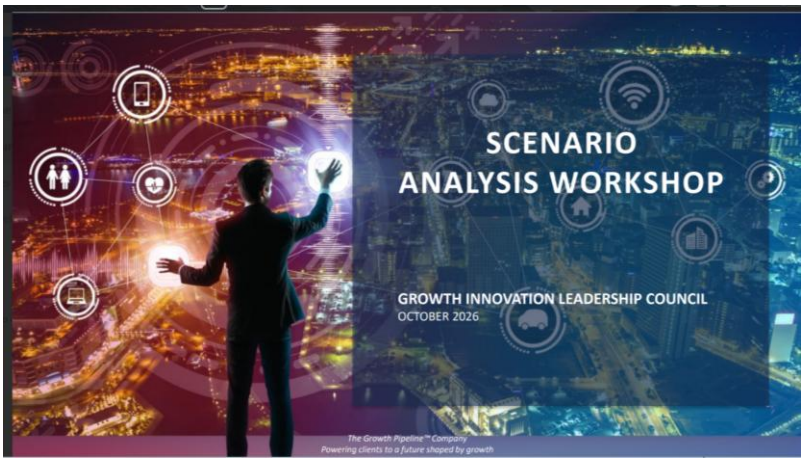
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EXECUTIVE BRIEF

Scenario Analysis, 2027–2029: Mega Trends and Technologies Workshop

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The Mega Trends and Technologies Workshop explored how organizations can use **scenario analysis and "future casting"** to anticipate disruptive change and identify opportunities for 2027 and beyond. The goal was not to predict a single future, but to examine several plausible futures and translate emerging trends and technologies into strategic choices around the **3Bs: build, buy, or borrow/partner**.

Participants represented industries including technology, healthcare, retail, financial services, manufacturing, pharmaceuticals, academia, investment, and supply chain. Their perspectives reflected a common challenge: **the pace of technological change is accelerating faster than many organizations' ability to determine where, when, and how to invest.**

THE CHALLENGE OF LONG-TERM INNOVATION

Participants identified several obstacles to investing in technologies with longer development horizons:

ROI and executive support emerged as recurring concerns. Scenario analysis necessarily involves ambiguity, making potential returns difficult to quantify and sometimes weakening the business case for senior leadership.

Talent and workforce disruption were also prominent. Dr. Ryan Goldsberry discussed concerns about AI replacing some entry-level work and the resulting questions about how students should prepare for careers in a rapidly changing environment.

Others raised questions around scalability, adoption, cybersecurity, supply-chain constraints, and whether promising technologies ultimately solve meaningful business problems.

The discussion reinforced an important point: organizations face no shortage of interesting technologies. The harder task is **prioritizing the technologies that can create sustainable value.**



MEGA TRENDS SHAPING THE NEXT DECADE

The workshop introduced a continually evolving set of mega trends, including:

- A **multipolar world order**
- **Algorithm-driven governance**
- **Autonomous cities**
- **AI accelerated by quantum computing**
- **Machine-augmented humans**
- **Gen Z moving into leadership**
- A shift toward a **zero-asset lifestyle**, emphasizing access and rental over ownership
- **Physical AI and automation**
- **Sustainability**
- Longer lifespans and the emergence of the **centennial human**

Discussion emphasized that technologies cannot be evaluated independently of the forces surrounding them. Geopolitics, demographics, sustainability, regulation, consumer expectations, supply chains, and culture can accelerate or constrain adoption.

Healthcare provided a particularly tangible example. Hitesh Mehta of Shepherd Center discussed considering different futures for a high-tech rehabilitation hospital, including technologies that could give injured or aging patients greater independence through automation and connected environments.



FROM MEGA TRENDS TO TECHNOLOGY OPPORTUNITIES

Participants then moved from macro trends to a more structured evaluation of emerging technologies.

Using a four-dimensional assessment framework covering approximately 50 technologies, participants selected technologies relevant to their businesses and evaluated them in the context of factors such as:

- AI applications
- Geopolitical conditions
- Supply-chain implications
- Business and market opportunities

Technologies discussed included AI-enabled manufacturing, industrial foundation models, adaptive robotics, self-calibrating autonomous sensors, multifunctional coatings, bio-based commodity chemicals, battery-less sensors, e-fuels, batteries and multi-parameter wearables.

The exercise demonstrated how the same technology can carry very different strategic implications depending on an organization's market, capabilities, supply chain, and customers.

EVALUATING FIT AND ATTRACTIVENESS

A second exercise asked participants to position technologies according to two broad dimensions:

- ✓ **Opportunity fit** considered factors such as revenue potential, product differentiation and alignment with the organization.
- ✓ **Opportunity attractiveness** considered the broader potential and feasibility of pursuing the technology.

Plotting technologies against these dimensions helped participants identify which opportunities warranted deeper consideration rather than simply pursuing technologies because they were new or generating significant attention.

Participants shared several applications. AI-enabled manufacturing, adaptive robots and industrial foundation models were among the areas considered for industrial environments. Others examined technologies associated with sustainability, advanced materials, healthcare, energy and supply chains.

BUILDING THREE FUTURES

The final exercise took the highest-priority technology and subjected it to three scenarios:

- ✓ **Optimistic:** External forces accelerate adoption and increase the technology's value.
- ✓ **Neutral:** Adoption progresses unevenly, with some favorable developments and some constraints.
- ✓ **Pessimistic:** External conditions delay adoption or undermine the technology's economic attractiveness.

Participants were encouraged to add a **time dimension**, considering how opportunities might evolve over the near, medium and longer term.

For example, discussion of multi-parameter wearables in healthcare considered aging populations as a potential driver, continuing AI and manufacturing developments as influencing factors, and global supply-chain constraints as a possible barrier.

AI-enabled digital workflows offered another example. AI could dramatically accelerate activities such as planning and supply-chain processes, but broad organizational adoption remains an important variable. Ultimately, even technically impressive solutions may lose momentum if they cannot demonstrate sufficient ROI.

Multifunctional coatings highlighted a different risk: rapid technological advances in China could accelerate commoditization and challenge organizations elsewhere to innovate quickly enough to maintain differentiation.

Cybersecurity, infrastructure limitations and technology adoption were additional factors raised during scenario development.

KEY TAKEAWAY

The workshop underscored that **scenario analysis is less about predicting the future than preparing organizations to make better decisions under uncertainty**. A practical sequence emerged:

Mega Trends → Technologies → Opportunity Fit and Attractiveness → Scenarios → Strategic Action

By identifying external forces first, evaluating technologies against business priorities, and then testing the strongest opportunities under optimistic, neutral and pessimistic futures, organizations can move beyond reacting to disruption.

The outcome is a more disciplined way to answer the strategic questions that matter most: ***What should we build? What should we buy? Where should we partner? And which opportunities are not worth pursuing?***

Perhaps the most important message from the session was that scenario analysis should not be a one-time exercise. Revisiting it annually or biannually can help organizations to reassess assumptions as technologies, markets, geopolitical conditions and customer expectations evolve.

FINAL THOUGHTS: EXECUTIVE IMPLICATIONS

- **ROI remains a major gating factor.** Ambiguous returns make long-term technology investments harder to justify to executive leadership.
- **Adoption can matter as much as technical capability.** Technologies may offer substantial potential but fail to scale if organizations, employees, customers, or ecosystems cannot adopt them effectively.
- **Leadership should manage a portfolio of possible futures rather than bet on one forecast.** The practical value of scenario analysis is greater readiness to change investment priorities as conditions evolve.