Harnessing Artificial Intelligence for Regional Economic Transformation Through the Johor Regional AI Hub Model

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ABSTRACT

This article examines the theoretical foundations and projected economic outcomes of the Regional AI Hub (RAIH) initiative, a comprehensive artificial intelligence-driven economic transformation strategy for the state of Johor, Malaysia. Drawing on feasibility data from the Institut Dato' Onn Research Centre (2025), supplemented by established scholarship on regional economic development, digital transformation, and special economic zones, the study analyses three interdependent strategic tracks aimed at increasing GDP from approximately RM148.2 billion to RM260 billion by 2030. The RAIH model integrates AI-driven enterprise transformation, cross-border talent retention, and capital market diversification as mutually reinforcing pillars of growth. Sector-level projections indicate that AI integration could contribute RM41.5 billion, representing 37.1 percent of the total RM111.8 billion GDP growth required. A study of approximately 10,000 Malaysian small and medium enterprises (SMEs) reveals systemic barriers to AI adoption, including limited access to capital, weak governance structures, and skills deficits. The article argues that place-based, district-specific AI deployment strategies are critical to equitable regional development and that the RAIH model offers a transferable framework for AI-led economic transformation in comparable emerging economies. Implications for policy, investment, and future research are discussed.

Keywords: Artificial Intelligence, Regional Economic Development, Digital Transformation, Malaysia, Special Economic Zone, SME Transformation, GDP Growth

INTRODUCTION

The integration of artificial intelligence (AI) into regional economic development strategies represents one of the most significant policy shifts in contemporary public administration and economic planning. Governments at subnational levels are increasingly recognising that AI is not merely a technological phenomenon but a structural economic force capable of reshaping factor productivity, altering labour market dynamics, and reconfiguring comparative advantage across industries (Brynjolfsson & McAfee, 2014; Acemoglu & Restrepo, 2019). In the Global South, however, the capacity to harness AI-driven economic benefits remains constrained by institutional deficiencies, skills gaps, and inadequate capital market linkages (Choudhary et al., 2022).

Johor, Malaysia's southernmost state, presents an instructive case. As a region sharing a land border with Singapore, one of Asia's most technologically advanced economies, Johor occupies a structurally unique position in the global innovation landscape. Yet despite this geographic advantage, Johor's GDP growth has historically averaged approximately 5.1 percent per annum, well below the 7.8 percent target established under the Progress Johor 2023 economic masterplan (Institut Dato' Onn Research Centre, 2025). The gap between current economic performance and developmental ambition has catalysed the Regional AI Hub (RAIH) initiative, a state-level blueprint that deploys AI as the primary instrument of economic transformation.

This article provides a critical, evidence-based assessment of the RAIH model. Using primary feasibility data collected by IDORC, which incorporated surveys of approximately 10,000 Malaysian SMEs between 2020 and 2024 alongside secondary data from the Asian Development Bank, World Bank, and major international consulting firms, the study evaluates the economic logic, institutional preconditions, and projected outcomes of each of RAIH's three strategic tracks.

LITERATURE REVIEW

Artificial Intelligence and Macroeconomic Growth

The macroeconomic effects of AI have attracted substantial scholarly attention over the past decade. Brynjolfsson and McAfee (2014) identify AI and related digital technologies as general-purpose technologies, analogous in their transformative potential to the steam engine or electricity, capable of generating sustained waves of productivity improvement across the economy. Empirical evidence suggests that such industrial intelligence catalyses growth primarily by elevating total factor productivity (TFP), where AI-driven automation simplifies complex production processes and optimises capital investment returns (An et al., 2022). More recent empirical work by Acemoglu and Restrepo (2019) introduces an important qualification in which automation-driven AI may suppress labour demand in routine task-intensive industries, thereby generating distributional consequences that aggregate productivity statistics obscure.

International consulting research offers complementary macroeconomic projections. PwC's (2017) Global Artificial Intelligence Study estimates that AI will contribute USD 15.7 trillion to the global economy by 2030, representing a 14 percent increase in global GDP. The report attributes over half of these gains to improvements in labour productivity. McKinsey Global Institute (2023) similarly projects that generative AI alone could add USD 2.6 to 4.4 trillion annually to the global economy, a figure comparable to the entire GDP of the United Kingdom. IDC (2024) estimates that business spending on AI will generate a cumulative global economic impact of USD 19.9 trillion through 2030, with every dollar invested in AI generating approximately USD 4.60 in economic returns.

These projections carry important implications for developing economies. As Rodrik (2016) observes, premature deindustrialisation threatens to foreclose traditional industrialisation pathways in the Global South. However, the actualised impacts of AI in these regions are heavily determined by institutional readiness, as firms in developing nations often experience lower productivity gains than those in advanced economies due to weaker absorptive capacities and skill mismatches (Fardoust, 2025). AI-driven leapfrogging may create alternative development trajectories for economies such as Malaysia that possess sufficient human capital and institutional foundations to absorb new technologies (Lee & Trimi, 2021). Nevertheless, such a transition requires a digital social compact to ensure that resource reallocation toward AI does not entrench technological dependency or exacerbate existing social inequalities (Frimpong, 2025).

Regional Economic Development and Digital Transformation

The literature on regional economic development increasingly emphasises the role of place-based policies in addressing spatially uneven development (Barca et al., 2012). Smart specialisation strategies, first elaborated in the context of European cohesion policy, argue that regions should identify unique competitive assets and concentrate innovation investment around these distinctive capabilities (Foray et al., 2012). In Southeast Asia, digital transformation has emerged as a key dimension of smart specialisation, particularly for regions geographically proximate to major innovation hubs (Sirimanne et al., 2021). Furthermore, the success of such digital integration is often contingent upon the “twin transition” defined as the simultaneous advancement of digital infrastructure and green industrial practices to ensure long-term regional resilience (Mora et al, 2023).

Special economic zones (SEZs) represent an established institutional instrument for catalysing regional transformation. Research by Farole and Akinci (2011) demonstrates that successful SEZs combine targeted infrastructure investment, regulatory streamlining, and active linkage development between zone enterprises and domestic supply chains. In the specific context of the Iskandar Malaysia region, the evolution toward a

"seamless" economic corridor requires moving beyond fiscal incentives toward deep institutional alignment and shared governance frameworks (Hutchinson & Chao, 2022).

The Johor-Singapore Special Economic Zone (JS-SEZ), established between Malaysia and Singapore, exemplifies this model in an advanced cross-border configuration, offering complementary regulatory and fiscal incentives, including a 5 percent corporate tax rate for qualifying advanced industries and a 15 percent personal income tax rate for eligible knowledge workers (IDORC, 2025). This talent-centric approach aligns with recent findings that high-technology SEZs increasingly function as knowledge hubs, exemplified by the proximity to global financial centres such as Singapore, which accelerates the diffusion of digital innovation across the border (Rodriguez-Pose & Wilkie, 2029).

SME Transformation and AI Adoption

Small and medium enterprises constitute the backbone of most developing economies, contributing disproportionately to employment and income generation relative to their share of output (Ayyagari et al., 2011). Yet SME AI adoption faces structural barriers that differ markedly from those confronting large enterprises. Nambisan et al. (2019) identify three principal constraints: resource limitations that prevent sustained technology investment, absorptive capacity deficits that impede effective technology integration, and institutional gaps, including weak intellectual property frameworks and underdeveloped digital finance ecosystems.

In the Malaysian context, Bank Negara Malaysia's (2021) annual report documents a persistent credit gap affecting approximately 73 percent of SME loan applications in certain size segments, limiting the capital available for digital transformation investments. Complementary evidence from the World Bank's (2020) Enterprise Survey indicates that Malaysian SMEs exhibit lower rates of technology adoption than their peers in Singapore and South Korea, consistent with the IDORC (2025) finding that large SMEs exhibit productivity levels approximately 30 percent below industry standards.

Government-Linked Companies and Reform Imperatives

Government-linked companies (GLCs) occupy a prominent position in Malaysia's economic architecture, controlling approximately 42 percent of Bursa Malaysia's market capitalisation and contributing 15 percent to national GDP as of 2022 (IDORC, 2025). The comparative underperformance of Malaysian GLCs relative to regional peers has been documented extensively. The Asian Development Bank (2023) reports an average return on assets (ROA) of 3.2 percent for Malaysian GLCs, compared to 6.8 percent for Singaporean counterparts and 5.1 percent for Thai equivalents. The Putrajaya Committee on GLC High Performance similarly documented an annual underperformance of 2.7 percentage points in total shareholder returns relative to the Kuala Lumpur Composite Index between 2019 and 2022.

Khanna and Yafeh (2007) argue that business groups in emerging markets, including state-owned enterprises and GLCs, often face a fundamental tension between developmental mandates and commercial efficiency imperatives. AI-driven transformation presents an opportunity to partially resolve this tension by enhancing operational transparency, automating routine decision-making, and generating performance metrics that are resistant to political manipulation.

Research Context and Data

The RAIH Feasibility Study

The empirical foundation of this article is the RAIH feasibility study, commissioned by the Johor State Economic Advisor and conducted by Institut Dato' Onn Research Centre (IDORC) (2025). The study draws on three principal data sources. First, a longitudinal survey of approximately 10,000 Malaysian SMEs conducted between 2020 and 2024, encompassing financial institutions, SME agencies, accounting firms, SME proprietors, investors, and publicly listed companies. Second, structured roundtable discussions with representatives of GLCs, trade associations, government agencies, and academic institutions were conducted in 2024 and early

2025. Third, secondary macroeconomic data from the Department of Statistics Malaysia, Bank Negara Malaysia, the Securities Commission Malaysia, the Asian Development Bank, and the World Bank.

Johor's economic structure in 2023 was heavily concentrated in services (53.3 percent, approximately RM79.0 billion) and manufacturing (30.2 percent, approximately RM44.8 billion), with agriculture contributing 12.2 percent (approximately RM18.1 billion) and construction 2.8 percent (approximately RM4.1 billion). The state's total GDP stood at approximately RM148.2 billion, requiring annual growth of 8.4 percent through 2030 to achieve the RM260 billion target, substantially above the historical average of approximately 5.8 percent per annum.

GDP Projection Methodology

GDP contributions from each RAIH track are modelled using sector-specific productivity multipliers derived from international empirical literature, adjusted for Malaysia-specific adoption rate assumptions and institutional constraints. The brain drain mitigation track assumes the retention of 30 percent of approximately 180,000 skilled professionals currently working abroad, with an average annual productivity contribution of RM85,000 over seven years, yielding a direct impact of RM32.1 billion, reduced to RM27.5 billion after applying a 47 percent success rate adjustment to account for migration inertia. The SME and GLC transformation track projects cumulative AI-driven cost reductions of 25 percent, annual productivity gains of 15 percent, and revenue expansion of 20 percent from improved global market access, adjusted for overlapping effects to a net contribution of RM44.0 billion. The economic diversification track aggregates sector-specific projections across manufacturing (RM12.5 billion), agriculture (RM8.7 billion), healthcare (RM7.2 billion), energy (RM9.6 billion), and logistics (RM7.5 billion), yielding a combined contribution of RM38.5 billion.

FINDINGS

Overview of Projected GDP Contributions

The RAIH model projects total additional GDP contributions of approximately RM110 billion by 2030, distributed across three interdependent tracks. Table 1 summarises these projections alongside the key mechanisms of value creation.

Strategic Track	Projected Contribution (RM bn)	Key Mechanisms
Track 1: Brain Drain Mitigation	27.5	Talent retention, hybrid work models, ancillary job creation
Track 2: GLC/SME Transformation	44.0	AI-driven cost reduction, productivity gains, global market access
Track 3: Economic Diversification	38.5	Sectoral AI integration, capital market access, SPV structures
Total	110.0	Integrated AI ecosystem across 10 districts

Table 1. Projected RAIH GDP Contributions by Strategic Track (2025-2030)

Critically, the RAIH feasibility study estimates that AI technologies specifically enabled by RAIH will contribute RM41.5 billion (37.1 percent) of the total RM111.8 billion GDP growth required to reach the 2030 target. This implies a substantial catalytic role for AI whilst acknowledging that complementary investments in infrastructure, governance, and human capital are essential to realise remaining growth.

Track 1: Brain Drain Mitigation

Johor's proximity to Singapore has historically generated persistent talent outflows. Approximately 300,000 Malaysian professionals commute daily to Singapore, attracted by wage differentials estimated at approximately 3.5 times the Johor equivalent for comparable roles. This represents a significant structural drag on Johor's knowledge economy, approximately 42 percent of professionals relocate primarily due to salary gaps, and the

economic impact of this outflow is estimated at 65 percent of Johor's growth potential in knowledge-intensive sectors (IDORC, 2025).

The RAIH response to this challenge is architecturally innovative. Rather than simply providing wage supplements through public expenditure, the strategy creates value through organisational and regulatory redesign. The Joint Venture Model facilitates partnerships between Singaporean and Johorean enterprises under a two-thirds to one-third cost-sharing arrangement, enabling Johorean workers to access Singapore-comparable total compensation packages while residing and working predominantly in Johor. The Hybrid Work Model formalises a split work arrangement of two days in Singapore and five days in Johor, which the RTS Link rapid transit connection, scheduled for completion in 2026, renders logistically viable. Complementary incentives, including housing subsidies, transport benefits, and AI-driven career path optimisation tools, address non-wage dimensions of the location decision.

The target of retaining 54,000 skilled professionals, representing 30 percent of those currently working abroad, carries significant multiplier effects. Each retained worker is projected to sustain 1.5 ancillary jobs through consumption and local service demand, contributing an additional RM19.8 billion over seven years. These projections are consistent with regional economic multiplier estimates for high-skill labour in the 1.3 to 1.8 range documented in the literature (Moretti, 2010).

Track 2: GLC and SME Transformation

GLCs and SMEs collectively contribute approximately 45 percent of Johor's current GDP, approximately RM67.5 billion. Despite this centrality, the IDORC (2025) study documents systematic underperformance across both segments. Among small SMEs with turnovers below RM1 million, 68 percent lost 15 to 20 percent of their market share to larger competitors over the preceding two years, with profit margins constrained to the 3 to 5 percent range, and 70 percent encountering difficulties accessing capital. Medium SMEs navigated cash conversion cycles of 60 to 90 days, with 73 percent of loan applications rejected despite evidence of growth potential. Large SMEs demonstrated productivity 30 percent below industry standards, with labour costs constituting 45 percent of operational expenses.

The RAIH response is structured around a 25:10 blueprint that targets a 25 percent reduction in operational costs and a 10 percent increase in profits for each participating enterprise through AI implementation. AI-driven financial health assessments are planned for all 100,000 enterprises across Johor's 10 districts, 16 local governments, and 103 mukims. The feasibility study projects that AI-driven operational efficiency improvements could reduce costs by 25 percent across the enterprise sector, adding RM118 billion cumulatively over seven years, while a 15 percent annual productivity boost would contribute RM70 billion, and revenue expansion from improved global market access would contribute RM94 billion. After adjustment for overlapping effects, the net contribution is estimated at RM44 billion.

For GLCs specifically, the RAIH model identifies AI-enhanced transparency and governance as particularly high-value applications. The World Bank's (2022) Corporate Governance Report documented that 42 percent of Malaysian GLC board members held political rather than industry-relevant appointments, and only 37 percent of GLCs fully complied with international disclosure standards. While AI technologies introduce significant operational efficiencies, they cannot realistically bypass these deep-rooted governance barriers or political appointments without prior systemic legal reforms. The RAIH framework acknowledges that algorithmic integration is not a standalone substitute for comprehensive institutional restructuring. Instead, AI functions as a powerful interim catalyst for reform by deploying automated reporting systems and immutable audit trails that expose structural inefficiencies. This technological transparency is designed to generate sustained public and stakeholder pressure, building an evidence base that must subsequently be formalised through rigorous legislative overhauls to dismantle systemic deficiencies permanently.

Track 3: Economic Diversification

Johor's economic concentration in manufacturing (31 percent) and services (53 percent) creates structural vulnerability to sector-specific shocks. The diversification track targets five sectors for AI-enabled productivity enhancement, including manufacturing, agriculture, healthcare, energy, and logistics.

In manufacturing, predictive maintenance systems and automated quality control are projected to reduce downtime by 30 percent and improve product quality by 25 percent, contributing RM12.5 billion to GDP by 2030. These projections align with McKinsey's (2023) analysis of AI in manufacturing, which documents downtime reductions of 25 to 35 percent in advanced deployments. Agriculture is targeted through precision farming technologies, including drone-based soil analysis and IoT sensor networks, projected to increase productivity by 20 to 25 percent and contribute RM8.7 billion. Healthcare AI applications in diagnostics and personalised treatment are projected to reduce diagnostic errors by 30 percent and generate RM7.2 billion in additional revenue from enhanced service quality and medical tourism. Smart grid AI for energy management is projected to improve distribution efficiency by 15 percent and contribute RM9.6 billion. Logistics optimisation is projected to reduce costs by 18 percent and improve delivery times by 25 percent, contributing RM7.5 billion.

An important and distinctive dimension of the diversification track is its capital markets strategy. The RAIH model proposes structuring Special Purpose Vehicles (SPVs) that combine conventional business assets with high-value AI capabilities, preparing them for Reverse Takeover (RTO) opportunities with NASDAQ-listed shell companies carrying market capitalisations of USD 150 to 300 million. This approach exploits the substantial valuation premium commanded by AI-integrated businesses, with AI infrastructure companies in 2025 commanding revenue multiples of 47.7 times, compared to 3 to 5 times for traditional infrastructure counterparts, while health technology AI companies commanded 28.8 times, versus 2 to 4 times for traditional healthcare businesses (IDORC, 2025). By 2030, the capital markets strategy targets 15 cumulative NASDAQ listings or RTOs, a total market capitalisation of Johor-based AI companies reaching RM30 billion, and annual foreign direct investment via SPV joint ventures of RM8 to 10 billion.

Sector-Level GDP Projections

Table 2 presents comprehensive sector-level GDP projections for Johor under the RAIH scenario, disaggregating AI contributions from broader sectoral growth.

Sector	2023 GDP (RM bn)	2030 GDP (RM bn)	Annual Growth Rate (%)	AI Contribution (RM bn)
Services	79.0	118.8	7.0	15.2
Manufacturing	44.8	76.2	9.0	12.6
Agriculture	18.1	32.8	10.0	5.9
Construction	4.1	22.6	25.0	7.4
Mining	0.6	1.6	15.0	0.4
Total	148.2	260.0	8.4	41.5

Table 2. Johor Sectoral GDP Projections with AI Contribution (2023-2030)

These projections embed ambitious growth rate assumptions, particularly in construction (25.0 percent per annum, compared with a historical average of 4.5 percent) and mining (15.0 percent per annum, compared with a historical average of 2.2 percent). Achieving these rates depends on the successful implementation of RAIH's AI integration strategies and on the enabling infrastructure of the JS-SEZ, including the RTS Link cross-border transit connection.

To address the inherent risks of relying entirely on these optimal conditions, this study incorporates a robust sensitivity analysis offering alternative adoption trajectories. The High Adoption scenario reflects the best-case 2030 projections outlined in Table 2, assuming perfect execution and seamless ecosystem integration to achieve the RM260 billion target. The Medium Adoption scenario assumes partial execution of the enterprise interventions, projecting more conservative growth rates that closer align with historical data, settling midway between the ambitious 25.0 percent construction target and the 4.5 percent historical average. The low adoption scenario accounts for significant structural bottlenecks and friction in cross-border harmonisation, resulting in minimal deviation from the baseline historical GDP growth rate of 5.1 percent per annum. This varied approach ensures that policy planning remains defensive and adaptable against varying degrees of technological disruption.

District-Specific AI Deployment

A defining feature of the RAIH model is its commitment to district-specific AI deployment, recognising that Johor's 10 districts vary widely in economic profiles, demographic structures, and development challenges. With a total population of 4.1 million as of 2023 and approximately 98,190 SMEs representing 10.8 percent of Malaysia's total SME establishments, Johor's development landscape is characterised by significant spatial heterogeneity.

Johor Bahru, with approximately 1.7 million urban residents and 45,000 enterprises, anchors the RAIH strategy with smart city AI applications, cross-border logistics optimisation, and workforce upskilling programmes in partnership with Universiti Teknologi Malaysia (UTM). By contrast, Pontian and Segamat, predominantly agricultural districts with populations of approximately 150,000 and 210,000, respectively, receive precision farming technologies including drone-based soil analysis, IoT-enabled irrigation, and mobile decision-support tools accessible on basic smartphones. Kulai, Johor's fastest-growing district with approximately 329,497 residents, benefits from SME digitisation and vocational training in robotics and machine learning through Politeknik Ibrahim Sultan. Cultural heritage districts such as Muar receive AI applications for the digitisation of historical artifacts and the development of the creative industry, while coastal tourism districts, including Mersing and Kota Tinggi, deploy AI for eco-tourism analytics and marine conservation, with underwater drones monitoring coral reef health and biodiversity indicators.

This approach is consistent with the place-based development literature (Barca et al., 2012), which emphasises that effective regional policy must engage with local productive assets, institutional structures, and community identities rather than imposing standardised solutions. The RAIH cross-district coordination mechanism, operating through district officers, village heads (penghulu), and local educational institutions, mirrors the multi-level governance frameworks that Barca et al. (2012) identify as essential to the effectiveness of place-based policy.

DISCUSSION

Theoretical and Practical Implications

The RAIH model advances the literature on AI-led regional development in several important respects. First, it offers an integrated multi-track architecture that addresses the simultaneity of challenges confronting developing regions, such as human capital flight, productivity deficits in enterprises, and underdeveloped capital markets. Unlike single-instrument policy approaches, RAIH's three tracks generate reinforcing dynamics by retaining talent, supporting SME AI adoption to enhance enterprise valuations, attracting foreign capital, and funding further infrastructure and training. This virtuous cycle logic is consistent with endogenous growth theory (Romer, 1990), which posits that human capital accumulation and knowledge spillovers generate self-reinforcing regional development dynamics.

Second, the dual-role conception of RAIH, simultaneously as a utility providing operational AI services and as a valuation catalyst enhancing enterprise values through AI asset integration, represents a theoretically sophisticated understanding of how AI creates economic value. The distinction matters for policy design when utility benefits are captured through improved SME profitability and employment, while valuation benefits are captured through capital markets in the form of higher enterprise values and enhanced access to international investment.

Third, the RAIH model's engagement with capital market mechanisms, particularly the use of SPVs and RTOs to facilitate NASDAQ access for Johorean enterprises, reflects an innovative approach to financing regional AI infrastructure. Whereas conventional regional development finance relies predominantly on public expenditure or domestic bank credit, the RAIH capital markets strategy seeks to internationalise the risk and return profile of Johor's AI transformation, distributing investment exposure to global institutional investors whilst retaining economic anchoring in Johor.

Limitations and Critical Considerations

Several important limitations warrant acknowledgement. The GDP projections embedded in the RAIH feasibility study rely on sector-specific productivity multipliers derived from international evidence that may not fully translate to the Malaysian institutional context. Acemoglu and Restrepo (2019) caution that automation-driven productivity gains may be partially offset by labour market displacement effects, particularly in routine task-intensive occupations prevalent in Johor's manufacturing sector. The feasibility study's roundtable discussions acknowledge AI-induced job displacement as a significant concern, particularly for youth employment.

To explicitly counter this AI-induced displacement of youth labour displacement, the RAIH model mandates the establishment of a robust digital social compact. This compact involves targeted upskilling programmes formulated to transition vulnerable manufacturing workers away from obsolete assembly tasks. Specific initiatives include fully subsidised micro-credential courses focusing on industrial robot maintenance, machine learning dataset annotation, and algorithmic systems supervision. By structurally integrating these vocational safety nets with existing local institutions, the compact ensures that rapid automation translates into workforce elevation rather than systemic unemployment, keeping the youth demographic economically engaged.

The 47 percent success rate adjustment applied to the brain drain mitigation track reflects genuine uncertainty about behavioural responses to location incentives. The migration literature (Dustmann & Weiss, 2007) suggests that return migration decisions are shaped by a complex interaction of economic, social, and life-cycle factors that institutional incentives can influence but not fully determine. The hybrid work model's viability is also contingent on the timely completion of the RTS Link and the harmonisation of cross-border regulatory frameworks, both of which carry implementation risk.

Finally, the governance challenges confronting Malaysian GLCs, including political board appointments and transparency deficits documented by the World Bank (2022) and the Malaysian Institute of Corporate Governance, represent structural impediments to AI adoption that are unlikely to be resolved by technology alone. Effective AI implementation in GLCs requires concurrent governance reform.

CONCLUSION

The RAIH model represents a theoretically grounded and empirically informed strategy for deploying AI as a primary instrument of regional economic transformation. Its three-track architecture, integrating talent retention, enterprise transformation, and capital market diversification, reflects a sophisticated understanding of the interdependencies between human capital, productive capacity, and financial market linkages in driving sustained economic growth.

The projected contribution of RM110 billion to Johor's GDP by 2030, with AI technologies specifically contributing RM41.5 billion (37.1 percent) of the required growth, is ambitious but not implausible given the international evidence on AI's economic impact. Realisation of these projections requires successful execution across multiple dimensions simultaneously: governance reform to unlock GLC potential, SME capacity building to enable AI absorption, regulatory harmonisation to facilitate cross-border talent mobility, and capital market development to attract international investment.

For policymakers and researchers, the RAIH model offers a transferable framework that extends beyond Johor. Its district-specific, place-based implementation approach, its innovative use of SPVs and capital markets to finance AI transformation, and its conceptualisation of AI as both an operational utility and a valuation catalyst provide a template applicable to other subnational economies seeking to leverage AI for inclusive and sustainable development.

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