

THE IMPACT OF INNOVATION ON PROMOTING REGIONAL ECONOMIC PERFORMANCE

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Info Article Received : 21 April 2026 Revised : 04 Mei 2026 Accepted : 15 Juni 2026 Publication : 30 Juni 2026	Abstract: <i>This study examines the impact of innovation capability on regional economic performance in Indonesia. The analysis unit comprises 546 regions in Indonesia: 38 provinces and 508 regencies/cities. The analysis period is 2024. The research data is secondary data published by the National Research and Innovation Agency (BRIN). The data were processed using quantitative descriptive methods, using graphs, percentages, and frequency distributions. The results indicate that innovation capability plays a role in driving regional economic performance in Indonesia. The majority of regions have lower innovation capability, accompanied by lower economic stability. The regions have high innovation capability accompanied by high economic performance. Some regions experience less sustainable long-term economic performance, as indicated by a large gap between economic performance and innovation capability.</i>
Keywords: Innovation, Capability, Economic, Region, Performance. Kata Kunci: Inovasi, Kapabilitas, Ekonomi, Daerah, Kinerja	Abstrak: Studi ini meneliti dampak kapabilitas inovasi terhadap kinerja ekonomi daerah di Indonesia. Unit analisis terdiri dari 546 daerah di Indonesia: 38 provinsi dan 508 kabupaten/kota. Periode analisis yaitu tahun 2024. Data penelitian merupakan data sekunder yang dipublikasikan oleh Badan Riset dan Inovasi Nasional (BRIN). Data diolah menggunakan metode deskriptif kuantitatif, menggunakan grafik, persentase, dan distribusi frekuensi. Hasil penelitian menunjukkan bahwa kemampuan inovasi berperan dalam mendorong kinerja ekonomi daerah di Indonesia. Mayoritas daerah memiliki kemampuan inovasi yang rendah, disertai dengan stabilitas ekonomi yang rendah. Daerah yang memiliki kemampuan inovasi tinggi memiliki kinerja ekonomi yang tinggi. Beberapa daerah mengalami kinerja ekonomi jangka panjang yang kurang berkelanjutan, seperti yang ditunjukkan oleh kesenjangan besar antara kinerja ekonomi dan kemampuan inovasi.
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INTRODUCTION

Innovation plays a strategic role in driving a country's economic growth. Through innovation, production processes become more efficient, the quality of goods and services improves, and costs can be reduced. This efficiency enables businesses to produce greater output with the same resources, thereby increasing national productivity. High productivity is one of the main keys to sustainable economic growth.

Furthermore, innovation drives the creation of new products and markets. The emergence of digital technology, for example, has given rise to various new economic sectors such as the creative economy, e-commerce, and app-based services. These sectors not only expand business opportunities but also create new jobs and increase people's incomes. Thus, innovation directly contributes to increased purchasing power and economic turnover.

Innovation also strengthens a country's global competitiveness. Countries or companies that are able to innovate tend to be more adaptive to change and excel in international competition. Strong competitiveness will increase exports, attract investment, and accelerate capital inflows. This positively impacts national economic stability and growth. Innovation plays a crucial role in regional development and progress. Amidst increasingly fierce inter-regional competition, regions are required to rely not only on natural resources but also on the ability to create added value through new ideas, technologies, and work methods. Innovation is key to helping regions increase competitiveness, accelerate economic growth, and sustainably improve public welfare.

The importance of innovation in regions is evident in their ability to improve the efficiency and quality of public services. Through innovation, local governments can provide services that are faster, more transparent, and more responsive to community needs, for example, by using digital technology and data-driven systems. This not only increases public satisfaction but also strengthens public trust in local government performance. Furthermore, innovation plays a significant role in driving local economic growth. Innovative regions can develop their full potential through higher-value processing, strengthening MSMEs, and adopting technologies tailored to regional characteristics. Innovation also opens up new business opportunities and creates jobs, thereby reducing inequality and increasing community incomes.

Innovation helps regions become more adaptive and resilient in the face of various challenges, such as climate change, market dynamics, and economic crises. With a strong culture of innovation, regions can find creative, sustainable solutions to local problems.

Therefore, strengthening innovation in the regions is not just an option, but a strategic necessity to realise inclusive, competitive, and sustainable regional development.

The relationship between innovation-based economic performance (or human resource innovation capacity) is explained by several theories. Within the framework of human capital theory, developed by economists such as Theodore Schultz and Becker, education and training are viewed as investments that can enhance individual capabilities and drive productivity (Hassan et al., 2016). The higher the level of education and skills of the workforce, the greater the productivity that can be achieved. Thus, economic growth is determined not only by the number of workers but also by the quality of the people involved in the production process. Further developments in endogenous growth theory assert that technological progress and innovation arise from human activity itself. Knowledge, research, and continuous learning are internal sources of growth within the economic system. Humans play a role as idea creators, technology developers, and innovators, enabling increased efficiency and the continuous creation of added value.

Schumpeter's entrepreneurship theory positions entrepreneurs as a key factor in economic development and growth (Mehmood et al., 2019). According to Schumpeter, economic growth does not occur automatically but is driven by entrepreneurs' innovations. Entrepreneurs are viewed not simply as ordinary businesspeople, but as agents of change capable of creating new combinations in economic activity. Schumpeter's primary contribution was the idea of creative destruction, in which capital flows from older, more mature industries to new ones as new technologies emerge (Muldoon & Smith, 2025).

Creative destruction views the key to economic growth as the role of the entrepreneur through innovation, meaning that innovation is central to entrepreneurship. The term "creative destruction" is used to describe a driver of innovation for economic growth, where it destroys old ways of doing things within a company and paves the way for new ones. In this context, creative destruction is the necessity for the emergence of new paths. These new paths are then understood as innovation. Entrepreneurs create innovation through new combinations by introducing new products, new markets, new sources, or new organisations, and introducing new factors of production through new techniques/methods and technologies (Mulyana, 2023).

In Schumpeter's view, entrepreneurs play a different role from that of capital owners or managers. Entrepreneurs are individuals who dare to take risks, possess vision, and translate new ideas into valuable economic activities. This courage to break with old

patterns and introduce innovation is what drives economic dynamics. Without entrepreneurs, the economy tends to stagnate and grow slowly.

The impact of innovation on economic performance has been empirically demonstrated. Carvalho & Avellar (2017) found that innovation initially affects competition in national industries, as reflected in the magnitudes of the coefficients associated with various innovation indicators. Recent studies on the impact of innovation on the economy at the micro-firm level have been reviewed previously (Canh et al., 2019; Chege et al., 2020; Cuevas-Vargas et al., 2021; Jung & Shegai, 2023; Lu & Chesbrough, 2022; Makona et al., 2023; Saharti, 2025). Elina & Setyadharma (2022) examined the impact of innovation on the macro-economy using linear regression, with the unit of analysis being across G-20 member countries. The results showed that innovation did not significantly affect economic growth. On the other hand, Gürler (2022) found a high positive correlation between patent grants per million inhabitants and GDP per capita. Research by Hilmawan et al. (2023) using a cross-sectional ordinary least squares approach on regency-level innovation indicators found that innovation has a positive and significant impact on economic growth. However, studies on the impact of innovation across all regions, including regencies, cities, and provinces in Indonesia, remain limited.

On the other hand, according to the researchers, studies of the impact of innovation on the regional economy also need to examine whether regions with high levels of innovation can optimise economic performance, and, conversely, whether regions with low levels of innovation also exhibit limited economic performance. Therefore, this study differs from previous studies in that it does not use an inferential approach, but rather a quantitative descriptive approach through mapping regions where innovation potential has been utilised and where it has not been utilised to boost economic performance. This research is expected to contribute to the empirical study of regional government innovation, where regional innovation capabilities are crucial to the development of the economy, thereby ensuring more sustainable economic activity in the long term.

METHOD

The unit of analysis comprised 546 regions in Indonesia: 38 provinces and 508 regencies/cities. The analysis period was 2024. The research data were secondary data published by the National Research and Innovation Agency (BRIN) and obtained from the Regional Competitiveness Index (IDSD) document. The variables examined in this

study are the regional economy, proxied by the economic performance (EP) and innovation capability (CI) variables. The variables are measured using index numbers.

Data are presented quantitatively, using graphs, percentages, and frequency distributions. A frequency distribution table is used to map the impact of regional innovation on economic development. Four groups were obtained, namely: the first group, Group A, which includes regions with relatively high innovation capabilities and relatively high economic stability. The second group (Group B) comprises regions with relatively low innovation capabilities but high economic stability. The third group (Group C) comprises regions with relatively high innovation capabilities but relatively low economic stability. The fourth group (Group D) comprises regions with relatively low innovation capabilities and relatively low economic stability. The level of economic stability and innovation capability is determined by comparing a region's index value (IRin) with the national average index value (Ini). If $IRin > Ini$, it is categorised as relatively higher, and if $IRin \leq Ini$, it is categorised as relatively lower. To measure the long-term sustainability of a regional economy, the sustainability gap is used, namely the ratio between the economic performance index (IEPi) and the innovation capability index (ICli). The greater the sustainability gap, the more vulnerable the long-term sustainability of economic performance, and vice versa.

RESULT AND DISCUSSION

Results

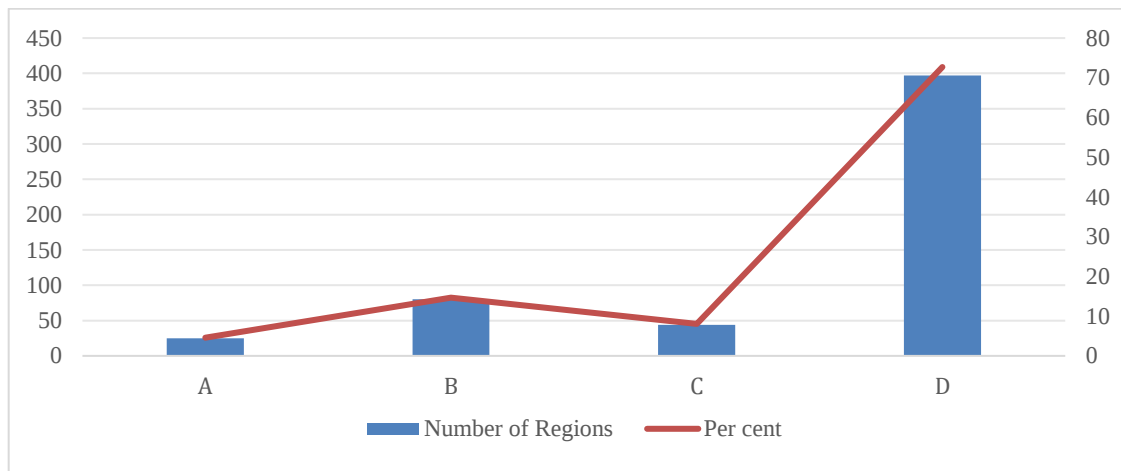
The results of this study on the impact of innovation capability on the regional economy are presented in Figure 1. The majority of regions, or 397 regions, fall into group D, indicating lower innovation capability and lower economic stability. Meanwhile, only 25 regions fall into group A, indicating relatively high innovation capability and better economic performance.

	Relatively High Innovation Capability	Relatively Low Innovation Capability
Relatively High Economic Stability	Group A (=25)	Group B (=80)
Relatively Low Economic Stability	Group C (=44)	Group D (=397)

Source: BRIN (2025), processed

Figure 1. Impact Matrix of Innovation Capability and Regional Economic Performance

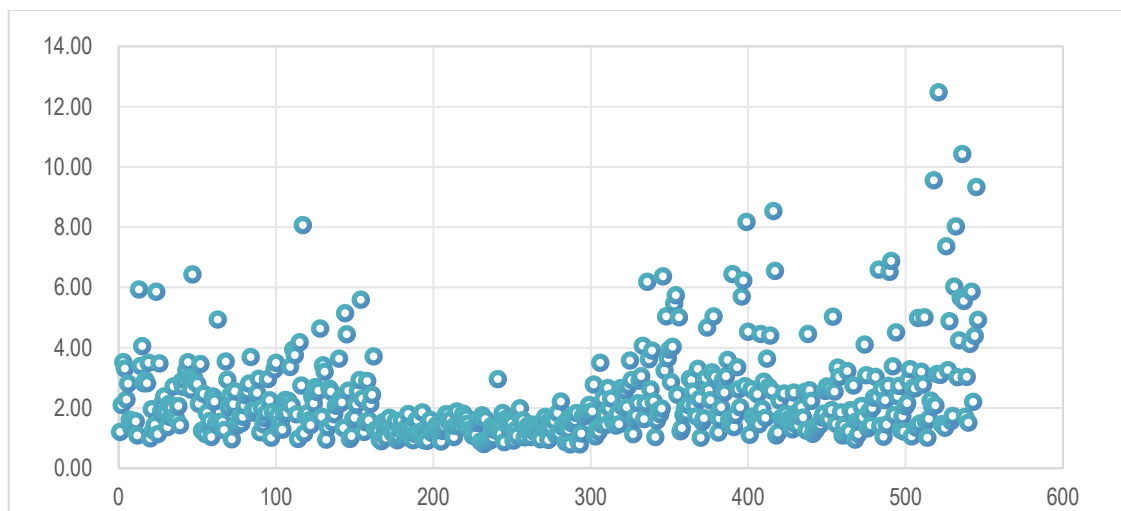
Figure 2 shows that approximately 4.58 per cent of regions are in category A, 14.65 per cent in category B, 8.06 per cent in category C, and more than 70 per cent in category D. The distribution of regions with innovation capability gaps is shown in Figure 3.



Source: BRIN (2025), processed

Figure 2 Innovation Capability and Regional Economic Performance by Group

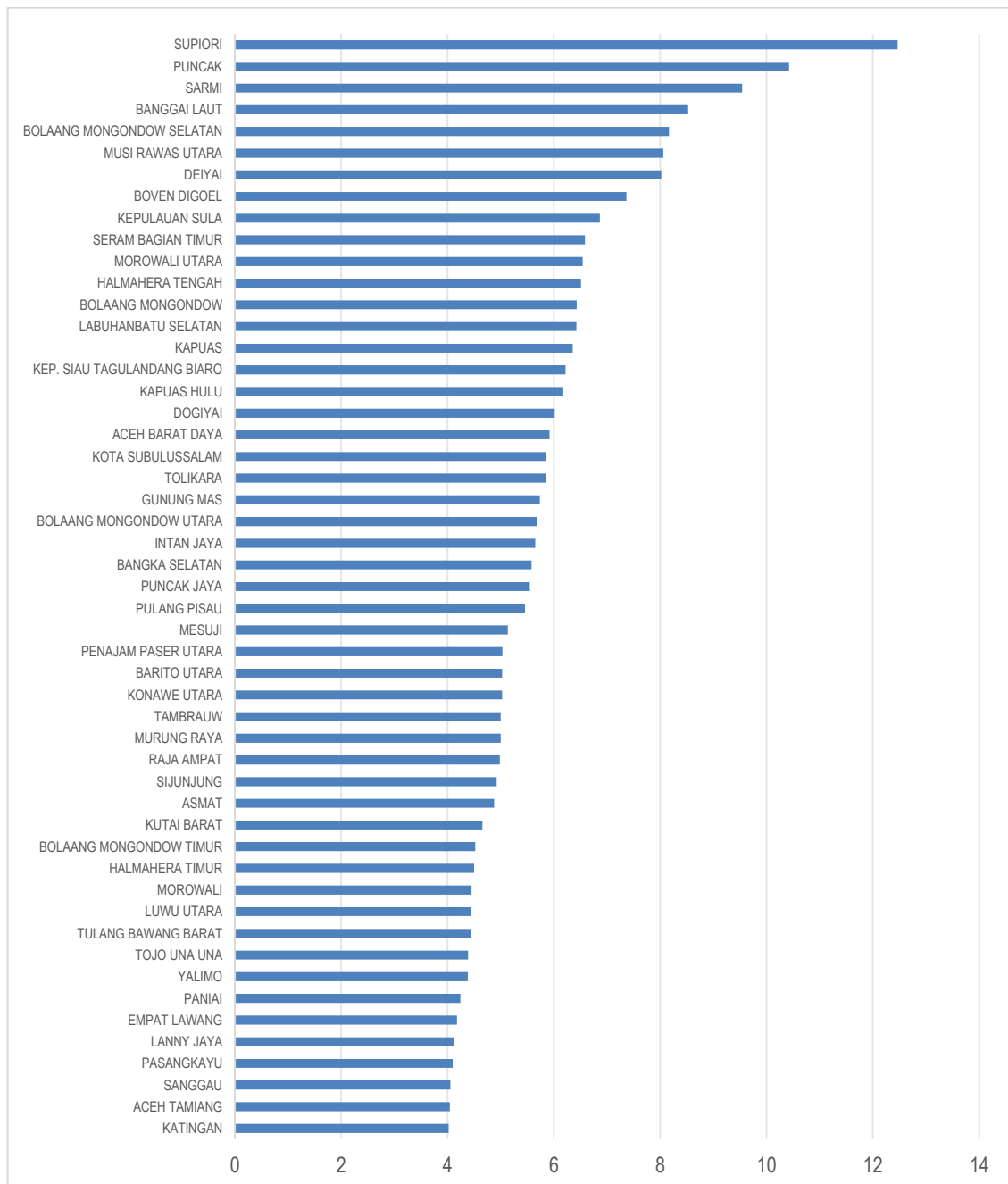
Figure 3 shows that most regions in Indonesia experience disparities in economic stability and capacity. The innovation gap is less than 2. This means that innovation plays a role in the regional economy. The lower the gap, the more innovation goes hand in hand with the regional economy, and the more sustainable the regional economy becomes. On the other hand, a higher gap indicates that economic progress is not driven by innovation capability. Or, economic progress is driven more by factors other than innovation. Figure 3 shows that several regions have a large gap between economic performance and innovation, with some exceeding 12. Regions with a relatively large gap are shown in Figure 4.



Source: BRIN (2025), processed

Figure 3 Distribution of Regions Based on Sustainability Gap

Figure 4 shows that 53 regions have a gap above 4. This means the ratio between economic performance and innovation capability is 4:1, indicating that economic performance has increased fourfold while innovation capability has increased only once. Based on Figure 4, there are 11 regencies located on Sumatra Island, 10 regencies located on Kalimantan Island, 12 regencies located on Sulawesi Island, 4 regencies located on Maluku/North Maluku Island, and 16 regencies located on Papua Island.



Source: BRIN (2025), processed

Figure 4 Several Regencies with High Gap Sustainability Level

Discussion

The results of the study indicate that the majority of regions, or more than 72 per cent, have lower innovation capabilities, accompanied by lower economic stability. Meanwhile, 4.58 per cent of regions have high innovation capabilities accompanied by high economic performance. This implies that innovation capabilities drive regional economic performance. The research findings align with those of Dempere et al. (2023) and Law et al. (2020). Bakari's (2024) findings indicate that innovation has a significant impact on economic growth in both the short- and long-term. A study by Ky & Cabral (2017) shows that innovation reduces volatility, but up to a certain level of GDP per capita. This threshold is estimated at US\$671 with a 90% confidence level, equivalent to US\$600-US\$740. The effect of innovation on volatility is more effective in stable political environments.

The study's results indicate that there are regions with a significant gap between economic performance and innovation capabilities. This implies that economic performance is less sustainable because it is not supported by innovation capabilities. Innovation plays a crucial role in driving sustainable development. Through innovation, humans can create new, more efficient ways to utilise natural resources, improve the quality of life, and maintain a balance among economic, social, and environmental factors. Ali et al. (2023) found that innovation can drive efficiency and productivity. Technological innovations, such as renewable energy, environmentally friendly transportation systems, and sustainable agriculture, help reduce pressure on the environment while supporting long-term economic growth. Stawicka's (2023) findings indicate that innovation can promote long-term corporate sustainability. On a macro scale, Islam's (2025) research shows that innovation drives long-term economic growth. Innovation fosters competitiveness without relying on excessive resource exploitation. Innovation-based industries can create jobs that are better adapted to changing times, thereby supporting sustainable economic stability. Conversely, negative shocks to technological innovation negatively impact long-term green economic growth (Qamruzzaman & Karim, 2024). Innovative technology enhances international competitiveness, creating sustainable competitive advantages for companies and countries. Increased efficiency and productivity, reduced operational costs, and expanded market opportunities enable companies to compete more effectively globally (Kubitskyi et al., 2024). Improved product and service quality, supported by continuous investment

in research and development, strengthens market position and drives long-term growth (Kubitskyi et al., 2024).

CONCLUSION

The results of this study indicate that innovation capability plays a role in driving regional economic performance in Indonesia. The majority of regions, or more than 72 per cent, have lower innovation capability, accompanied by lower economic stability. Meanwhile, 4.58 per cent of regions have high innovation capability accompanied by high economic performance. Some regions have a gap between economic performance and high innovation capability. This implies that long-term economic performance is less sustainable due to the lack of innovation capability. This study has several limitations, including a methodological limitation: the lack of inferential testing to demonstrate the impact of innovation capability on regional economic performance. Another limitation is that the researcher's assumption that long-term economic growth is sustainable simplifies the innovation variable as the primary determinant in this study, as measured by the sustainability gap indicator.

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