

TSMC — Geopolitics, Supply Chains and Governance

Case Overview

Taiwan Semiconductor Manufacturing Company (TSMC) sits at the center of the global digital economy. As the world's leading pure-play semiconductor foundry, TSMC manufactures advanced chips that power smartphones, artificial intelligence, cloud computing, and defense systems. Its technological leadership, scale, and reliability have made it indispensable to global supply chains—and strategically critical to governments worldwide.

At the same time, TSMC's position exposes it to extraordinary geopolitical, operational, and sustainability risks. Located in Taiwan, the company operates at the nexus of U.S.–China strategic competition, industrial policy, and national security concerns. Climate change, water scarcity, and energy reliability add further complexity to its long-term resilience.

This case examines how TSMC manages sustainability not as a peripheral ESG function, but as a core component of operational continuity, geopolitical risk management and corporate governance.

Company and Market Context

Semiconductors are foundational to modern economies, yet their production is highly concentrated. TSMC's dominance in advanced-node manufacturing reflects decades of investment in process innovation, talent development, and disciplined execution. Unlike integrated device manufacturers, TSMC focuses exclusively on foundry services, allowing it to serve a wide range of global customers while maintaining technological neutrality.

Taiwan's institutional environment has historically supported TSMC's rise, offering political stability, skilled labor, and close coordination between industry and government. However, as highlighted in your book, Asia's sustainability and governance challenges are often shaped by external geopolitical forces as much as domestic institutions. In TSMC's case, geopolitical risk is not theoretical—it directly affects capital allocation, site selection, and stakeholder engagement.

The Strategic Sustainability Challenge

TSMC's sustainability challenges extend far beyond carbon emissions reporting. The company faces three interlinked pressures:

- **Geopolitical risk:** Rising tensions across the Taiwan Strait and growing pressure from global governments to diversify semiconductor manufacturing capacity
- **Operational sustainability:** Semiconductor fabrication is resource-intensive, requiring vast quantities of water and energy in a climate-vulnerable region
- **Governance expectations:** As a systemically important company, TSMC faces heightened scrutiny from investors, customers, and regulators across multiple jurisdictions

To address these risks, TSMC has pursued aggressive investments in water recycling, renewable energy procurement, and supply-chain resilience. It has also expanded manufacturing capacity outside Taiwan, including in the United States and Japan—decisions shaped as much by geopolitics and stakeholder expectations as by cost considerations.

The Strategic Trade-Offs

TSMC's sustainability strategy involves difficult trade-offs:

- **Efficiency vs redundancy:** Concentrated manufacturing maximizes efficiency, but diversification improves resilience
- **Cost vs security:** Overseas fabs are more expensive but reduce geopolitical exposure
- **Transparency vs strategic sensitivity:** Disclosure can build trust but may expose vulnerabilities

These trade-offs raise fundamental questions about how sustainability should be defined for globally critical infrastructure firms. Is sustainability primarily about environmental performance, or about systemic resilience and continuity?

Decision Point

By the mid-2020s, TSMC faces a defining decision:

How far should the company go in reshaping its manufacturing footprint, governance practices and sustainability disclosures to address geopolitical and climate risks—without undermining its technological leadership and operational efficiency?

Executives must weigh long-term resilience against near-term costs. Investors must assess whether TSMC's sustainability investments strengthen competitive advantage or dilute returns. Governments increasingly view the company not just as a commercial entity, but as strategic infrastructure.

Learning Objectives

After discussing this case, students should be able to:

1. Understand sustainability as operational and geopolitical resilience, not just environmental performance
2. Analyze how geopolitics reshapes ESG priorities for globally critical firms
3. Evaluate trade-offs between efficiency, cost, and resilience in supply-chain design
4. Assess governance expectations for systemically important Asian companies
5. Apply sustainability concepts to high-tech, capital-intensive industries

Discussion Questions

1. Should TSMC prioritize efficiency or geographic diversification in its sustainability strategy? Why?
2. How should investors evaluate sustainability performance when geopolitical risk is the dominant threat?
3. Are overseas fabs primarily a sustainability investment or a political necessity?
4. How transparent should TSMC be about its geopolitical and operational vulnerabilities?
5. What lessons does TSMC offer for other Asian companies operating at the center of global supply chains?