

New ways of thinking for a future transformational age

By



Lieutenant General Michael Groen

U.S. Marine Corps, Ret., Strategic Advisor, former Director of the Joint Artificial Intelligence Center (JAIC) A day rarely goes by without commentary on the speed of change. But beyond the clichés, this acceleration is not merely perceived — it is quantifiably real.

In military technology alone, the shift from conceptual AI capabilities to operational AI-driven intelligence systems has occurred within a remarkably brief period, dramatically enhancing decision-making speed and accuracy. According to a report by the National Security Commission on Artificial Intelligence (NSCAI), AI integration in military operations has led to decision-making processes becoming 40% faster and significantly more accurate, reducing response times in critical scenarios (NSCAI, 2021).

In a world of accelerating technological disruption, transformational thinking — the ability to foresee and adapt to shifting "forms" rather than merely observing incremental data points — is emerging as the defining superpower for future leaders. This is a skill that enables executives to anticipate new realities rather than simply react to present challenges.

Transformational thinkers are visionaries, skilled at seeing beyond current practices to imagine a spectrum of potential futures. Their insights are grounded not in surface symptoms but in understanding underlying causes, enabling strategic foresight rather than tactical reaction. A Harvard Business Review study confirms that leaders who engage in strategic foresight are 33% more likely to identify future opportunities and risks accurately (Harvard Business Review, 2019).

Honing this ability isn't innate — its cultivated through exposure to diverse contexts, disciplined reflection, and a willingness to question assumptions.

Throughout my 36-year career in the U.S. Marine Corps, I have witnessed firsthand how technological innovation reshapes military operations and strategic capabilities. As Director of the Joint Artificial Intelligence Center (JAIC), I led the U.S. Departmentof Defense's efforts to integrate artificial intelligence into joint warfighting and departmental processes, fundamentally transforming decision-making and operational readiness. Initiatives such as the AI and Data Acceleration (ADA) program exemplified transformative thinking by rapidly deploying AI tools across combatant commands, dramatically enhancing real-time strategic responsiveness and operational efficiency.

The transformative power of technology is evident not only in military applications but also in broader societal advancements. Consider the invention of the transistor — it wasn't merely an innovation; it fundamentally changed electronics, computing, and communications. Similarly, Henry Ford revolutionized manufacturing by transforming production processes, a model subsequently adopted globally across countless industries. Likewise, Bill Gates transformed computing from exclusive to ubiquitous, democratizing access to information globally. According to Moore's Law, computing power doubles approximately every two years, reinforcing the exponential nature

of technological progress and the expectation that technology will continue to transform business as we know it (Intel, 2020).

The adoption of digital command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems revolutionized operational efficiency, enabling real-time data sharing and rapid decision-making on the battlefield. This transformation from analog to digital radically reshaped military strategies, improving agility and effectiveness.

Digitization: A case study in transformation

Digitization exemplifies transformational thinking. Prior to digital technologies, businesses struggled with manual record-keeping, drowning in physical documents and inefficiencies. Similarly, the U.S. military once faced immense challenges with command-and-control systems reliant on cumbersome paper maps and manual communications. The adoption of digital command, control, communi-

cations, computers, intelligence, surveillance, and reconnais- sance (C4ISR) systems revolutionized operational efficiency, enabling real-time data-sharing and rapid decision-making on the battlefield. This transformation from analog to digital radically reshaped military strategies, improving agility and effectiveness. We can trace today's capabilities in data analytics and artificial intelligence directly back to foundational digital transformations like these, which turned ware-houses of paper into rivers of actionable data, fueling unprecedented innovation and productivity.

The RAND Corporation highlights that digital transformation in military logistics alone has increased operational readiness by over 25% (RAND Corporation, 2019).

Just as the military's shift to C4ISR systems transformed its operational tempo, business leaders today must look beyond surface-level digitization. Rather than simply moving paper records to the cloud, digitization might include adopting transformational thinking that anticipates and adapts to entirely new operating models. For example, consider how a company like Amazon didn't just digitize the retail experience, but reimagined it through a logistics-first lens, building infrastructure and systems that turned data into a dynamic, real-time engine for demand prediction, inventory flow, and customer engagement. The competitive edge wasn't in adopting digital tools - it was in foreseeing how those tools would redefine scale, speed and service. Similarly, technology leaders now face the imperative to not just observe trends in AI or hybrid IT, but to design for the new organizational "forms" those capabilities make possible.

Transformation thrives on global insight

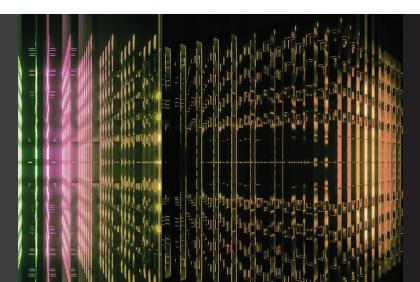
Global approaches to solving operational challenges often galvanize transformational change. Toyota's pioneering work in lean manufacturing, rooted in a cultural commitment to precision and continuous improvement, redefined how industries around the world think about efficiency. What began as sector- specific innovation spread rapidly, influencinga variety of industries worldwide. Insights like these emerge when organizations actively seek out and adapt methods from diverse regions, industries, and cultures. By identifying opportunities and best practices globally, leaders sharpen their capacity to solve complex problems and stay ahead of competitors.

While drawing on global models and insight is important, it is often urgent realities that catalyze the most meaningful advancements in how commercial tools are adopted and deployed. This pivot from commercial infrastructure to critical asset underscores the strategic value of global, adaptable technologies in responding to unforeseen challenges.

Navigating social dimensions of transformation

Transformational change, however, is not purely technological or economic; it deeply impacts society. Rapid technological advancements frequently outpace human adaptability, generating

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discomfort, instability, and resistance. For instance, the military's introduction of unmanned aerial vehicles (UAVs) initially provoked ethical debates, social anxiety, and policy challenges regarding autonomy and surveillance. True transformational leaders couple innovation with empathy, proactively anticipating societal disruptions and planning for humane transitions. They understand that sustainable progress integrates technological advancement with social awareness, ensuring transformations improve human lives rather than overwhelm them. In the enterprise context, the deployment of AI offers similar tensions. While All has the potential to enhance decision-making, automate workflows, and generate efficiencies, the speed and scale of implementation might also alienate parts of the labor force. Without careful attention to human-centered design, Al risks becoming a source of mistrust and disengagement. Employees must see these systems as tools that augment their capabilities - not as black boxes that erode their sense of purpose or threaten their roles.

To that end, transformational business leaders recognize that trust isn't a byproduct of innovation — it's a prerequisite. They embed transparency, explainability, and user agency into Al deployment strategies from the outset. It's a mark of a true leader who can create an environment where

change feels empowering rather than displacing. This empathetic approach not only reduces resistance but also unlocks deeper engagement, turning workers into co-pilots of transformation rather than casualties of it.

Becoming a transformer

Throughout my military service, I learned several critical lessons central to transformational leadership. First, clear communication and alignment around a shared vision are imperative to ensure teams understand their roles within broader strategic objectives. Second, effective leaders must demonstrate agility in decision- making, rapidly assimilating new information and pivoting decisively. Third, fostering an inclusive environment — where diverse perspectives are not only welcomed but actively encouraged — consistently drives innovative solutions and improved outcomes. Finally, resilience and adaptability are essential, empowering leaders and teams to overcome setbacks and continuously learn from challenges.

Transformational leaders embody specific core attributes: relentless curiosity, tactical pragmatism, and strategic foresight. They prioritize purposeful transformation grounded in empirical evidence and clear understanding, avoiding change merely for its own sake. Viewing history as instructive rather than prescriptive, they use historical context to better comprehend current trends and anticipate future possibilities. By nurturing diversity, encouraging experimentation, and embracing varied perspectives, transformational leaders sharpen their ability to foresee, influence, and capitalize on change.

Ultimately, transformational thinking is not optional but essential for executives aiming to thrive amid continuous disruption. It demands courage, humility, and vision, recognizing that adaptability—not certainty—is a leader's greatest asset. The future belongs not to those who merely manage change, but to those who actively shape it.