

The book cover features a layered, torn-paper aesthetic. A black rectangular block is at the top left, with the word 'Mavericks' in white serif font. To its right, a teal rectangular block contains the word 'of' in white serif font. Below these, a large red rectangular block contains the subtitle 'A study of the leadership traits making the impossible possible.' and the word 'Modernization' in white serif font. The edges of the paper blocks are irregular and torn.

# Mavericks

of

A study of the leadership traits  
making the impossible possible.

# Modernization

MECHANICAL ORCHARD

# Foreword

**maverick of modernization**  
**mav·er·ick of mod·ern·i·za·tion**  
**'mav(ə)rik əv ,mādərnə'zāSH(ə)n**

Noun

1. A person with enough experience to know when “the accepted norm” is nonsense and enough conviction to challenge it head-on.
2. An individual who has seen enough failed transformations to recognize that doing what’s right often requires doing what’s unfashionable.

Usage: Commonly found quietly preventing organizations from procrastinating themselves into oblivion.

Since we set out to build a better way to modernize critical legacy IT systems for the world’s largest organizations, one universal truth has emerged: the difference between successful and failed modernization often comes down to psychology—*having the courage to go against the grain, to do what is right.*

Repeatedly, our discussions with IT leaders and their teams lead to the same conclusions. Organizations are acutely aware of the risks of legacy systems, and the pressure to deliver change is increasing; yet, transformation projects often prove deeply unsatisfying.

Psychology is always their greatest barrier to sustainable change.

To validate our hypothesis, in 2024, we commissioned a body of quantitative research<sup>1</sup> which examined the state of mind of IT leaders at 150 large private and public sector organizations in Western Europe and the US. The findings were more stark than we could have imagined—55% said a visionary mindset was the top attribute needed for successful modernization. However, 31% said willingness to experiment and take risks was an area of

strength. This is understandable; 71% of leaders said modernization was stressful. In fact, over a quarter (27%) worried that if the technology they endorsed or invested in failed to meet expectations, they might lose their jobs.

But, Mechanical Orchard is in the business of optimism. We have attempted to uncover the attributes of the leader who successfully guides their organization through modernization and to gain a deeper understanding of the incentives that give them the courage to stay the course.

This piece, in collaboration with the Institute for Innovation in Large Organizations (ILO), presents insights from some of the most ambitious minds devoted to modernization on what they believe are the attributes to defy conventional wisdom.

Thank you to all those who generously lent us their time and to Peter Temes and the ILO for your partnership.

**Rob Mee**  
**CEO, Mechanical Orchard**

---

<sup>1</sup> <https://www.mechanical-orchard.com/case-study/mavericks-of-modernization>

Be sure

you put  
your feet

in the  
right place,

Systems modernization is never straightforward. It's the perfect expression of a "wicked problem": it resists precise definition, has no clear endpoint, and every attempted solution reshapes the challenge itself.

The layering of multiple systems over the years creates technology stacks that resemble social constructs more than "clean" technological constructs. Put another way, mainframe modernization is partly social science masquerading as computer science.

If, like many, you define the modernization problem as code translation, you'll measure lines converted, tests generated, and environments spun up—and very likely fail.

Applying GenAI to this old framing can actually make things worse. Wicked problems multiply when treated as technical puzzles: every "fix" generates new complexity. The antidote is something that can seem out of place in large organizations: courage.

Ex-Deloitte Chief Cloud Strategy Officer, **David Linthicum**, is a no-nonsense visionary who's had a hand in every major wave of transformation over the past three decades.

What is the truth that drives successful modernization today? Three elements are at the core:

- 1 A focus on what the enterprise exists to do for the people it serves—not on the technology. Keeping eyes on the prize: reaching business goals.
- 2 A constant embrace of learning and the rethinking and refining of skills and roles.
- 3 A commitment to learn as well as to lead. Truth demands trust. Leave room for teams to find better ways to do things and more important problems to solve as they work.

He sees a distinct kind of leader fitting the age of the Wicked Problem: a courageous leader.

The courageous leader—the Maverick of Modernization—embraces nuance, goes deep on understanding business goals that technology serves, and remains ready to walk away when culture dooms progress.

"To lead modernization programs well, you have to ask genuinely inquisitive questions, understand how organizations really serve the people they serve, and then fit the technology to that good work. If you just try to make the bosses happy, you probably can't succeed."

Telling the truth matters more than ever. Technology leaders must be willing to bear the consequences of telling CEOs, boards, and consultancies that, at times, they're asking the wrong questions and pushing the wrong deliverables.

As one corporate CTO shares, "I've seen too many good people stuck between what the senior vice president expects to hear, and the truth. Yes, giving the boss what he wants has its virtues, but particularly today, the only hope to do truly good work is to bet on the truth."

then stand firm.

Thomas Jefferson

## Burn the ships

**Leda Glyptis Phd**, transformation consultant, author, advisor, and ex-Head of the EMEA Innovation Centre for BNY and Chief Innovation Officer at the National Bank of Qatar shares an interesting case study of a Fortune 500 multinational bank in the throes of a difficult technology modernization project.

"The message from their CEO was, 'burn the ships.'. Do not yield. And it almost gives me goosebumps to say those words, because the logic was that things would go wrong. That's what happens in business and in life. And when those things go wrong, make sure that you give yourself and your team no option but to drive ahead and fix forward.

"Because if you have an option to fall back on habit, on the familiarity of things that worked before, people will do that; it's human nature. But if you don't have the option to go backwards, you will fix forward. So back your own vision and burn the ships."

By making "fixing forward" the only option, the only thing left is just...to do.

**Be impeccable with  
your word. Speak with  
integrity. Say only what  
you mean.**

Don Miguel Ruiz

## Things you know and things you don't

**A senior technology leader in the US Federal government** has experience in courageous leadership across the government and private sector. "When you lay out a vision," he explains, "right away, there is a small segment of your team that will trust you and follow you. There's another segment of the team that will say, yeah, I kind of see where you're going, but I need more. That's where you need to put a lot of respectful energy."

He points to trust at the outset, and the most effective transformation leaders agree. Today, with stakes getting higher, trust is not just a force multiplier; it's the difference between individuals on a team adding to the vision and people closing their eyes to unexpected challenges and opportunities.

At its highest level, trust goes beyond willingness to work harder and the feeling of honest engagement. Trust inspires—it leads teams to believe that great things are possible. That only happens when technology leaders are uncompromising in integrity and unrelenting in leading with honesty.

**Rob Muszkiewicz**, Product Portfolio Operations Director at JPMorgan Chase, sees intentional and honest communication as the foundation. "When change is happening", he says, "everything takes on meaning. Every statement matters. Leadership must be very honest about what can and cannot be changed, and be transparent about what they know, what they don't know, and what still needs to be discovered."

"In every change I've experienced, it's never the technology that's the real obstacle—it's the people. The key is to be transparent about what will stop, what new things will start, and how people's experiences will truly change in the future. And remember, communication can't be one-way. You need a listening strategy that goes deeper than the surface. "One of the main incentives for teams to embrace technology modernization is having a meaningful voice and influence in shaping change throughout every stage of a project—from start to finish. That's what we mean by the listening task."

**Rachel Laycock**, Chief Technology Officer at technology consultancy Thoughtworks, emphasizes the vitality of strategy: "There's a big difference between a strategy and a plan. A plan means you know exactly what you're going to achieve and how you're going to do it. A strategy means you have hypotheses and you explore them. With modernization, we keep trying to apply plans to something that fundamentally requires a strategy. You do the archaeological dig, and what you find shapes the decisions. The first question shouldn't be 'how do we do this?' It should be: 'what are we actually trying to achieve?'"

## Billions and trillions

**David Linthicum** points to a major reason CEOs and other most senior leaders ask for the wrong things and lead their technology leaders astray: marketing spend by technology firms and consultants.

Across industries, he hears, "We're ramping up to spend billions, and even trillions in terms of AI transformation within the enterprise. Technology firms are making vast investments and exacerbating the issue because they are obviously selling the technology. They're spending relentlessly to change everybody's mind. That distracts from real business goals and puts too much emphasis on the technology itself."

"Everybody wants to move around a particular pattern of technology," Linthicum explains, "but they don't necessarily understand how their business is going to operate in that context. And I think many of the consulting firms are exacerbating the problems because they're pushing particular gimmicky things, which for the moment means new styles of computing, agentic everything, and generative things."

"Right now, too many technology leaders are agreeing with CEOs and boards that revolutionary new technologies will unlock enormous value because these technologies themselves are so good, almost magical."

"That's a mistake. Deep alignment with the business goals of the enterprise—goals that reflect passionate commitment to serving customers—must come first and be pervasively linked to every new element of technology platforms."

"And positive engagement at the top of the org chart only goes so far. The people using systems every day matter: if they don't understand and embrace new systems, those systems won't work."



**Paula Rosenblum**, Co-Founder of Retail Systems Research, shares that the notable system modernizations she's seen fail, in every case, "were not technological failures, they were organizational and cultural failures. The culture was just not ready to accept the change that they actually needed. And that was largely because the leaders of change were pitching it too much to the official decision makers, and had not kept ordinary users in mind. Culture rises to meet a challenge when you've got folks at every level engaged, reinforcing each other, and talking about the change they're living with—concluding that at some level, this is good, this will work."

All that  
glitters is  
not  
gold.

William Shakespeare

The joy  
in life

is his

who has

the heart to  
demand it.

Working hard at what  
you're uniquely good at

**Rachel Laycock:** "Give me the gnarly, hard problems any day. Enterprises have this socio-technical dimension to them that I find really interesting—the people, the processes, the legacy all tangled together. The people who thrive in modernization are the ones who love complex, interconnected problems and can't resist figuring out how to unravel them. There's definitely a personality type that's drawn to that."

The **US federal government senior technology leader** agrees. "Getting modernization leadership right brings with it real joy for people from top to bottom who come to work hoping to use their talents, to work hard at difficult challenges that they are uniquely good at."

# Let the beauty of what you love



# be what



# you do.

Rumi



## “Join me.”

A senior development leader at a Global 2000 heavy-industry corporation observes that “There’s a certain amount of playground fun in the early development, early discovery work that technologists do.” Keeping that in mind, taking on the role of the player-coach is important to their work.

“My teams need to see me just really enjoying some of the hard work on new things. If I send out an email and say, ‘Hey, we’re seeing low AI adoption, and that’s going to limit where we can go with a long-term project,’ their reaction might not be positive.

“But if I say, ‘Hey I happened to open some code a highly respected member of our team’s been working on, and I played around with it, and I threw it on Windsurf and it gave back some

very interesting responses and suggestions and improvements’, and there’s something fun going on here, there’s more value coming out of my work and their work, because this is exciting new stuff—for most of us, that’s why we got into this kind of work, to discover, to build, to learn and be excited about what we can do by applying our talent. It’s interesting. I’m experimenting, having fun, so my message is, join me.”

That joy and that playground fun often bubble up from defining the work, not just executing it. **Joshua Wood**, Chief Cybersecurity and Portfolio Architect until recently at Citi, explains that “you do have a norm in large organizations where teams can feel like they’re not being utilized in the right way because they are working only on the same monotonous tasks.” Let the teams have more of a role in defining and validating the work, and they’ll believe in it more and build better systems.

## Getting it wrong in very small pieces

**Paul Gaffney** sees the joy as well. Gaffney, a pioneering C-level executive at Kohl’s, DICK’S Sporting Goods, and Home Depot, shares that for the past decade, he’s seen a shift “to a more joyful approach to building new software” in the best technology development teams. The joy comes from a simple-seeming change: more incremental collaboration with users.

“They do it by finding a way to start shipping little bits of a new system piece by piece and immediately or within a couple of days or weeks, getting feedback from real end users. So in the process of building new software, there’s never too much that’s being dumped on the end users that can result in a whole barrage of negative feedback.”

“Those are the environments where work is joyful because, yes, sometimes you get stuff wrong, but you get it wrong in very small pieces. You get immediate feedback, and you get to adjust. And most of us in our lives, if we go long periods of time engaged in something and only after a long period of time get some feedback that, hey, that really wasn’t great, that’s kind of demoralizing. But most of us recognize we’re not perfect. And if we get tiny little feedback along the way, it’s easier, and it’s happier to adjust to that.

“The primary drivers are not technical. The primary drivers come from the realization that the old systems actually constrain our ability to execute the company’s strategy to deliver better economic results. I have found that it gets better reception and people are actually interested in that.”



I start with the premise  
that the function of leadership  
is to produce more leaders,  
not more followers.

Ralph Nader

## Respecting the team

Citi's **Joshua Wood** emphasizes the importance of putting the members of every team in the position to serve as leaders themselves—by recognizing that most people naturally want to do a good job. "Technology leaders need to take seriously that their teams can be frustrated if they only do what they're asked to do. Good technologists are creative and really love the harder work of figuring things out. They want to find the hidden layers and connections among things, and they want to be able to add to the change and modernization goals when they discover important opportunities to create more value.

"A culture of being able to broaden what your team does, what the scope of impact of your work can be, is a large part of what drives real progress and positive change in technology and operations, and security. It leads to overperformance, and creates the kind of environment in which teams accomplish important things as a matter of discovery, that their leaders might not have directed them to do but are thrilled got done."

**David Linthicum** expands on the idea, "For me as a technology change leader," he says, "there's never been a time when I was putting people down or, you know, pushing back on stuff that they were doing directly and clearly cared about. It was always going to be a learning opportunity for them, and a learning opportunity for me, looking at everyone's experience and looking at all of the data we can get our hands on, and always looking for new ideas about how we can reach our goals and how we can think about our goals differently and better."

## Aligning personal identity

Deep change in technology inevitably changes how teams work together. And that, in turn, often changes how individuals see their own identities. Leaders who do not tune into the human side of this experience cannot perform as well and will not feel the connection that the most effective change leaders can feel. That's a major missed opportunity.

"When people's jobs change, that gets to our sense of identity", **Murli Buluswar**, a senior analytics leader across financial services and the insurance sector, shares. "And it's almost a little bit existential. How we react to that, how we understand that, and how we embrace that in its totality, gets to more of those human questions that, in my view, are far more germane to the scale of accomplishments you can achieve.

"There are not enough resources and energy being given to these human relationships and concepts that you're trying to rearchitect when you're changing fundamental technologies. We need to pay more attention to how these human institutions work, to be fit for purpose for the next decade and beyond."

Buluswar's perspective points to the great irony emerging for the Age of AI—with more capable technology systems emerging and maturing, leaders need to be more human, not less. And that means, among other things, paying more attention to trust.

Imagine the environments in which you feel most at ease. You likely are surrounded by people you trust, and who trust you. The energy that otherwise goes to being on alert, keenly aware of risk, and vigilant diverts toward more productive tasks: you can focus more, you can more deeply engage the creative engines in your mind, and you can work more collaboratively with the people around you.

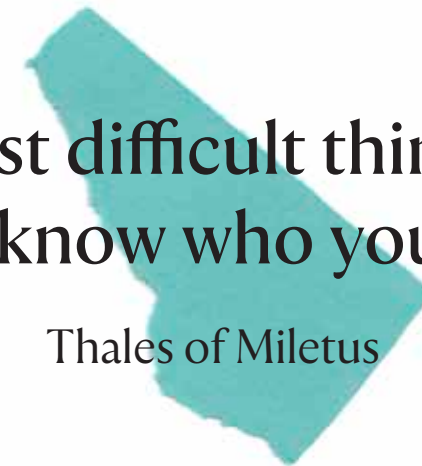
Great and lasting accomplishments tend to arise from communities with a high degree of trust. And that can include Stone Age monoliths and large-scale, reimagined transaction systems.

Similarly, successful modernization of systems and platforms demands more trust up and down the tech org chart than old command-and-control systems. That often means smaller teams more highly empowered to shape the change agenda, with each operator having more influence—and more of a sense of ownership—of the new systems that replace the old.

For **Rachel Laycock**, the key to unlocking modernization isn't technology; it's changing what we celebrate in technology leaders. "Unlocking value should be one of the things technology leaders are recognized for, instead of just risk and uptime. Right now, the CIO role is largely about managing cost, risk, and uptime, whereas the CTO is absorbing new technology and figuring out what it means for the business. If we flip that hierarchy, we get a different incentive structure. We get leaders who are rewarded for what they unlock, not just what they protect. And that changes everything about how modernization gets approached."

The most difficult thing in life  
is to know who you are.

Thales of Miletus



# If we do not trust

## Who is asking me to change?

**Boris Pluskowski**, Managing Director of the CxO platform at HSBC's Innovation Banking Group, says, "The mark of a great leader is having people up and down the organization feel like they really know you."

Pluskowski adds that leaders driving fundamental change need to pay attention to "the ever-escalating levels of trust in the organization. And that begins long before any change initiative. People will inevitably ask, Who is asking me to change? How well do I know them? Do I trust them? Do people speak of them positively? Am I spending time with them already? I need to know who they are, and that they know me."

A bit of old-world wisdom says that the best time to plant a tree is twenty years ago—and the second-best time is now. If you're planning on leading a change initiative and you don't *already* have the deep trust among your teams that you would hope to have, focus on trust building *right now*. And recruit key people in your org who *did* start building that trust ten, or five, or two years ago to your modernization team. They bring the trust with them. Of course, you'll have to listen when these trust-carriers tell you to zig instead of zag: as trusted leaders, their insights and advice should carry special weight.

**Jim Rinaldi**, long-time Chief Information Officer at NASA's Jet Propulsion Laboratory, agrees wholeheartedly with Pluskowski. His adventures at JPL taught him the deep importance of individual relationships in an organization filled with many of the smartest technologists and scientists in the world.

"The culture of the company dictates the acceptance of change. The folks at NASA felt very empowered as individuals. That's the culture at JPL and NASA. If they're empowered, they can block anything I or any other technology leader might see as important. So I started working with individuals, and the loud voices in particular, to build relationships before I asked them for anything or planned any substantial change. Getting to know them, treating them well.

"The key task for me was to understand how people on the teams I worked with saw the world, and saw their work, and saw themselves, as individuals."

## Supportive execution

**Rinaldi** goes on to explain the value of coming alongside the paths of influential individuals within your teams, so that instead of asking them to change, you can use the momentum they already have—their interests, the special skills, their ambitions—to propel higher-level change projects.

"I looked carefully at who among my teams and colleagues has the key relationships to make change happen. That's the kind of supportive execution that has really worked best—trying to make change happen in the direction of our plan, but by aligning that change in the direction that key individuals with key relationships were already hoping to move in.

"Thinking about 'key relationships,' modernization leaders should think beyond who has budget, influence, and respect. Relationships that matter include 'ordinary people,' users of tools who are not necessarily signing off on changes or shaping opinions. Ordinary users, the people who deploy ordinary habits and approaches to their work, matter a great deal."



each other,  
we are already  
defeated.

Alison Croggon

Every generation has the opportunity to remake the world.

Nelson Mandela

## The rising generation of technology leaders

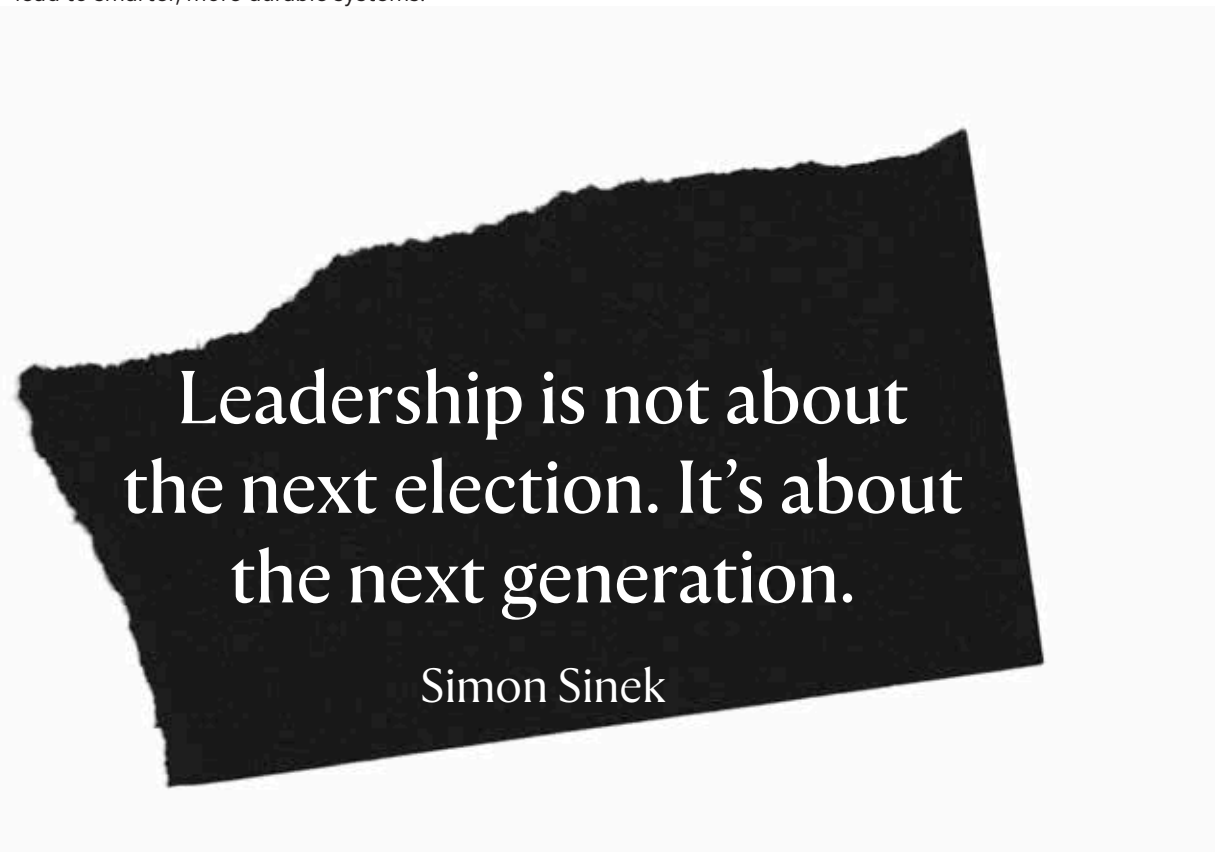
Rather than dream of big success as an employee or company leader, the joyful technology drivers dream of doing great work. Nowhere is this more pronounced than in the rising generation of technology leaders.

One of the great gifts that this generation of technology leaders brings to their organizations is loyalty, but not so much to the company. Rather, as **Andreas Braun**, a Managing Director and Partner at BCG, puts it, "Young talent is loyal to the team, not the company. What is specifically important to them is the technical topic, not so much the company's product or solution."

Thus, the challenge to the technology modernization leader: how well does the work we ask of our best people align with the most interesting technical opportunities? Keeping that question front and center will not only engage and reward younger leaders; it will also lead to smarter, more durable systems.

NASA's **Jim Rinaldi** adds that, "Leaders of technology modernization need to put a lot of work into understanding the rising generation of leaders in their organizations—not just who these people are, but the language they speak, where their pride lives in their work, and the key relationships inside the organization that form naturally and can be mobilized to help shape change initiatives and get key people invested in the process."

"I learned change management is a sore point for many. I prefer 'preparing for changes' as a better term and process to relate and communicate with those affected. A company's culture will be more on board for changes if understood by the project team. In the end, everything comes down to communications!"

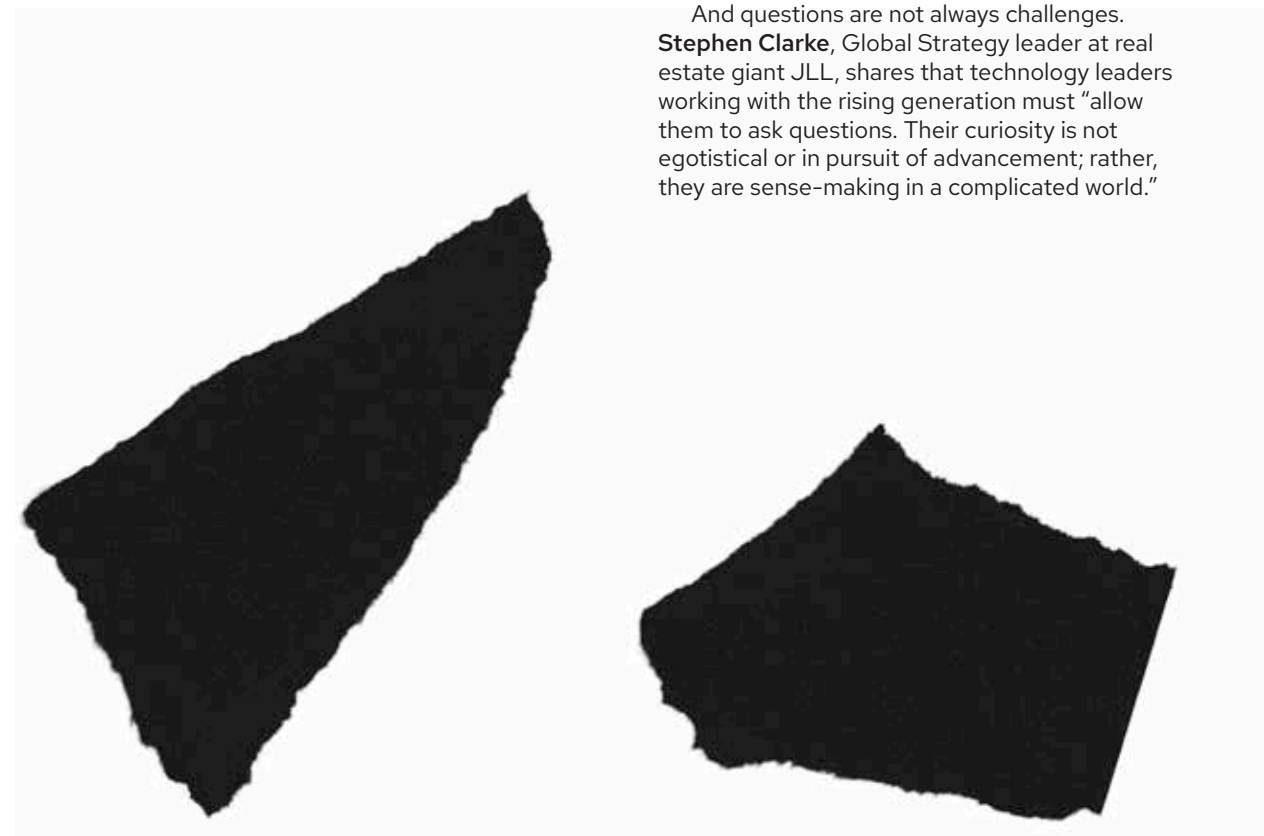


## Scroungers

Many of these younger leaders particularly value the most up-to-date tools and access to computing power, as well as collaboration opportunities. Still, the reflections of technology pioneer **David Tennenhouse** are worth keeping in mind as well.

Tennenhouse's resume includes a doctorate from Cambridge, roles as head of research at Intel and VMware, and CEO of Amazon's A9.com, as well as a faculty stint at MIT. All this experience, he shares, leads him to conclude that modernization leaders must "keep in mind that some of the very best innovators are 'scroungers,' who figure out how to get stuff done despite resource limitations and/or by begging and borrowing resources."

Best to apply this insight not by starving high performers, but by paying attention to how the talent deals with the absence of, or limits on, the tools they want. Look hard for the scroungers, and pay close attention to what they accomplish, and how.



## Prioritize skill, not time in the seat

Effective leaders agree that consistent success in modernization efforts demands the right skills and the right outlook. Tenure, age, or time in the organization should not alone justify a seat at the table. Any hint of advancing by "waiting your turn" is poison for younger technology leaders.

JPMorgan's Muszkiewicz does share, though, that "Getting senior leadership who already paid their dues to see it this way presents a significant obstacle, especially in traditionally hierarchical industries."

Adds **Mirna Chbeir**, a former VP at Regions Bank, "I'd want hungry, passionate people connected to the consumers being served on my team, far above people who have been with my company a long time but have lost that hunger and passion for the end user/consumer. I'd couple tenure with young fresh eyes, put them on the same team and allow each to add value to the outcome in their unique ways. Many times it's not 'either or' but rather 'both and' that is the winning approach."

And questions are not always challenges. **Stephen Clarke**, Global Strategy leader at real estate giant JLL, shares that technology leaders working with the rising generation must "allow them to ask questions. Their curiosity is not egotistical or in pursuit of advancement; rather, they are sense-making in a complicated world."

## Safe to pursue change

**Leda Glyptis** reminds technology leaders that creating real change requires building structured, psychologically safe environments where people are empowered to pursue ambitious ideas.

“There’s quite a lot of heroic work needed to go against the grain,” she says, “to build new things for the first time and do it differently. And it takes some visionaries—some call them lunatics—who want to make a dent, who want to make a difference. And I must admit, I find it both inspiring and fascinating to find these brave souls at work rebuilding technology, when so many expect us to be unemotional and boring.”

A teal, torn-edge paper shape, positioned in the lower left quadrant of the page. It has a rough, deckled edge and a solid teal color.

# The vision pulls you.

Steve Jobs

An abstract graphic design featuring three overlapping, torn-edge shapes. A large black shape is at the top right. A teal shape is on the left and bottom left. A dark red shape is at the bottom right. The text is centered in the red area.

Mechanical Orchard  
1 Post Street, Floor 36,  
San Francisco, CA 94104  
United States