

Efficiency, not big budgets, the driver of innovation goals

CONVENTIONAL wisdom assumes that larger spending on infrastructure, universities and research and development (R&D) automatically produces stronger innovation. However, the fundamental question is not merely how much capital is spent but also how efficiently a system converts available resources into tangible, impactful outcomes for the nation.

A recent scientific study presented at the Decision Science Research Symposium at Universiti Utara Malaysia (UUM) offers a critical perspective on this issue. Using Data Envelopment Analysis (DEA), a mathematical modelling technique, the study evaluated the relative operational efficiency of innovation management across 139 economies worldwide, drawing on data from the World Intellectual Property Organisation's (Wipo) Global

Innovation Index (GII) 2025 report.

The findings expose a stark "Performance Bias" in traditional metrics, proving that financial abundance is no guarantee of effective governance or operational efficiency. In fact, several high-income Gulf nations ranked near the bottom in operational efficiency due to resource saturation and high systemic waste.

Conversely, economies with lower income levels demonstrate that optimal efficiency can be achieved by maximising limited resources. Operating at peak efficiency is possible across all income tiers and geographical regions, with benchmark performers including Switzerland in Europe, the United States in the Americas, China in Asia, and Mauritius in Africa.

Malaysia's historical trajectory in the GII reflects dynamic challenges over the past decade.

After peaking at 31st globally in 2011, the country dropped to 37th in 2017. Following a period of stagnation around the 36th position between 2021 and 2023, Malaysia rebounded to 33rd in 2024 and maintained a strong 34th position in the 2025 report.

While overall progress appears temporarily stalled near the top 30 threshold, Malaysia retains impressive regional and economic standings – second in Asean (behind Singapore) and second globally among upper-middle-income economies (behind China).

According to the UUM study, the primary obstacle preventing Malaysia from climbing higher is resource underutilisation. While Malaysia possesses strong institutional foundations and excellent market support, substantial investments in infrastructure and human capital have not translated quickly enough into patents, high-technology outputs

and competitive creative products.

Addressing this bottleneck is vital, particularly as the National Science Council has set a strategic goal for Malaysia to reach the top 20 of the GII by 2030.

Achieving this target requires refining the delivery of Science, Technology and Innovation (STI) funding and fostering high-impact public-private partnerships, reinforcing the study's core finding that operational efficiency matters far more than simply expanding budgets.

These research findings align directly with "Daya Cipta" (Innovation), the third core value of Malaysia Madani. From a decision science perspective, true innovation lies in the wisdom of policymakers to structure and manage public systems efficiently, ensuring that every ringgit invested yields maximum return without bureaucratic leaks.

To reform Malaysia's innovation landscape, a comprehensive shift towards optimisation is essential. This begins with reducing bureaucracy and streamlining administrative processes in order to efficiently transform resources into tangible results.

Equally vital is bridging the long-standing gap between academia and industry, ensuring that university research is broadly commercialised rather than left gathering dust on library shelves.

Ultimately, eliminating structural waste and emulating international best practices will guarantee that every public allocation yields a strong multiplier effect for the national economy.

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