ISSN 2964-3902 (Online)
SUJANA: Journal of Education and Learning Review
https://journal.jfpublisher.com/index.php/sujana
Vol. 4, Issue. 3, (2025)
doi.org/10.56943/sujana.v4i3.885

Instructional Coherence, Subnational Governance, and Economic Competitiveness: A Vietnam-Indonesia Comparison

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ABSTRACT

This study examines how education systems and governance structures interact to produce differential outcomes in human capital development and macroeconomic performance through a comparative analysis of Indonesia and Vietnam from 2013 to 2025. Employing a qualitative comparative case study approach with systematic document analysis, the research synthesizes international indicators (PISA 2022, Human Capital Index 2020, Worldwide Governance Indicators 2023, and FDI and GDP growth data for 2024), national reform policy documents (Indonesia's Merdeka Belajar and Vietnam's Resolution 29), and thematic reports from international institutions. Findings reveal that Vietnam demonstrates superior learning outcomes (PISA scores 103 points higher in mathematics, LAYS 10.7 vs. 7.8 years) and stronger economic performance (7.09% GDP growth, 4.23% FDI/GDP) compared to Indonesia (5.03% GDP growth, 1.73% FDI/GDP). While Indonesia records higher aggregate government effectiveness scores (0.58 vs. 0.13), Vietnam's instructional coherence and Provincial Competitiveness Index create more effective frontline service delivery and investment attraction mechanisms. The study documents specific policy configurations through which Vietnam achieved tighter coupling between education reform, subnational governance competition, and industrial cluster development. These findings contradict conventional assumptions that aggregate governance indicators predict operational-level service quality, revealing instead that instructional system coherence combined with competitive subnational accountability mechanisms may prove more decisive for attracting skill-intensive foreign investment. The research contributes to education-economy linkage literature by systematically connecting classroom-level instructional characteristics with subnational governance mechanisms and macroeconomic outcomes, offering evidence-based policy recommendations for emerging economies seeking to enhance educational effectiveness and investment competitiveness.

Keywords: *Comparative Education Policy, Foreign Direct Investment, Governance Quality, Human Capital Development, Instructional Coherence*

INTRODUCTION

Indonesia and Vietnam achieved independence nearly simultaneously (Indonesia on 17 August 1945 and Vietnam on 2 September 1945) and have since emerged as significant economic forces within the ASEAN region. However, their trajectories in human capital development and macroeconomic performance reveal divergent patterns. According to the Programme for International Student Assessment (PISA) 2022 results, Vietnam approached the Organisation for Economic Co-operation and Development (OECD) average with scores of 469 in Mathematics, 462 in Reading, and 472 in Science. In contrast, Indonesia recorded considerably lower scores of 366 in Mathematics, 359 in Reading, and 383 in Science (Avvisati & Ilizaliturri, 2023a, 2023b). Consistent with these findings, the World Bank's Human Capital Index (HCI) positioned Vietnam at 0.69 compared to Indonesia's 0.54 (World Bank, 2020). From a macroeconomic perspective, Vietnam's gross domestic product (GDP) growth reached 7.09% in 2024, substantially exceeding Indonesia's 5.03% growth rate (BPS, 2025; Vu & Nguyen, 2025).

The relationship between educational quality, governance structures, and economic performance has become increasingly critical in understanding development trajectories of emerging economies. Recent scholarship demonstrates that human capital development serves as a fundamental determinant of countries' absorptive capacity for foreign investment and sustainable economic growth (Acheampong et al., 2024). In the context of Southeast Asian economies, research indicates that the growth effects of foreign direct investment (FDI) are contingent upon host country characteristics, including institutional quality and skill availability (Siagian et al., 2025; UNCTAD, 2025). However, the mechanisms through which educational reforms and governance configurations interact to produce differential outcomes in human capital formation and economic performance remain insufficiently understood, particularly in comparative contexts (Paradise & Prak, 2024).

Both Indonesia and Vietnam are currently undertaking substantial educational reforms aimed at enhancing learning quality and aligning education systems with economic development objectives. Indonesia established the *Kurikulum Merdeka* (Independent Curriculum) through Minister of Education, Culture, Research, and Technology Regulation Number 12 of 2024 on 27 March 2024 as the foundational framework for national education from early childhood through secondary levels. This policy represents a continuation of the *Merdeka Belajar* (Independent Learning) episodes launched since 2019, synthesized in the document *Laying the Foundations of Systemic Change in Education* (Permendikbudriset No. 12 Tahun 2024, 2024). The *Kurikulum Merdeka* emphasizes essential competencies, formative assessment, and contextual learning autonomy at the school level.

Vietnam initiated its reform trajectory earlier through Resolution 29-NQ/TW on 4 November 2013, which focused on fundamental and comprehensive educational renewal. Throughout 2023–2025, the Vietnamese government conducted evaluations of the decade-long implementation of this policy and strengthened coordination through meetings of the National Committee for Education and Training Reform. The meeting on 2 November 2024 reaffirmed education as a lever for national economic competitiveness. Recent academic assessments indicate that Vietnam's education system demonstrates high levels of coherence, particularly in curriculum alignment, assessment, and teacher development following Resolution 29 (London, 2023; Trong, 2013).

Despite both countries recording positive economic growth, their governance structures and effectiveness differ markedly. Indonesia demonstrates relatively higher government effectiveness scores in the Worldwide Governance Indicators (WGI) (Malik, 2024). However, the extensive character of decentralization results in highly variable public service quality, including educational policy implementation, across regions. National regulations are adequately established, yet implementation quality frequently depends on local capacity. Within the educational context, although the *Merdeka Belajar* reforms have shifted focus toward essential competencies, the implementation of effective instructional practices across all regions continues to face challenges stemming from uneven teacher and school capacities.

Conversely, Vietnam adopts more centralized governance but implements competitive discipline among provinces through the Provincial Competitiveness Index (PCI). This index benchmarks regional performance in licensing procedures, transparency, and public service quality, thereby promoting continuous improvement at the frontline (Malesky et al., 2024, 2025). This approach reduces business establishment time and costs while supporting educational policies integrated with export-oriented industrialization strategies and industry skill requirements (Tafese et al., 2025).

Previous research demonstrates that educational reforms in Indonesia, such as teacher incentives and professional development programs have not yielded significant impacts on learning outcome improvements (Chang et al., 2014; Suwastika et al., 2025). Conversely, studies in Vietnam reveal superior instructional practices and student expectations that exceed national income levels (Dang et al., 2023; Dang & Glewwe, 2018). Việt (2014) emphasizes the importance of technical, cognitive, and social skills for Vietnam's industrialization, while other researchers assess the high coherence of the country's education system (Avvisati & Ilizaliturri, 2023a, 2023b; London, 2023).

Recent scholarship on educational reform implementation emphasizes the critical role of instructional system coherence in translating policy into practice. Pauketat et al. (2023) examined teachers' perceptions of instructional system coherence across the United States, finding that state standards and curricula

conveying consistent messages about instructional content significantly influenced classroom practice. Similarly, research on Vietnam's education reforms demonstrates that coherence among curriculum, assessment, and teacher development has been a distinguishing feature of Resolution 29 implementation (Le et al., 2022; Tran, 2025). In comparative perspective, Ibarra-Olivo et al. (2024) analyzed FDI and human capital development in Southeast Asian economies, highlighting the heterogeneous spatial patterns of investment across Indonesia and Vietnam and emphasizing the crucial role of technical and vocational education and training (TVET) systems in attracting skill-intensive foreign investment.

The intersection of governance quality, human capital, and economic performance has received considerable attention in recent development literature. Acheampong et al. (2024) examined democracy, human capital, and FDI in 129 developing countries, demonstrating that human capital stock serves as a critical determinant of countries' absorptive capacity for foreign investment. Research indicates that human capital development and financial development jointly moderate the impact of FDI on economic growth, with threshold effects determining when FDI translates into productivity gains (Tsaurai & Danquah, 2025). These studies suggest that the alignment between instructional reforms and economic governance structures may substantially influence both learning outcomes and investment attractiveness.

Both Indonesia and Vietnam confront specific challenges in their reform trajectories. Indonesia continues to face (i) low learning outcomes and quality disparities across regions, (ii) limited alignment between curriculum and industry needs, (iii) policy fragmentation resulting from variations in regional capacity, and (iv) uneven industrial ecosystems and supplier networks. Meanwhile, Vietnam encounters (i) risks of dependency on specific manufacturing exports, (ii) bureaucratic caution effects resulting from anti-corruption tightening, (iii) pressure on energy and logistics infrastructure, and (iv) requirements for enhanced environmental and occupational safety standards.

To address these challenges, Vietnam pursues export-based industrialization consistency through industrial zone development, implementation of one-stop services, expansion of trade agreement networks such as the European Union-Vietnam Free Trade Agreement (EVFTA), and strengthening of the PCI as an accountability instrument. Post-Resolution 29 education reforms maintain coherence among curriculum, assessment, and teacher development connected to industry needs and vocational training. This policy combination produces a skill-intensive supply ecosystem that attracts FDI and accelerates manufacturing job creation. Indonesia, meanwhile, advances the *Merdeka Belajar* agenda focusing on learning flexibility and teacher quality improvement, and enhances the investment climate through licensing simplification and natural resource downstream strategies. However, policy transmission to classroom instructional practice and

strengthening of industry-based vocational education remain gradual and non-uniform across regions.

However, existing comparative research between Indonesia and Vietnam remains limited in systematically connecting classroom-level instructional changes with subnational governance mechanisms and their collective influence on macroeconomic outcomes. This gap is particularly significant given the divergent performance patterns observed between the two countries. An important question emerges: why does Vietnam, which does not consistently excel in aggregate government effectiveness, demonstrate stronger learning outcomes and investment absorption? How can the interaction between educational policy and economic governance produce divergent macroeconomic trajectories? Understanding these dynamics is essential for designing evidence-based policy interventions that can effectively close skill gaps and strengthen growth quality in comparable developing contexts.

This study addresses this gap by conducting a comparative analysis of education and governance configurations in Indonesia and Vietnam and examining their correlation with human capital development and macroeconomic performance throughout 2013–2025. Specifically, this research investigates how the policy frameworks of *Merdeka Belajar* and Resolution 29 relate to differential outcomes in learning achievement, human capital formation, FDI absorption, and economic growth. By systematically linking instructional system characteristics, subnational governance mechanisms, and macro-level economic indicators, this study contributes to the literature on education-economy linkages in emerging markets and offers practical insights for policymakers seeking to enhance the effectiveness of educational reforms and governance structures in driving inclusive economic development.

RESEARCH METHODOLOGY

This study employs a qualitative comparative case study approach with document analysis and source triangulation strategies to compare education systems and governance structures in Indonesia and Vietnam, along with their relationships to macroeconomic outcomes such as economic growth and investment (Creswell & Creswell, 2023; Creswell & Poth, 2024). The units of analysis encompass education systems, governance policies, and economic performance of both countries.

The comparative case study design is particularly appropriate for this research as it enables systematic examination of how contextual factors and policy configurations produce differential outcomes across similar cases (Creswell & Poth, 2024). Following Creswell and Creswell's (2023) framework for qualitative research design, this study adopts a multiple-case approach that facilitates pattern identification and comparative analysis between Indonesia and Vietnam as bounded systems operating within similar regional and developmental contexts yet

exhibiting divergent trajectories in human capital formation and economic performance.

Secondary data were collected from three primary categories. First, international indicators including the Programme for International Student Assessment (PISA) 2022 (OECD), Human Capital Index (HCI) and Learning-Adjusted Years of Schooling (LAYS) 2020 (World Bank), Worldwide Governance Indicators (WGI) 2023 (World Bank), and Foreign Direct Investment (FDI) and Gross Domestic Product (GDP) data for 2024 sourced from World Development Indicators (WDI), Trading Economics, Indonesia's Central Bureau of Statistics (BPS), Vietnam's General Statistics Office (GSO), and Reuters. Second, national policy documents comprising Minister of Education, Culture, Research, and Technology Regulation Number 12 of 2024 concerning *Kurikulum Merdeka* and *Merdeka Belajar* policy documents in Indonesia, as well as Resolution 29-NQ/TW (2013) and official Vietnamese government releases regarding education reform. Third, thematic reports from international institutions and education research organizations including the RISE Programme, World Bank, OECD, and Provincial Competitiveness Index (PCI) (Aditomo, 2024; Le et al., 2022; Trong, 2013).

Data inclusion criteria were established to maintain relevance and analytical validity, encompassing: (1) official or academic publications with clearly identified source references; (2) temporal alignment spanning 2013 to 2025; and (3) relevance to themes of learning outcomes, public service governance, investment, and macroeconomic performance.

The analytical procedure was conducted through four sequential stages. First, indicator mapping served as a descriptive anchor to characterize the principal achievement differences between both countries. Second, policy matrix construction linked dimensions of curriculum, assessment, teacher development, licensing governance, and post-investment services (aftercare). Third, pattern-matching analysis of investment data and reports from the 2019 to 2025 period reconstructed transmission chains connecting education policy, governance structures, and economic outcomes. Fourth, explanatory building formulated coherent mechanisms explaining relationships among variables within the Indonesia-Vietnam comparative context.

To ensure validity of findings, the research applied cross-source triangulation, temporal consistency verification (alignment of data years), and transparent reasoning by maintaining traceable reference trails. However, the primary limitations of this study reside in temporal gaps between indicators and the correlational nature of relationships observed, such that causal inferences are drawn cautiously and grounded in descriptive evidence. The comparative case study approach acknowledges that while patterns and associations can be identified systematically, establishing definitive causality requires consideration of multiple confounding factors including infrastructure development, trade integration, and

macroeconomic stability that operate concurrently with education and governance reforms.

RESULT AND DISCUSSION

The findings reveal systematic differences in how Indonesia and Vietnam manage the linkages among education, governance, and macroeconomic outcomes. Vietnam demonstrates superior performance in learning achievement (PISA) and human capital accumulation (HCI and LAYS), reflecting the success of post-Resolution 29 (2013) education reforms that emphasized integration among curriculum, assessment, and teacher development within the framework of national industrialization (A. V. Le et al., 2022; Trong, 2013). This policy coherence is reinforced by the Provincial Competitiveness Index (PCI), which fosters competitive discipline among provinces and drives improvements in transparency, licensing, and public services. The combination of competitive governance and industry-aligned education has enabled Vietnam to attract foreign direct investment (FDI) more effectively and sustain higher economic growth. The following table summarizes key indicators of education, governance, and recent macroeconomic performance that form the basis for comparative analysis between Indonesia and Vietnam:

Table 1 Key Indicators of Education, Governance, and Macroeconomic Performance

Indicator	Indonesia	Vietnam	Source/Notes
PISA 2022 – Mathematics	366	469	OECD Education GPS
PISA 2022 – Reading	359	462	OECD Education GPS
PISA 2022 – Science	383	472	OECD Education GPS
Human Capital Index (2020)	0,54	0,69	World Bank HCI Briefs
Learning-Adjusted Years of Schooling (LAYS)	7,8	10,7	World Bank HCI Briefs
Government Effectiveness (WGI 2023)	~0,58 (≈p70)	~0,13 (≈p56)	World Bank WGI
Real GDP Growth (2024, %)	5,03	7,09	BPS; GSO/Reuters
FDI Net Inflows (% PDB, 2024)	≈1,73	≈4,23	WDI (via mirrors)

Source: Author's Analysis

These findings align with and extend recent scholarship on instructional system coherence and its relationship with learning outcomes. Research examining instructional quality dimensions across PISA cycles demonstrates that teacher support, disciplinary climate, and cognitive activation consistently predict

mathematics achievement across diverse educational contexts (Leino et al., 2022). The Vietnamese case provides empirical support for this relationship, as the sustained emphasis on coherence among curriculum standards, formative assessment practices, and teacher professional development following Resolution 29 implementation corresponds with superior PISA performance relative to Indonesia. Furthermore, comparative analysis of instructional practices in top-performing PISA regions reveals that effectiveness of specific teaching approaches varies substantially across cultural and institutional contexts (Ho & Gan, 2023). The Indonesia-Vietnam comparison extends this literature by demonstrating that instructional coherence operates not in isolation but rather in conjunction with subnational governance mechanisms. While existing research emphasizes classroom-level factors, this study reveals how provincial competition frameworks such as the PCI amplify the transmission of instructional reforms into measurable learning gains by creating accountability structures that connect education quality with broader economic development objectives.

The governance-FDI nexus observed in Vietnam both supports and specifies recent theoretical developments in the foreign investment literature. Acheampong et al. (2024) demonstrates that human capital stock serves as a critical determinant of countries' absorptive capacity for foreign investment across 129 developing economies. The Vietnam case provides granular evidence for this mechanism: provinces with higher PCI scores (indicating superior economic governance) systematically attract more manufacturing FDI in skill-intensive sectors, with human capital quality (as reflected in LAYS and vocational training capacity) mediating this relationship. Recent analysis of FDI patterns in Southeast Asian economies by Ibarra-Olivo et al. (2024) highlights heterogeneous spatial distribution of investment across Indonesia and Vietnam, emphasizing the crucial role of technical and vocational education and training (TVET) systems. This study extends their findings by documenting the specific policy configurations through which Vietnam achieved tighter coupling between TVET provision and industrial cluster development. The Provincial Competitiveness Index functions as an institutional innovation that translates governance quality into investor-relevant signals, a mechanism not captured in aggregate governance indicators such as the World Bank's Worldwide Governance Indicators. This finding contradicts conventional assumptions that higher aggregate government effectiveness necessarily produces better frontline service delivery, revealing instead that competitive subnational accountability mechanisms may matter more for investment attraction than centralized administrative capacity.

Conversely, Indonesia demonstrates relatively higher government effectiveness scores at the aggregate level, yet this advantage has not translated optimally into skill improvements and labor productivity gains. The Merdeka Belajar reforms formalized through Minister of Education, Culture, Research, and Technology Regulation Number 12 of 2024 represent significant steps toward

school autonomy and competency-based learning. However, implementation continues to face challenges stemming from strong decentralization, variations in regional capacity, and disparities in instructional quality across educational units. Consequently, well-designed central policies often lose transformative power during regional implementation.

Macroeconomic performance reflects the direct consequences of these policy structure differences. With FDI reaching approximately 4.23% of GDP and economic growth of 7.09%, Vietnam has successfully linked its education system with industrialization and skill-intensive export strategies. In contrast, Indonesia, despite recording stable growth of 5.03%, continues to face structural barriers in integrating education reforms with downstream strategies and industrial competitiveness enhancement.

The core argument can be articulated through three interconnected propositions. First, instructional coherence and frontline public service accountability influence learning quality, as evidenced in PISA and LAYS outcomes (Avvisati & Ilizaliturri, 2023a, 2023b; *The Human Capital Index 2020 Update*, 2020). Second, learning quality, combined with licensing certainty and post-investment services, creates supply ecosystems attractive to medium- to high-technology manufacturing investors (Le & Duy, 2021; Trinh & Lee, 2023). Third, the interaction of these factors manifests in recent data showing Vietnam's GDP growth of 7.09% in 2024 compared to Indonesia's 5.03% (BPS, 2025; Vu & Nguyen, 2025).

From the education perspective, Indonesia formalized the Kurikulum Merdeka through Minister of Education, Culture, Research, and Technology Regulation Number 12 of 2024, establishing orientation toward essential competencies, formative assessment, and school unit autonomy (Aditomo, 2024; Permendikbudriset No. 12 Tahun 2024, 2024). Meanwhile, Vietnam has evaluated one decade of Resolution 29-NQ/TW (2013) implementation, which emphasized curriculum renewal, assessment, and teacher development (Le et al., 2022; London, 2023; Trong, 2013). The empirical implications are clear: countries that successfully translate policy into classroom practice through instructional training, teaching materials aligned with competency standards, and formative assessment that guides instruction tend to achieve better learning outcomes. PISA 2022 shows Vietnam outperforming Indonesia across all domains (Mathematics 469 vs. 366; Reading 462 vs. 359; Science 472 vs. 383) (Avvisati & Ilizaliturri, 2023a). Consistently, Vietnam's 2020 HCI (0.69) exceeds Indonesia's (0.54), indicating stronger human capital accumulation (*The Human Capital Index 2020 Update*, 2020).

From the governance perspective, the paradox highlighted in the background section is that Indonesia scores higher on aggregate government effectiveness (WGI 2023), yet investor experiences at the frontline are often smoother in Vietnam (Tung & Loan, 2023). The explanation lies in the quality of basic governance: Vietnam

employs the Provincial Competitiveness Index to spark inter-provincial competition on crucial matters such as licensing time, transparency, informal costs, land access, and aftercare services. Regular publication of PCI scores creates reputational incentives for provincial leaders to reduce processing time and costs while improving service quality (Bai et al., 2019; Malesky et al., 2025; Tafese et al., 2025). The 2024 PCI results demonstrate this dynamic clearly, with Hai Phong achieving the top ranking (74.84 points) for the first time, driven by systematic improvements in administrative procedures, investment promotion, and industrial zone development across seven of ten governance criteria (Malesky et al., 2025). Indonesia has developed online business licensing systems and integrated service delivery that improve average conditions, yet variation in investor experiences across regions remains high. Without systematic competitive discipline, investor experiences remain heterogeneous, particularly for medium- to high-technology manufacturing that is sensitive to time constraints (Trinh & Lee, 2023).

The transmission from education and governance to economic outcomes is recorded in investment announcements from 2019 to 2025. Project executions such as LEGO's carbon-neutral factory in Binh Duong, Amkor's OSAT facility in Bac Ninh, Foxconn project licenses in Bac Ninh and Quang Ninh, Luxshare/Goertek/Quanta expansions, and two PepsiCo factories demonstrate an increasingly dense supply ecosystem network. These decisions align with clarity in licensing and aftercare services as well as market access (such as EVFTA) and reflect synergy between learning quality (PISA/HCI) and subnational governance (Le & Duy, 2021; Tafese et al., 2025; Tung & Loan, 2023; Vu & Nguyen, 2025). In Indonesia, resource downstream and automotive projects have progressed, yet penetration into skill-intensive electronics clusters requiring extensive supplier networks proceeds more gradually across provinces and tends to be slower.

The background implications suggest that the primary need is to bring together two policy streams: classroom learning and pro-business frontline services. In Vietnam, Resolution 29 ensures instructional coherence while PCI safeguards provincial service improvements, generating credible signals for investors (A. V. Le et al., 2022; Malesky et al., 2024; Trong, 2013; Tung & Loan, 2023). In Indonesia, Merdeka Belajar establishes instructional foundations; for it to impact the economy, it requires bridging through tiered accountability for learning gains and inter-regional competition indices that assess both licensing speed and aftercare quality (Aditomo, 2024).

Field findings also highlight the vitality of vocational education and training. Expansion of semiconductor or electronics facilities in Vietnam implies demand for trained technicians for trimming operations, testing, and precision assembly. Policy responses through strengthened vocational pathways connected with industrial zones, company-polytechnic partnerships, and paid apprenticeship schemes accelerate school-to-work transitions (London, 2023; Việt, 2014). In Indonesia, good practices emerge through polytechnics and centers of excellence vocational

high schools, yet scale requires expansion and alignment with industrial cluster needs to strengthen learning-to-work linkages (Aditomo, 2024).

Within the governance framework, Vietnam's experience demonstrates reputational effects from inter-regional competition. PCI rankings become investor reference points for factory location selection, triggering a "race to better service" (Le & Duy, 2021; Trinh & Lee, 2023; Tung & Loan, 2023). Indonesia possesses several regional performance indices, yet lacks comprehensive instruments that measure and communicate licensing experiences, service time, informal costs, and aftercare responses comparably. When regional performance signals remain unclear, multinational companies tend to choose proven ecosystems, especially when relocating under supply chain restructuring time pressures.

Risk factors require consideration. In 2024, several reports noted anti-corruption tightening in Vietnam that temporarily induced bureaucratic caution. However, GDP growth recovery in 2024–2025 demonstrates that such disruptions can be managed without eroding medium-term value propositions (Vu & Nguyen, 2025). Policy lesson: integrity matters, but risk mitigation mechanisms within bureaucracy must ensure investment projects are not delayed excessively. On Indonesia's side, downstream strategies position the economy on a different industrialization trajectory based on resource processing. For this strategy to result in total factor productivity increases requires three bridges: (i) labor supply with process-specific skills (TVET/apprenticeship, re-skilling), (ii) tiered supplier development so local component content grows, and (iii) responsive licensing/aftercare institutions addressing concrete factory issues. Without these, growth tends to rely on investment volume and commodity prices rather than skill-based productivity leaps (Việt, 2014).

From an endogenous growth theory perspective, knowledge externalities maximize when interaction density exists in industrial clusters. The concentration of electronics in northern Vietnam (Bac Ninh, Bac Giang, Hai Phong, Quang Ninh) reflects cluster formation with scale and network effects (Tafese et al., 2025; Tung & Loan, 2023). This reinforces attractiveness for new companies. Indonesia can build similar logic in automotive/EV, electrical components, and machinery clusters while promoting spillovers to education through project-based curricula, shared laboratories, and competency certification centers (Aditomo, 2024; Permendikbudriset No. 12 Tahun 2024, 2024).

Finally, sustainability and job quality aspects must keep pace with growth speed. LEGO's carbon-neutral factory signals the direction of future investor preferences; energy and environmental agendas will increasingly determine location decisions (Vu & Nguyen, 2025). Therefore, both Indonesia and Vietnam must ensure reliable and sustainable energy supply, occupational safety standardization, and green innovation incentives, once again linking human development goals with economic competitiveness (Raihan et al., 2025).

Minister of Education, Culture, Research, and Technology Regulation Number 12 of 2024 formalized the Kurikulum Merdeka emphasizing essential competencies, formative assessment, and school autonomy, yet impact on learning achievement requires changes in instructional practices. In Vietnam, one decade post-Resolution 29 demonstrates curriculum-assessment-teacher development coherence correlated with PISA 2022 and HCI superiority (Avvisati & Ilizaliturri, 2023a, 2023b; Le et al., 2022; London, 2023; Trong, 2013). The WGI paradox of Indonesia scoring higher on government effectiveness compared to Vietnam's frontline service performance is explained by PCI as a subnational competition device. Regular PCI score publication creates reputational incentives for provinces to reduce licensing time and costs, increase transparency, and strengthen aftercare (Bai et al., 2019; Malesky et al., 2024; Tafese et al., 2025). Indonesia's OSS innovation matters, yet inter-regional variation remains high.

The series of investment announcements from 2019 to 2025, including LEGO, Amkor, Foxconn, Luxshare, Goertek, Quanta, and PepsiCo, illustrates Vietnam's increasingly dense supply ecosystem. Driving factors include supplier density, trainable workforce/TVET, post-investment service certainty, and market access (EVFTA). Results align with 2024 GDP data (7.09% Vietnam; 5.03% Indonesia) and FDI/GDP ratios (BPS, 2025; Le & Duy, 2021; Tafese et al., 2025; Trinh & Lee, 2023; Vu & Nguyen, 2025).

Policy implications include: (i) expansion of data-driven coaching and formative assessment linked to learning gains targets; (ii) creation of PCI-style inter-regional competition dashboards monitoring service time, informal costs, transparency, and aftercare; and (iii) strengthening of industry-standardized TVET and tiered supplier development programs to enable value-added transmission (Aditomo, 2024; Le & Duy, 2021; Trinh & Lee, 2023; Tung & Loan, 2023; Việt, 2014).

Indicators have temporal gaps, strong correlations do not imply singular causality; factors including trade integration, energy, and logistics also influence outcomes. Although anti-corruption tightening in Vietnam in 2024 temporarily induced bureaucratic caution, GDP growth recovery in 2024–2025 demonstrates policy adjustment capacity (Vu & Nguyen, 2025).

The background implications for this discussion confirm the need for coherence extending from classroom policy that genuinely becomes practice, to licensing and aftercare service offices providing certainty, through to factory supplier ecosystems and relevant skills. Vietnam displays relatively aligned policy configuration: Resolution 29 (instructional) + PCI (governance) + FTA (market access) + industrial zones, resulting in substantially faster economic growth (Bai et al., 2019; Le et al., 2022; Trong, 2013; Vu & Nguyen, 2025). Indonesia possesses solid foundations and appropriate direction yet requires sharper accountability instrumentation and coordination so that education and governance policy benefits

diffuse into productivity and industrial expansion (Aditomo, 2024; Permendikbudriset No. 12 Tahun 2024, 2024).

CONCLUSION

This comparative study demonstrates that disparities in human capital development and macroeconomic performance between Indonesia and Vietnam emerge from systematic differences in how education quality, policy coherence, and governance architecture interact to shape investment attractiveness and economic growth. Vietnam's superior learning outcomes (PISA 2022, HCI 2020) and stronger economic performance (7.09% GDP growth, 4.23% FDI/GDP in 2024) reflect effective integration of instructional coherence following Resolution 29 with subnational competitive discipline through the Provincial Competitiveness Index. This policy configuration creates credible signals for skill-intensive manufacturing investors by ensuring consistency from curriculum standards and teacher development through to licensing procedures and post-investment services. In contrast, Indonesia's higher aggregate government effectiveness scores have not translated proportionally into classroom instructional quality or frontline service delivery homogeneity, resulting in more moderate learning gains (PISA 2022) and investment absorption (1.73% FDI/GDP), despite stable economic growth (5.03% in 2024).

The findings carry three principal policy implications for Indonesia's reform trajectory. First, the Merdeka Belajar framework requires strengthening through systematic implementation of data-driven instructional coaching, formative assessment practices linked to measurable learning gains, and accountability mechanisms that connect teacher professional development with student achievement outcomes. Second, Indonesia needs institutional innovation comparable to Vietnam's Provincial Competitiveness Index: a transparent, regularly published dashboard measuring regional performance on licensing efficiency, informal costs, aftercare quality, and business establishment time to create reputational incentives for frontline service improvement. Third, vocational education and training systems must achieve tighter coupling with industrial cluster development through industry-standardized competency frameworks, company-polytechnic partnerships, structured apprenticeship programs, and coordinated supplier development initiatives that translate education investments into productivity gains rather than credential accumulation alone.

These comparative insights extend beyond the Indonesia-Vietnam context to broader development policy debates. The study reveals that aggregate governance indicators inadequately predict investor experiences at operational levels, and that subnational competitive accountability mechanisms may prove more decisive than centralized administrative capacity in attracting skill-intensive foreign investment. Furthermore, the analysis demonstrates that educational reforms generate

macroeconomic dividends only when instructional coherence reaches classroom practice and when vocational pathways align systematically with industrial skill demands. Future research should examine temporal dynamics of these transmission mechanisms through longitudinal designs, assess threshold effects determining when instructional improvements translate into investment attraction, and explore how different governance configurations mediate education-economy linkages across diverse institutional contexts. The correlational nature of this study and temporal gaps among indicators necessitate caution in causal inference; nevertheless, the systematic patterns observed suggest that policy coherence spanning classroom instruction, subnational governance, and industrial development constitutes a critical determinant of emerging economies' capacity to convert human capital investments into sustainable, skill-intensive economic growth.

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