

An independent opinion of how Lucio Muñoz's ideas on full impossibility, partial possibility and full possibility theorems and paradigm structure and dynamics can be applied in practice to the BUSINESS MODEL to lead it towards full possibilities, interested?

Article title: Muñoz, L. (2026). True sustainability thinking 108: From domain-specific impossibility theorems to a general impossibility theorem: Linking the degree of conjuncture framework and the degree of externality production framework/

Article link is at the end of opinion:

Independent opinion By Sergio....

I find this framework to be a profound diagnostic tool for organizational strategy, corporate governance, and sustainability.

Often, when business leaders hear the word "impossibility," they view it as a roadblock. However, in management science, impossibility theorems are actually liberating. They tell us when we are fighting a losing battle against the structural design of our own organizations, allowing us to stop blaming "poor execution" and start fixing the underlying system.

Here is how we can translate Muñoz's *Degree of General Possibility Framework* into practical, human-centered business management terms.

1. The Baseline: Arrow's Impossibility Theorem in the Boardroom

In business, Arrow's theorem manifests as the silo effect. It proves that if different departments (e.g., Finance, Operations, Marketing, Sustainability) operate with entirely independent goals and metrics, it is mathematically impossible to aggregate their preferences into a single, coherent, and fair corporate strategy without violating someone's core objectives. When components are treated as independent, coherent choice aggregation is impossible.

2. The Critical Problem-Solving Impossibility Theorem: The "Externality Trap"

Muñoz brilliantly applies this logic to environmental and social challenges. This theorem states that it is impossible to solve a critical problem (like pollution or supply chain exploitation) using the very same means of production that created it.

- The Business Reality: This is the definitive, logical refutation of corporate "greenwashing." If a company's profit model relies on externalizing costs (e.g., cheap, disposable materials, unregulated emissions), it cannot solve the resulting environmental crisis through minor tweaks or PR campaigns. The costs and consequences are structurally disconnected. You cannot fix a systemic leak using the same broken tools that caused it.**

3. The General Impossibility Theorem: The Ultimate Rule of Strategic Alignment

This is the crowning insight of the paper. The General Impossibility Theorem states that a desired outcome is structurally impossible whenever the relationships among the necessary components are inconsistent with the structural conditions required to produce that outcome.

Muñoz shows that Arrow's theorem and the Critical Problem-Solving theorem are not isolated ideas; they are two sides of the same coin. Both fail because they treat necessary components as *separable* when they must be *conjuncturally connected* (deeply interdependent).

The Management Roadmap: The 3-Level Possibility Continuum

For business leaders, this paper provides a clear, three-stage roadmap for organizational transformation:

Level 1: General Impossibility (The Trap)

- **Structure: Low conjuncturality (siloe departments) + High externality production (dumping costs on society/environment).**
- **Business Outcome: Guaranteed strategic failure regarding sustainability goals. If a company demands "Net-Zero by 2030" but ties executive bonuses strictly to short-term quarterly financial extraction, the outcome is structurally impossible. The system is designed to prevent the goal.**

Level 2: General Bounded Possibility (The Transition)

- **Structure: Partial conjuncturality + Partial externality internalization.**
- **Business Outcome: Partial progress. The company starts creating cross-functional teams (e.g., linking the CFO and Chief Sustainability Officer) and begins to internalize some costs (e.g., paying a voluntary carbon tax or auditing Tier 1 suppliers).**
- **Management Note: This generates *bounded* solutions. It is better than Level 1, but leaders must recognize that structural gaps remain. Full sustainability has not yet been achieved.**

Level 3: General Full Possibility (The Goal)

- **Structure: Full conjuncturality + No externality production.**
- **Business Outcome: True, regenerative sustainability. The company operates as a fully integrated system (e.g., a Circular Economy model or a certified B-Corp). Financial, social, and environmental metrics are fully codependent. There are no "sustainability gaps" because the cost of doing business fully accounts for its impact.**

Actionable Takeaways for Business Leaders

1. **Stop Blaming Execution for Structural Flaws: If a strategic initiative repeatedly fails, do not just demand "more effort" from your team. Ask: *Are we facing a General***

Impossibility? Are our incentives and structures actively working against our stated goals?

- 2. Force Conjuncturality:** If you want a holistic outcome, you must design holistic structures. Break down silos. Ensure that the people responsible for generating revenue are equally measured and rewarded for managing the externalities that revenue creates.
- 3. Embrace True-Cost Accounting:** The only way to move from Level 1 to Level 3 is to systematically reduce the "degree of externality production." Businesses must transition to models where environmental and social costs are internalized, not hidden.

Muñoz's paper is a vital contribution because it proves that domain-specific failures (like failing to meet ESG targets or failing to align a board of directors) are not random. They are predictable mathematical outcomes of structural misalignment.

By understanding this continuum, business leaders can stop applying band-aids to broken systems and start doing the hard, rewarding work of redesigning the organization for *full possibility*.

Reference Muñoz, L. (2026). True sustainability thinking 108: From domain-specific impossibility theorems to a general impossibility theorem: Linking the degree of conjuncture framework and the degree of externality production framework. *International Journal of Multidisciplinary Research and Innovation*, 1(4), 1–8.
<https://doi.org/10.5281/zenodo.23154030>