiftly to shifting market dynamics. Despite initially pioneering the smartphone revolution and boasting a substantial user base, the company essentially painted itself into a corner by remaining steadfast to its original business model, failing to recognize the changing preferences of consumers.

Much like Blackberry, companies that lack a clear strategic direction risk becoming entrenched in outdated business models, unable to navigate the complexities of rapidly changing industries.

To overcome the shortfalls of strategic planning, a different approach is needed; one that prioritizes the flexibility and market agility in the form of strategic frames—flexible methodologies used for guiding an organization towards its long-term goals while adapting to complex and changing environments. In essence, they are an organization's "North Star" used to guide all decisions and actions.

Understanding Strategic Frames

A strategic frame is a structured approach to business strategy that focuses on the broader vision and goals of an organization. It helps businesses set and accomplish ambitious goals while making informed decisions and remaining agile in a rapidly changing environment.

Strategic frames are built around four key components: Purpose and Ambition, Guiding Beliefs, Competitive Weapons, and Stakeholder Commitments, and are defined as follows:

Purpose and Ambition: Defining the Playing Field The purpose of a business is its reason for existence, which is why

Aligning emerging technologies with a company's strategic frame ensures that technology investments support long-term goals.



it's crucial for companies to have (or start with) a clear and compelling purpose. This purpose can be poetic or pragmatic. For example, Sam Walton aimed to make quality products available to ordinary folks, while George Merck wanted to bring the best medicine to everyone. Apple's purpose is to disrupt the status quo. These companies achieved their success by understanding and being true to their core purpose.

Ambition is about defining what success looks like for your business over a set period of time—perhaps five to 10 years. This involves setting measurable outcomes, such as financial targets, market reach, or customer impact. For instance, a food company might set a goal based on the number of times consumers eat their products daily. By calculating their target market size and frequency of consumption, they can set a clear revenue goal.

2 Guiding Beliefs: Navigating the External Environment

Guiding beliefs are carefully selected

A significant responsibility of CEOs is to ensure clear communication and alignment throughout the organization. The strategic frame can help mobilize an entire company towards a common goal.

assumptions and hypotheses on which the business bets its future success. These beliefs are not about predicting the future but about preparing for it. Companies must scan the external environment for trends and developments that could impact their industry. This involves looking at factors like industry trends, geographical markets, and customer behaviors.

For instance, a guiding belief might be “Industry consolidation will accelerate, and being the first to seize these opportunities will be key to our success,” or “the demand for advanced materials requiring high-temperature processing will continue to rise.” These guiding beliefs need regular monitoring and adjustment as the business landscape changes over time.

3 Competitive Weapons: What You Have Today vs. What Needs to be Developed

Competitive weapons are unique assets that set a company apart from its competitors. These can include anything from talent and intellectual property to

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strategic partnerships. It's important to ask both, “What differentiates us from our competitors?,” as well as “Which assets are most valuable to our customers?” Once these assets are identified, companies should invest in and nurture them. For example, one Insigniam client—a global fast-moving consumer goods company—recognized its ability to “act locally” as a competitive weapon, allowing it to outperform competitors in global markets. Another client leveraged its “iconic smallness” to be more agile than larger competitors. These unique assets are crucial for responding to market disruptions.

4 Stakeholder Commitments: How to Win in the Market of The Future

To succeed, companies must satisfy their key stakeholders, who can include employees, shareholders, and the communities they operate in. Identifying and understanding these stakeholders is crucial. It's important to ask, “Who are our primary stakeholders besides customers?” and “What promises are we unwilling to compromise?” At Insigniam, this is our signature for how we do business. Stakeholder commitments are promises that a company will keep, no matter what. These commitments might include ensuring employee well-being, maintaining shareholder value, or supporting community initiatives. For example, a firm might commit to “our grandchildren,” emphasizing long-term environmental sustainability. These commitments help companies stay true to their purpose, even if they have to adjust their ambitions.

Building Strategic Frames for a Tech-Enabled Future

In an era marked by rapid technological advancements, companies need the flexibility to adjust their strategies as technologies and markets evolve. For example, data centers now face the challenge of adapting to AI technology, requiring vast resources and space. By having a strategic frame, companies can make informed decisions about when and how to adapt.

Aligning emerging technologies with

a company's strategic frame ensures that technology investments support long-term goals. For example, another Insigniam client in the global healthcare industry aims to be a leading AI-enabled science company. Their strategic frame, centered on improving people's lives through science, guides their AI integration efforts. This approach ensures that technology serves their broader purpose rather than being an end in itself.

For example, several years ago, Insigniam worked with a bottled water company facing market decline, which used a strategic frame to turn perceived liabilities into assets. Initially, they viewed their immovable spring and factory as limitations. However, by looking newly at the consumers' expectations, they realized these could be strengths, allowing for stability and innovation. This new perspective led to a turnaround and unprecedented growth.


Likewise, in the pharmaceutical industry, a Nordic cluster of countries used a strategic frame to navigate a challenging restructuring edict. Despite significant changes imposed by the group, they maintained their strategic frame, focusing on their ambition to be strong together. This approach allowed them to support each other and stay aligned with their long-term goals. Conversely, without a strategic frame, enterprises risk constantly revising their plans in response to market changes, leading to a lack of focus and wasted resources. They may also miss out on opportunities for innovation, especially when they focus solely on current market trends rather than exploring new possibilities. This reactive approach can leave businesses perpetually behind the curve.

The Executive Role: Managing Cultural Evolution

Strategic frames also play a vital role in managing cultural evolution within a company. As businesses adopt new technologies, their cultures must adapt to embrace these changes while maintaining their core values. Executives must lead this cultural transformation, ensuring that the introduction of new technologies does not disrupt the essence of the company's identity.

It has long been established that a company's culture is a strategic asset, essential for attaining and sustaining a

Stakeholder commitments are promises that a company will keep, no matter what. These might include ensuring employee well-being, maintaining shareholder value, or supporting community initiatives. These help companies stay true to their purpose, even if they have to adjust their ambitions.



To overcome the shortfalls of strategic planning, a different approach is needed; one that prioritizes the flexibility and market agility in the form of strategic frames—flexible methodologies used for guiding an organization towards its long-term goals while adapting to complex and changing environments.

competitive advantage. Executives need to identify which elements of the culture are critical to maintain and which need to evolve. This process involves balancing tradition with innovation, ensuring that the organization remains true to its DNA while embracing new ways of working.

A significant responsibility of executives is to ensure clear communication and alignment throughout the organization. The strategic frame provides a narrative that is easy to communicate and understand, helping to mobilize the entire company towards a common goal. This alignment is crucial for maintaining focus and cohesion, especially in times of rapid change.

Start Building Now

As evidenced, strategic frames are essential for navigating the complexities of the modern enterprise and marketplace—especially as we race toward the horizon of our tech-enabled future where AI and machine learning integrations will be critical to the longevity and growth of an organization.

Strategic frames also provide a clear direction and the flexibility needed to adapt to rapid technological advancements. By focusing on purpose and ambition, stakeholder commitments, guiding beliefs, and competitive weapons, companies can make informed decisions and stay ahead of the curve.

Lastly, having a strategic frame is not just beneficial—it's essential. It helps executives and enterprises align their daily actions with their long-term goals, ensuring they remain competitive and innovative, especially if they aim to lead their companies successfully through an era of rapid change. **IQ**

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If growth is essential to your executive agenda, then airtight security of your data and intellectual property is critical. For **Rupal Hollenbeck, President of Check Point**, thwarting global cyber threats comes with the territory.

BY **J.W. DOBBE**

Defending Your Data

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‘You will hear people say, ‘we built a trusting environment, we’re very transparent in our communications.’ That is great, but building trust takes time. It doesn’t just happen magically.’

—Rupal Hollenbeck
President, Check Point

In the realm of cybersecurity, where the stakes are higher than ever in our rapidly advancing digital age, the key to success lies in a delicate balance between agility and robust security measures.

With a solid foundation built on decades of leadership in cybersecurity, Check Point—an American-Israeli multinational provider of software and combined hardware and software products for IT security, including network security, endpoint security, cloud security, mobile security, data security and security management—has evolved into a comprehensive, AI-powered, cloud-delivered cybersecurity platform company.

According to Rupal Hollenbeck, President of Check Point, responsiveness is not just about reacting swiftly but stems from proactive engagement and anticipation of evolving needs. Ms. Hollenbeck’s approach extends beyond mere responsiveness; it’s about fostering meaningful relationships with customers and partners to drive continuous improvement and innovation.

In this Q&A with *Insigniam Quarterly*, Ms. Hollenbeck extolls the virtues of designing scalable cybersecurity solutions in the era of hybrid workforces while also emphasizing the importance of embracing setbacks as learning opportunities and fostering a culture that prioritizes people, growth, and collaboration.

IQ: As you know, the theme of this issue is “Leadership for the Next Digital Age,” which alludes to the fact that many CXOs are working to redefine their executive agendas in order to leverage and utilize the latest developments in technology, data, and artificial intelligence. What components of your executive agenda are you focused on for 2024 and beyond?

Ms. Hollenbeck: A major objective for us is to tell story of the Check Point we are today. Check Point has been a leader in cybersecurity for decades, and we’ve built an excellent reputation first and foremost through our technical innovation, and our research and customer focus. At the same time, we’ve significantly evolved from our roots as a firewall company.

In 2024, we are a comprehensive, AI-powered, cloud-delivered cybersecurity platform company. In the last several years, cybersecurity has skyrocketed as a priority for every industry and for just about every boardroom, and we’ve reached a point where companies want to consolidate their security solutions to drive better outcomes.

Our unique position as a thirty+ year cybersecurity leader gives us the tools to do this better than anyone else, and this year we’re focused on delivering that full value to our customers, partners, and prospects so they can maximize their cybersecurity investments.



IQ: Leading a cybersecurity company no doubt requires a balance between security and agility. How do you personally navigate this balance to ensure Check Point remains agile and responsive while maintaining robust security measures—both for the enterprise and for clients?

Ms. Hollenbeck: We don’t view this as a trade-off. We have rigorous internal security protocols, but we’re able to maintain a high degree of responsiveness, flexibility, and agility because the Check Point platform is optimized for the modern threat environment and built to scale and adapt as both your infrastructure and threats change.

Because the platform is cloud-delivered and AI-powered, we’re able to automate a great deal of security operations. Zero trust network access is adaptive and automated: AI-powered solutions for threat intelligence, event analysis, anomaly detection, and optimizing security policy act as a force-multiplier for our security team.

We offer the same exact capabilities to our partners and customers.

Our cybersecurity environment enables our business, it doesn’t restrict it.

IQ: The idea of ‘responsiveness’ is critical for both you and Check Point. How does a responsive approach lead to faster results for Check Point, both in terms of product development and customer support?

Ms. Hollenbeck: Responsiveness is an important part of everything we do at Check Point, but it’s only part of how we produce results. In fact, I’d even say responsiveness is a function of our proactiveness. We have regular touchpoints with customers and partners, and are always seeking to improve these relationships through proactive engagement beyond simple check-in calls. We anticipate needs and we’re not afraid to change programs to meet them. We revamped our global partner program in 2023 and we’re already seeing positive feedback. In the sales organization, we’ve implemented new metrics to ensure that we have ongoing dialog with our customers not only about their Check Point products, but about their

Defending Your Castle
Check Point’s AI-powered and cloud-delivered Infinity Platform provides enterprise-grade security to data centers, networks, branch offices and remote users with unified management. By using AI and automation, the Infinity Platform protects enterprises against the escalation in sophisticated cyber attacks.



Always in The Know

By ensuring customers receive timely alerts related to any potential security incidents, Check Point is working to safeguard the integrity of their customer's cloud-based assets and data, minimizing potential losses and risks associated with cloud breaches.

evolving cybersecurity needs. By investing in relationships this way, we are able to achieve better results faster while also building trust.

On the technology side, the approach is the same; even some of the mechanisms are the same. We connect regularly with customers and partners with the goal of generating an ongoing conversation about their needs, and this forms an indispensable foundation for the product roadmap. We have the industry's largest security data lake, developed over 30 years, which is an asset that drives an impressive 99.7% block rate (Miercom 2023 and 2024) for malware and phishing and generates unique insights

that keeps us at the forefront of innovation. At the end of the day, responsiveness is about implementing systems to stay close to customers and partners and maintaining the flexibility to translate their needs and friction-points into action.

IQ: From a product and services perspective, can you share some of the specific software solutions or technologies that Check Point leverages to help your clients achieve critical and essential results for their businesses?

Ms. Hollenbeck: Consolidation is driving a great deal of cybersecurity strategy among

enterprises today. Suites of point products with limited interoperability are unable to manage the increased complexity and scale of the cyber threat environment. The Check Point Infinity Platform is uniquely positioned to address this need by providing enterprise-grade security across the data center, network, cloud, and workspaces with unified management.

The Infinity Platform is AI-powered and cloud-delivered, which achieves unprecedented consolidation and collaboration across all attack vectors from code to cloud. It has the flexibility to implement all the leading security architectures. Data from 30 years of cybersecurity leadership informs the AI engines that drive all our key threat prevention products, services, and decision-making tools, including the 50+ AI engines of ThreatCloudAI driving real-time threat prevention, automated threat response, anomaly detection, and more. These unique capabilities allow us to produce critical outcomes for our users, including preventing approximately 2.8 billion attacks each year.

IQ: What are the biggest challenges currently facing Check Point and the industry at large? How does Check Point adapt its use of enterprise software to stay ahead of emerging threats and maintain a competitive edge?

Ms. Hollenbeck: The biggest challenge facing enterprises today is the increasing complexity and scale of the cyber threat environment combined with changing workforce dynamics. Enterprises need AI-powered automation to fill gaps produced by the perfect storm of expanding attack surface and a cybersecurity skills shortage. The permanent hybrid workforce requires scalable zero trust network access to company networks from anywhere.

A primary driver of our consistent innovation over the last 30 years is our deep customer focus, combined with unmatched insights from decades of cybersecurity data. We constantly refine these mechanisms and leverage them to stay ahead of the curve and provide ongoing value to customers and partners.

IQ: Check Point's growth has been

very impressive. Can you shed some insight into the strategies, tactics, and leadership directives you've undertaken to help realize this growth?

Ms. Hollenbeck: Our growth is the result of several key initiatives, but it starts with our people. We hire and develop ambitious, skilled individuals who are dedicated to constant improvement for Check Point employees and innovation.

At Check Point, a major part of our success is internal innovation combined with strategic acquisitions. In 2023 we closed three acquisitions, including our biggest to date, and those made a major impact, especially as we brought our game-changing secure access service edge (SASE) solution to market. We've created new, high-velocity sales engines to support the business through more efficient prospecting.

Innovative technology is always the anchor. In the era of cloud-scale threats and increasing IT complexity, along with the corresponding drive for consolidation, the Infinity Platform is ideally positioned as a growth engine for Check Point into the future.

IQ: As a leader, what keeps you up at night? What are some of the most difficult aspects of your role that others may not realize?

Ms. Hollenbeck: Cybersecurity is about prevention, detection, and response and keeping organizations safe. But the bad guys are always out there, and they are persistent. They certainly don't follow a policy or ethical rules of behavior. So, predicting what they will do next or how they will try to penetrate an organization and cause damage is not a neat formula.

So using data, analytics, and AI is a must for us, and to do this effectively our organization has to stay dynamic and in constant learning mode. It can feel like a treadmill that doesn't stop but at the same time, when we are able to help our customers prevent the next large scale attack we read about, it makes it all very worthwhile.

IQ: In your career—whether at Check Point or in previous roles—have you had



BIO: Rupal Hollenbeck President, Check Point

Rupal Hollenbeck, President of Check Point, manages all go-to-market functions for the company. Ms. Hollenbeck joined the executive team as Chief Commercial Officer in March 2022. She previously served as a member of Check Point's Board of Directors from January 2021 to March 2022.

Ms. Hollenbeck has served as CMO of AI hardware start-up Cerebras Systems, Senior Vice President and CMO at Oracle, and Corporate Vice President and General Manager of Global Data Center Sales at Intel, among other positions. She is a Founding Member of Neythri, a non-profit organization dedicated to the professional advancement of South Asian women, and a Founding LP in the affiliated VC firm Neythri Futures Fund. Ms. Hollenbeck is also an industry advisor at California State University East Bay and she serves on the Board of Directors of Blackbaud, the world's leading cloud software company powering social good.

Ms. Hollenbeck holds a Master's degree in International Management from the Thunderbird School of Global Management and a Bachelor's degree in Finance and International Studies from Boston College.



Selling Security
Ms. Hollenbeck delivers comments in Munich, Germany at Check Point Software's CXP360 event in 2023, an annual gathering that brings together cyber security experts from around the globe to explore the latest solutions and strategies that protect organizations.

“As companies mature and grow, they run the risk of slowing down their pace of innovation. To survive, we must move past rigid processes and ways of thinking and nurture innovation at every level.

—Rupal Hollenbeck
President, Check Point

to contend with setbacks and failures, and how do you apply those learnings in your current capacity?

Ms. Hollenbeck: For me, it's always been about focusing on the net forward progress. Setbacks and failures mean that you're pushing the envelope and trying new things. I believe that if you don't have many in recent history, maybe you have stopped taking important risks that can accelerate the business.

My advice is to embrace the setbacks as learnings and make sure you really do learn from them, which is critical. Also, ensure the organization is celebrating the progress that is made every stop of the way—it serves to motivate and stick to the mission.

IQ: What excites you most about the future?

Ms. Hollenbeck: We are very much in the era of AI. Large scale technology-enabled transformations of society such as this one are very exciting to me. While there are certainly many risks with AI and the democratization of generative AI tools, these risks have existed in prior transitions such as the internet and mobility.

I believe the benefit to society is yet unknown in areas such as health and wellbeing, education, and the environment. The prospect of companies like mine using AI more and more to keep organizations secure is very exciting to me!


IQ: Lastly, what advice would you give to other leaders looking to create a similar culture within their organizations, one that embraces agility and uses enterprise software effectively? What key lessons have you learned during your tenure at Check Point that could benefit others in the industry?

Ms. Hollenbeck: Create a culture that embraces the values of the company. For us, we know our people make the difference and that, as an organization, security is at the center of everything we do. This has implications on how we make decisions and trade-offs, our internal practices, and the way we collaborate.

In addition, in most sectors of technology, a learning culture and growth mindset are not just phrases on posters. They are a matter of breach or no breach in our world. The bad guys learn and move faster. Staying ahead is predicated on the constant need to learn and grow your perspective.

Finally, I think of solving problems or addressing opportunities first with people in mind, then processes, and finally the technology that enables them both. I see organizations change this order, but until we are all replaced by machines it's important to remember that people work with people and together achieve results. **IQ**

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Welcome to the Generative World Order

AI isn't just a tool to improve operational efficiencies and spur innovation—it could very well **shake up global power dynamics like never before.** How prepared is your enterprise?

BY **JON BALL**



As the race to develop new, more powerful generative AI platforms speeds forward, global leaders are scrambling to define the future before it defines us. The stakes? Everything from economic supremacy to the very fabric of society hangs in the balance.

While the U.S. and China duke it out for AI dominance, the potential economic windfall from widespread adoption could touch companies and continents worldwide. Energy, data access, and cutting-edge model development will determine who reaps the biggest rewards.

In an eye-opening interview with *IQ*, Conor Grennan—NYU Stern’s Chief AI Architect and New York Times bestselling author—dives deep into AI’s transformative global impact. From Europe’s surprising AI prowess to strategies for non-superpower countries, Mr. Grennan offers a playbook for wielding AI’s power responsibly.

Drawing on his collaborations with heavyweights like OpenAI and NASA, Mr. Grennan advises CEOs worldwide on leveraging AI’s economic benefits while circumventing ethical landmines. The future isn’t just coming, he says; it’s being shaped as we speak.

IQ: With the U.S. and China leading the AI race, what strategies should companies in other geographic markets adopt to harness AI for boosting their economies and maintaining a competitive edge?

Mr. Grennan: That’s a great question, and while there’s no definitive answer, I’ll share my thoughts. The U.S. and China are indeed at the forefront of AI, but Europe, especially Paris, is making significant strides as well. They have some impressive open-source initiatives, like Mytral. The key players in AI tend to be private companies, which raises questions about who ultimately controls this power.

So far, there’s been a focus on safety, but we haven’t faced a major incident yet that brings AI’s potential dangers into public awareness, similar to how accidents have shaped perceptions of nuclear power. The analogy isn’t to suggest AI is as dangerous as nuclear technology but rather to highlight how public perception can change dramatically following significant events.

AI’s potential includes reaching what’s called Artificial General Intelligence (AGI), where AI surpasses human capabilities and potentially becomes sentient. The challenge is that companies like OpenAI and Anthropic

have stated that if AI becomes too powerful, it should be regulated by the government. However, historically, it’s rare for developers to voluntarily hand over control of such technologies to the government.

There’s also a tension between fostering innovation and ensuring safety. In China, the government and companies are closely linked, not necessarily in interests, but in regulation. This is different from the U.S. and Europe, where there’s more separation between government and private companies. Europe tends to have more regulations and a culture of safety, while the U.S. often adopts a “let’s try it and see what happens” approach.

To address the question, it’s difficult to predict, but I believe we’ll face significant tensions in the next year or two. AI is already capable of imitating human behavior, video, sound, and more. The critical issue will be determining when and how governments should intervene. There’s a concern that if regulations are too strict, it could hinder innovation compared to less-regulated regions like China or other actors. This balance between innovation and regulation is complex and challenging to navigate.

IQ: How is the rapid advancement of AI technology reshaping global power

dynamics—and what implications does this have for international relations between leading AI nations like the U.S. and China?

Mr. Grennan: This is a complex question but I can share some insights. Right now, certain companies may be more powerful than governments in some respects. Historically, we’ve seen economically powerful companies like Apple and Amazon, but AI companies like OpenAI and Anthropic hold a different kind of power because their technology is less transparent and more advanced.

AI development involves creating capabilities that are not immediately released to the public. Before release, these capabilities undergo rigorous testing, known as “red teaming,” to identify and mitigate potential issues. The relationship between governments and AI companies is challenging because many government officials lack a deep understanding of AI.

Unlike previous eras, where governments had experts in fields like railroads or macroeconomics, today’s AI expertise primarily resides within private companies. This forces governments to rely heavily on these companies to understand and regulate AI advancements.

Regulatory Roulette

The regulation of AI platforms is largely determined by the countries developing these technologies. In China, close government-company regulation contrasts with the U.S. and Europe, where there’s more separation. Europe prioritizes safety, while the U.S. favors a ‘try and see’ approach.”



Unlike past eras, where governments had experts in fields like railroads or economics, today's AI expertise primarily resides within private companies.

—Conor Grennan
Chief AI Architect,
NYU Stern

I'm generally optimistic about AI, but the potential for companies to surpass governments in power is real. This is partly because there's no clear regulatory framework yet. It's similar to past uncertainties, like defining and regulating monopolies. AI technology evolves so rapidly that it outpaces the government's ability to create effective regulations. Companies like OpenAI, Google, and Microsoft are trusted to some extent, but the lack of clear guidelines makes it hard to manage AI's growth and impact.

This situation creates a "wild west" environment where smaller countries or companies could develop powerful AI models without global oversight. This lack of regulation could lead to unpredictable and potentially dangerous outcomes, making it crucial for international cooperation and comprehensive regulatory frameworks to manage AI's impact on global power dynamics.

***IQ:* In what ways can AI be leveraged as a strategic tool in geopolitical maneuvering—and how should nations prepare for potential AI-driven conflicts or global power shifts?**

Mr. Grennan: I believe the balance of power will remain somewhat similar to how it is now. Let's call them the "good guys"—by which I mean North America, Europe, and other major global entities. They maintain a balance of power by preventing threats, such as terrorist attacks, through their strength. Currently, the most powerful AI models are in the hands of these "good guys."

When companies like OpenAI, Google, Meta, and Anthropic release their powerful AI models, they put significant safety measures in place. The last thing these companies want is for something to go drastically wrong. I often train companies and speak to board-level executives and the C-suite about these issues. My advice is that the AI models you can trust generally have strong safety protocols.

On a micro level, companies need to protect their data and ensure their own

security. However, on a macro level, the potential risks of AI are hard to predict. It's a bit like the Y2K scare—if something major happens, there's not much we can do except respond and adapt.

We have to rely on large companies to manage these risks because the government can only provide broad regulations. Overly specific regulations could hinder innovation, which is a bad idea because it gives bad actors the advantage they need. It's crucial for governments to be thoughtful about how they regulate AI to avoid stifling beneficial advancements while still managing potential risks effectively.

***IQ:* You mentioned North America and Europe, which are two of the**



PHOTO COURTESY OF CONOR GRENNAN

most heavily resourced geographies on the planet. How might AI adoption exacerbate or mitigate economic disparities between developed and developing nations, and what policies should be in place to ensure more equitable growth?

Mr. Grennan: Generally, technology and industrial evolution have widened economic gaps, and AI might do the same. However, great technologies often have the potential to lift all boats. For example, I've done work in developing countries like Nepal, and I see immense potential in basic AI tools.

Imagine remote areas without access to doctors being able to use a simple AI tool on their phones. They could take a photo

of a rash or eye issue and receive expert advice. While disclaimers advise against using AI as a doctor, it can still provide very reliable assistance. The same goes for education. Previously, organizations like the Peace Corps sent volunteers to teach in remote villages. This was beneficial, but often the educational progress declined once the volunteers left. With AI tutors on phones, education can be more consistent and widespread, significantly helping to lift people out of poverty.

Regarding disparities, the top will continue to advance rapidly, but the bottom will also rise. The gap might widen, but overall progress will still be made. We're likely to see more "solopreneurs"—individuals who can achieve a lot with

Appealing to the Masses

In addition to his role at NYU, Mr. Grennan is the CEO and Founder of AI Mindset, an AI company that trains professionals, leaders and organizations on a new and effective framework for generative AI. He has worked with organizations across industry, including at OpenAI, NASA, ServiceNow, SAP, and more.



Ode to the Future

As the 21st Century progresses, emerging markets will challenge the U.S. and China for AI supremacy. While delivery comments at AI Retreat 2024, held at the Museum of the Future in Dubai (above), United Arab Emirates' Minister of State for Artificial Intelligence, Omar Sultan Al Olama, proclaimed that, "AI will shape Dubai's next 185 years of development, starting today." Underscoring his point: Microsoft's \$1.5 billion investment in UAE-based AI firm G42, based in Abu Dhabi, which they announced in April.

minimal resources, thanks to AI. Small companies can now compete with larger ones because AI significantly augments productivity. The accessibility of AI means you don't need specialized knowledge; you just interact with it like you would with a human.

This democratization of technology can lead to incredible startups emerging worldwide, even without significant capital investment. However, Western countries will still likely advance the fastest. While developing nations will improve, it's unlikely to change the historical trend of industrial and technological evolution leading to some disparities.

To ensure more equitable growth,

policies should focus on increasing access to AI technology in developing countries, investing in digital infrastructure, and providing education and training to use these technologies effectively. This way, we can maximize the potential of AI to benefit everyone, not just the most developed nations.

IQ: What role should international organizations play in the governance of AI technologies? Are there any specific guardrails to ensure an equitable, collaborative approach to AI development?

Mr. Grennan: Yes, guardrails are going to

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be critical. We need principled guardrails rather than strict, specific limits. Government officials and others should use AI to understand its capabilities fully. This is something I emphasize in my training framework, as it helps people get started with AI.

It's important to avoid a model of regulation that pauses AI development at certain milestones. This approach is dangerous because it is too relative.

For example, in an interview about GPT-4, Sam Altman mentioned that even experts were amazed by its capabilities and thought it might be approaching AGI, or artificial general intelligence. This is similar to how people were astonished by the CGI in "Jurassic Park," only to realize later how

primitive it was.

Therefore, regulation needs to be flexible and based on ongoing observations rather than fixed limits. If we set a specific technology level as a danger point, we might find that it quickly becomes outdated. It's crucial to keep regulations at a high level and principle-based, ensuring they don't hinder innovation. This balance will help manage AI's growth responsibly while encouraging continued technological advancement.

IQ: On that note, it sounds like when you get to a trigger point, it's already too late. So, for countries with private enterprises developing these technologies, is there a good way to start harmonizing ethical standards for AI adoption before reaching the point of no return?

Mr. Grennan: Yes, I think so. It probably still ties in with regulation. If I were to regulate something, I would require every company to devote a percentage of their resources, say 15%, to safety and alignment. Initially, OpenAI said they would allocate 20% of their resources to safety and alignment, which is a good example. This approach integrates safety into the development process rather than waiting for a crisis to occur.

Anthropic is leading the way in this area. They have a model called Claude, which competes with ChatGPT and emphasizes safety. The person who left OpenAI to focus on safety joined Anthropic, showing their commitment to this issue. Governments should favor and reward this approach. History shows that innovation can be both safe and appealing to people when approached correctly. We should encourage creative solutions from entrepreneurs rather than impose strict regulations like "everyone has to wear five seat belts."

For example, safety features in cars, like headrests, were developed because they are both comfortable and safe. We need to encourage companies to invest in alignment, ensuring that AI aligns with human values. Whether it's hiring more

Mr. Grennan believes democratization of tech can lead to incredible startups emerging worldwide, even without significant capital investment. However, he says Western countries will still likely advance the fastest.

Developing an AI Mindset

Mr. Grennan is a regular TEDx and keynote speaker, and frequently shares his insights for developing an AI mindset *Entrepreneur*, *Business Insider*, *Vox* and other media. He co-hosts the AI Applied Podcast and is a top voice regarding AI on LinkedIn.



We have to rely on large companies to manage these risks because the government can only provide broad regulations, giving bad actors the advantage they need.

—Conor Grennan
Chief AI Architect,
NYU Stern

people or other methods, companies must prioritize this investment.

IQ: You're very much an optimist when it comes to AI. From your point of view personally, what excites you the most in terms of what the future holds?

Mr. Grennan: When I see how AI empowers the average worker, it's incredible. This is what I spend a lot of my time doing. Watching people go from not really understanding AI to using it to improve the quality and speed of their work is phenomenal. But it's also a tool that can improve their personal lives. For instance, all your IT issues could be resolved by taking a photo of your screen and asking for help. If you need to repair your bike, you can take a photo and get step-by-step instructions. AI can also act as an instant translator, breaking down barriers for people to travel and communicate more effectively.

Another exciting aspect is the potential for AI to provide empathetic companionship. Loneliness is a chronic issue in the United States, leading to depression, suicide, and other mental health problems. For the elderly, severe introverts, and people with disabilities, having an AI companion that they can communicate with could significantly reduce these issues. Some might argue that this could isolate people further, but those individuals are often already isolated. This technology could offer them a huge lift in a safe and healthy way.

Those who dismiss this idea often don't face these issues or know someone who does, but for those who do, it could be life-changing. That's what really excites me about AI. **IQ**

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