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Circular economics will rewire globalisation

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THE linear model of living – take, make, dispose of – is over as recent literature overwhelmingly shows. Resources are limited and finite, as is space for landfills. This is undeniable. The rise of the circular economy isn't just a sustainability trend; it's a fundamental, disruptive force rewiring the very logic of how we produce, consume, and move goods across the planet.

This isn't merely about recycling more. It's about a systemic shift where value is no longer created at the point of sale alone, but across a product's entire lifecycle – and that includes its recovery.

What does this mean for the global supply chain?

First, the "reverse supply chain" is becoming as critical as the forward one. Logistics networks built for one-way trips from factory to consumer must now master the art of returns, refurbishment, and remanufacturing. This creates immense complexity but also new profit centres. Companies are learning that a returned smartphone isn't waste; it's a reservoir of scarce cobalt, gold, and silicon.

Second, design sovereignty is trumping labour arbitrage. When products are designed for disassembly, reuse, and repair, the decision of where to manufacture shifts. Proximity to end-markets and to recovery hubs becomes more important than chasing the lowest hourly wage.

We see early signals of "re-shoring" or "near-shoring" not just for political resilience, but for circular efficiency. Why ship a broken appliance across an ocean for refurbishment if you can do it regionally? This would also help reduce its overall carbon footprint. As a region, Asean stands to gain from this development.

Third, the digital thread becomes the circulatory system. Blockchain for material tracing, IoT (Internet of Things) sensors for



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condition monitoring, artificial intelligence for predictive refurbishment – these aren't buzzwords but essential tools. They turn physical goods into trackable, value-retaining assets. Transparency is no longer a nice-to-have; it's the bedrock of circular trust, from rare-earth miners to second-life markets.

However, the literature also sounds stark warnings. The transition is messy and uneven. We risk "circular washing" – superficial initiatives that don't tackle the core linear model. Furthermore, a poorly managed circular shift could deepen inequality if it protects rich-world resource security while stripping developing economies of their traditional roles in raw material extraction and low-cost manufacturing without offering a just transition.

The ultimate conclusion from the research is this: The circular economy will not simply be inte-

grated into existing supply chains. It will break them and rebuild them. This demands a new playbook for leaders.

> **Collaborate or perish:** Circularity requires unprecedented collaboration – even among competitors – on standardising materials, recovery systems, and data protocols.

> **Invest in circular logistics:** The warehouses and trucks of the future will handle used goods as deftly as new ones.

> **Rethink policy:** Governments must move beyond punitive regulations to incentivise the infrastructure and innovation that make circularity scalable.

The linear supply chain was a marvel of optimisation for a world that believed resources were infinite. The circular supply web is the necessary adaptation for a finite planet. The question for businesses is no longer if they will adapt, but whether they'll be

designing the new system or struggling to survive within constraints set by others.

Economies that ignore the inevitable rise of the circular economy will regret not embracing it. As a country which relies heavily and contributes immensely to the global supply chain of many industries, Malaysia is well advised not to delay the implementation of a circular economy plan. This is especially critical for those industries which are strongly linked to the world economy.

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