

# The ASSURED Matrix for Any Innovation to Succeed

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## From Leapfrogging to Pole-Vaulting: A practical framework for radical, sustainable transformation

Prepared for team circulation

*This article has been summarised with permission from the authors for academic learning purposes by Professor Arun Sehgal, Visiting Faculty – ICT, Chairman and Managing Director, Chempro Group.*

### Executive Summary

Innovation succeeds not merely because an idea is clever, but because it can move from concept to impact, reach large numbers of users, survive competition, and remain relevant over time. Dr R. A. Mashelkar and Ravi Pandit's book argues for a shift from reactive leapfrogging to proactive pole-vaulting, meaning the pursuit of 10x transformation rather than marginal improvement ([Penguin India](#)).

The ASSURED Matrix gives business leaders, innovators, investors, and policymakers a disciplined way to test whether an idea has the qualities needed for durable success. The seven attributes are Affordable, Scalable, Sustainable, Universal, Rapid, Excellent, and Distinctive ([Dr R. A. Mashelkar](#)).

### Background: From Leapfrogging to Pole-Vaulting

The book Leapfrogging to Pole-Vaulting: Creating the Magic of Radical yet Sustainable Transformation was authored by Dr R. A. Mashelkar and Ravi Pandit and published by Penguin Random House India. The work is catalogued as a book on sustainable development and power resources in India ([IIT Dharwad Knowledge Resource Centre](#)).

The central argument is that traditional innovation ambition is no longer sufficient. A 10 percent improvement is incremental, a 100 percent improvement may represent leapfrogging, but a 1000 percent or 10x improvement is the kind of transformational innovation the authors call pole-vaulting. The publisher's excerpt frames pole-vaulting as crossing a much higher bar by using talent, technologies, and tools as the supporting pole ([Penguin India](#)).

This thinking is especially relevant in an era of energy stress, environmental pressure, employment disruption, and fast-changing customer expectations. A review of the book notes that the authors organize many global challenges around the three Es of Energy, Environment, and Employment ([Swadeshi Shodh](#)).

### Why Innovations Fail

Most innovations fail because they are evaluated too narrowly. A product may be technologically strong but unaffordable. It may be affordable but difficult to scale. It may scale quickly but fail under environmental, regulatory, or social pressure. It may be excellent but not distinctive enough to defend its position.

Dr Mashelkar cites an innovation funnel in which 3000 raw ideas may eventually lead to only one success, showing how difficult the journey from idea to marketplace can be ([Dr R. A. Mashelkar](#)).

The ASSURED Matrix addresses this weakness by forcing leaders to examine innovation as a complete system rather than as a single product, patent, technology, or business model.

## The ASSURED Matrix

The ASSURED Matrix is a seven-part test for innovation success. Each element is important on its own, but the framework is most powerful when the seven dimensions reinforce each other.

<b>Important perspective for today's businesses:</b> With the growing importance of ESG frameworks, innovation can no longer be considered truly scalable unless it is environmentally responsible. In current business conditions, resilience should also be viewed as a practical companion to rapid execution: organizations must move fast, but they must also withstand regulatory, environmental, supply-chain, and market shocks.		
<b>Element</b>	<b>Meaning</b>	<b>Management Question</b>
<b>Affordable</b>	Accessible across the economic pyramid through efficient design, production, distribution, and business model innovation.	Can the target customer adopt this without cost becoming the barrier?
<b>Scalable</b>	Capable of reaching the largest relevant market or beneficiary base without losing quality or economics.	Can this move from pilot scale to large-scale deployment?
<b>Sustainable</b>	Environmentally responsible, economically viable, socially acceptable, ESG-aware, and adaptable to policy change.	Will this remain acceptable, profitable, and scalable under future environmental and ESG expectations?
<b>Universal</b>	Simple, user-friendly, reliable, standardized where needed, and easy to maintain.	Can diverse users adopt this with minimal friction?
<b>Rapid</b>	Fast movement from mind to marketplace and fast response to changing market conditions; in practice, rapidity must be supported by resilience.	Can we commercialize quickly while remaining resilient to regulatory, environmental, supply-chain, and market shocks?
<b>Excellent</b>	High-quality technology and strong execution across leadership, strategy, people, processes, and customer focus.	Is the solution world-class in both product and execution?
<b>Distinctive</b>	Clearly differentiated, difficult to copy, and defensible through brand, IP, know-how, ecosystem, or business model.	Why will customers and partners choose us, and why can competitors not easily imitate us?

## Applying the Matrix in Business Decisions

### For Product and R&D Teams

Use the matrix before committing major development resources. It can reveal whether a technically attractive idea has a realistic route to adoption, scale, and differentiation.

### For Corporate Strategy

Use the matrix to compare new business opportunities, technology platforms, or strategic partnerships. A project that is excellent but not scalable or sustainable may require redesign before investment.

## For ESG-Linked Growth

Treat environmental responsibility as a precondition for scale. As ESG expectations become stronger among customers, regulators, investors, and global partners, businesses that are not environmentally friendly will find it increasingly difficult to scale credibly.

## For Investment and M&A Screening

Use the matrix as a due-diligence lens. A company with strong early growth but weak sustainability, universality, or distinctiveness may face future value erosion.

## For Manufacturing and Specialty Chemicals

The framework is particularly useful where regulatory compliance, environmental acceptability, cost competitiveness, supply-chain dependability, and technical differentiation determine long-term success.

## A Practical ASSURED Checklist

- Can we reduce cost without reducing quality?
- Can the solution scale across customers, geographies, and supply chains?
- Will the solution remain viable under future environmental and regulatory expectations?
- Is the product or process simple enough for widespread adoption?
- Can we bring it to market rapidly and respond quickly after launch?
- Are we excellent in technology, quality, service, and management execution?
- Do we have meaningful differentiation that competitors cannot easily copy?

## Conclusion: Innovation Must Be Designed for Success

The ASSURED Matrix is valuable because it converts innovation from an act of optimism into a discipline of execution. It does not ask whether an idea is interesting; it asks whether the idea can become affordable, scalable, sustainable, universal, rapid, excellent, and distinctive at the same time.

For any organization, this is a powerful habit. Before launching a new product, entering a new market, funding a startup, or adopting a new technology, leaders should test the opportunity against the seven ASSURED dimensions. If the answer is weak on one dimension, the innovation may still succeed temporarily. If it is strong across all seven, its chance of durable success becomes significantly higher. In particular, the sustainability test must now be read through the lens of ESG: a business that is not environmentally friendly is unlikely to remain credibly scalable.

The broader lesson from Dr Mashelkar's work is that India and Indian industry should not be content with incremental gains. The opportunity is to pole-vault: to create high-quality, affordable, scalable, and sustainable solutions that serve large markets and set new global benchmarks.

## Sources

Penguin India: <https://www.penguin.co.in/leapfrogging-to-pole-vaulting-an-excerpt/>

Dr R. A. Mashelkar: <https://mashelkar.com/articles/assured-framework-for-an-assured-success-in-innovation/>

IIT Dharwad Knowledge Resource Centre: <https://opac.iitdh.ac.in/cgi-bin/koha/opac-detail.pl?biblionumber=4396>

Swadeshi Shodh: <https://swadeshishodh.org/book-review-leapfrogging-to-pole-vaulting-creating-the-magic-of-radical-yet-sustainable-transformation/>

## Footnote

*In Professor Arun Sehgal's recent interactions with the authors, the discussion also emphasized the importance of "R" for Resilience as a practical extension of innovation thinking. In this interpretation, innovation must not only be rapid in reaching the market, but also resilient enough to withstand environmental, regulatory, supply-chain, financial, and market disruptions.*