

## Can Innovation Enhance Regional Government Performance in Indonesia?

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### Abstract

In Indonesia, innovation has become an essential priority for the government. The study analysed innovation's impact on regional governments' performance. The study focused on factors such as regional financial independence, local own-sourced revenue growth rate, the maturity level of e-government, and regional competitiveness. Secondary data from related ministries, covering all provincial, regency, and city governments in Indonesia, were used for the analysis. The study tested hypotheses using partial least squares and group difference tests. The results indicated that innovation positively impacted regional financial independence, e-government maturity level, and regional competitiveness but did not impact local own-sourced revenue growth rate. Innovative local governments exhibited higher regional financial independence, e-government maturity level, and competitiveness index. As a result, the study concluded that innovation plays a significant role in improving local government performance by helping manage resource constraints and meeting societal expectations. However, the regional financial independence dominated by low levels highlights the need for better innovation and performance management, especially in increasing revenue to better finance regional development.

**Keywords:** *Regional Government, Performance, Public Sector Innovation*

**JEL Classification:** H72, O29, O38

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### INTRODUCTION

In Indonesia, addressing inequality is a top priority. This issue is characterised by disparities in various regions, including high poverty rates in Eastern Indonesia, income inequality, and concentrated economic activities in Western Indonesia. Additionally, underdeveloped areas have limited infrastructure and accessibility, and disadvantaged regions, villages, rural, transmigrant areas, and border areas lack optimal economic development. Out of the 62 regions identified as underdeveloped, 30 regencies (48.4%) are in Papua Island, 14 regencies (22.6%) in Nusa Tenggara Island, eight regencies (12.9%) in Maluku Island, seven regencies (11.3%) in Sumatra Island, and three regencies

(4.8%) in Sulawesi Island. Notably, Kalimantan and Java Island do not have any underdeveloped areas (The Government of the Republic of Indonesia, 2020b).

It has been found that there are disparities in institutional aspects and capacity among regional governments. The provinces in Eastern Indonesia have a lower performance index than those in the western area. Most of the regencies with the lowest achievement nationally are in underdeveloped areas on the Papua Islands. Papua's governance performance was still low, and public services did not run optimally due to the bureaucracy's inability to provide adequate public service (Buinei, 2012; Maisini, 2015). Similarly, the West Papua Province is still undeveloped, and the governance performance in the bureaucracy is poor despite receiving autonomy funds (Fanggidae, Fajri, & Yuanjaya, 2016).

The strategy to reduce the gap between these regions is to encourage transformation and acceleration of development by accelerating regional innovation (The Government of the Republic of Indonesia, 2020a). Innovation is a key priority on Indonesia's national and local government agenda. Various programs have been made, including issuing regulations and policies related to innovation, assisting regional governments with innovation acceleration, holding innovation contests, and providing incentives for innovative regions. From 2014 to 2019, over 13,214 public sector innovations were registered in the Ministry of Administrative and Bureaucratic Reform (Ministry of Administrative and Bureaucratic Reform of the Republic of Indonesia, 2020).

Various studies have explored the correlation between innovation capacity and government performance relationship and innovation's effects on development while examining diverse factors that impact innovation levels. These include the influence of regulations on public sector innovation (Wagner & Fain, 2018), the role of civil servants in innovation (Kolovou, Kutsikos, & Bithas, 2019), the connection between innovation capacity and government performance (Țigănașu, Pascariu, & Nijkamp, 2019), the contribution of universities to public sector innovation performance (Demircioglu & Audretsch, 2019), and the innovation impact on performance (Ali, et al., 2021).

However, the evaluations carried out tend to use methods applied in the private sector (Singler, 2023) that are less suitable for the public sector (Rodrigues, et al., 2023). Thus, measuring public sector innovation requires various data types to assess the innovation's coherence with public policy needs (Arundel, Bloch, & Ferguson, 2019). The regional innovation program, as mandated by statutory regulations, seeks to enhance the performance of regional government administration. However, high levels of innovation do not always lead to improved performance. For instance, the Nabire Regency is a highly innovative area with a low-performance index. In contrast, some less innovative areas have a high-performance index, such as the Berau Regency, Klaten Regency, Gowa Regency, Ciamis Regency, and Purwakarta Regency (Ministry of Home Affairs of the Republic of Indonesia, 2018a, 2019). Therefore, further research is necessary to examine the relationship between innovation and regional government performance comprehensively.

The study fills the gap in topics that have not been described enough regarding the empirical impact of innovation on the performance of local government administration by considering regional financial independence, growth rates of local own-source revenue, the maturity level of the electronic-

based government system, and regional competitiveness. Second, this article offers empirical evidence regarding investigations rarely carried out to capture cases of government innovation at the regional level aggregately across all districts/cities in Indonesia.

## **METHOD**

### **Theoretical Framework**

#### *Public Sector Innovation*

Innovation has become essential to any organisation's success, including government administrations. Regional innovation refers to the reforms made by regional government administrations to improve their processes, policies, and services. These reforms aim to enhance the community's and individuals' overall well-being by meeting their needs more effectively and efficiently (Sidow & Ali Yassin Sheikh, 2014; Trivellato, Martini, & Cavenago, 2020).

Public sector innovation, on the other hand, involves finding new ways to meet the needs of the public while adding value to the community. This type of innovation can help governments create policies that are more inclusive, targeted, and have a broader impact on citizens' requirements. By focusing on innovation, governments can ensure that they are continuously improving their services and meeting the needs of their constituents in the most efficient and effective ways possible (Sidow & Ali Yassin Sheikh, 2014; Trivellato et al., 2020).

Regarding achieving successful innovation, innovation initiatives must align with strategic goals, generate organisational value, and support internal procedures. Effective innovation management is a critical aspect of organisational strategies and activities, as it ensures that innovative ideas are developed, implemented, and evaluated in a structured and organised manner. By incorporating innovation into their organisational strategies, governments can create new policies and services that meet the needs of their constituents while also improving the efficiency and effectiveness of their operations. Effective innovation management can lead to new strategies and initiatives that enhance the government's ability to serve its constituents (Gama & da Silva, 2007).

Regional innovation is a comprehensive approach to reforming all aspects of regional government administration. Its goal is to find new and effective ways to meet the needs of the community and individuals, creating value for everyone (Sidow & Ali Yassin Sheikh, 2014; Trivellato et al., 2020). By adopting innovative practices, governments can achieve better outcomes, such as improved service delivery and increased citizen satisfaction (Alfaro-García, Gil-Lafuente, & Calderón, 2017; OECD, 2017).

To achieve these objectives, innovation initiatives must be aligned with strategic goals, generate organisational value, and support internal procedures, much like other projects. This requires efficient innovation management, which is a vital component of organisational strategies and activities. Effective management of innovation not only leads to improved outcomes but can also result in the creation of new strategies and approaches (Gama & da Silva, 2007). In summary, regional innovation and public sector innovation are essential for governments to meet the evolving needs of citizens in an increasingly complex and interconnected world. By embracing innovation, governments can create value for everyone and achieve better outcomes for their communities.

The Ministry of Home Affairs developed the Regional Innovation Index (RII) to evaluate the innovation level in regional governments. This assessment includes input, process, output, and outcome aspects of regional innovation. The RII considers successful innovation initiatives implemented by regional governments (Ministry of Home Affairs of the Republic of Indonesia, 2018b).

The regional innovation assessment evaluated successful forms of regional innovation implemented by the local government. It was analysed based on various aspects, including:

- a. Input includes the vision and mission, development agencies, awards for innovators, regulations, human resource management, budget support, Corporate Social Responsibility (CSR) optimisation, information technology utilisation, and innovation managers.
- b. The process involved policy dissemination, innovation guidance, the inclusion of innovation in the Local Government Medium-term Development Plans, programs and activities in the Working-Units Strategic Plan, innovation networks, replication, technical guidelines, and stakeholder participation levels.
- c. Output was measured by the number of innovations produced, per capita income, employment opportunities, increased innovations, revenue, financial audit results, performance index, and Human Development Index (HDI) value.
- d. The outcome was evaluated based on the quality of licensing improvement, innovation quality, service information availability, resolution of complaint services, service information, innovation process, online system, speed, benefit, and satisfaction level.

Public sector innovation aims to enhance the government's performance and legitimacy for the betterment of the community (Demircioglu & Audretsch, 2019; Gieskea, van Meerkerk, & van Buuren, 2018; Hilmawan, et al., 2023). It is also a crucial indicator of a country and region's competitiveness (Halásková & Bednář, 2023). Recently, governments have also leveraged innovative technologies to enhance citizen experiences, elevate quality of life, and revolutionise public service delivery (Hujran, Alarabiat, Al-Adwan, & Al-Debei, 2023). Studies show that innovation leads to better performance, improved working processes, public service delivery, and competitiveness (Ali, et al., 2021; Moreira, Gherman, & Sousa, 2017). Innovation can encompass implementing fresh approaches, resources, or establishments by governments to accomplish their objectives and optimise their performance (Tiganasu, Pascariu, & Nijkamp, 2019). A study on 34 Portuguese hospitals found a positive relationship of innovation and organisational performance (Moreira, Gherman, & Sousa, 2017).

Innovation drives local economic development, especially during prolonged austerity policies. It can significantly impact individuals, institutions, entire economic sectors, and countries, thereby improving living standards. Proper measurement of innovation and its data can help policymakers better understand social and economic changes, evaluate the contribution of innovation towards achieving social and economic goals, and assess the effectiveness and efficiency of their policies (OECD/Eurostat, 2018). There are several ways to measure the effectiveness of public sector innovation. These include increased local revenue, decreased regional expenses, improved local governance, high-quality public

services, the absence of personal or group interests, and regional competitiveness. The main goal of public sector innovation is to improve the well-being of a community for the benefit of all (The Government of the Republic of Indonesia, 2017).

#### *The Effect of Innovation on Regional Financial Independence and Local Own-Source Revenue Growth Rate*

Innovation has been a critical factor in economic development and a vital driver of economic growth (Gault, 2018; Kerr, 2020; Phan, Cleave, & Arku, 2020; Ferreira, Broughton, Broadhurst, & Ferreira, 2023). Many studies have explored the relationship of innovation to local own-source revenue and regional financial independence, emphasising the positive relationship between innovation and regional revenue (Hilmawan, et al., 2023).

In this regard, the regional government's performance is linked to fiscal capacity (Heryanti, Wahidahwati, & Suryono, 2019; Mulyani & Wibowo, 2017; Ridhanie, 2012) that could be measured by the level of local own-source revenue (Widagdo & Munir, 2017). Local own-source revenue empowers regional governments to finance their autonomy based on the region's potential, an essential aspect of decentralisation (Directorate General of Fiscal Balance of the Ministry of Finance, 2021).

The proportion of local own-source revenue to total income could indicate the region's financial independence. A higher ratio of local own-source revenue to total income indicates a higher level of independence for a region, meaning that more regional spending is funded by its income (Directorate General of Fiscal Balance of the Ministry of Finance, 2018b). Innovation can stimulate a region's economic potential and increase local own-source revenue (Ra'is & Rohman, 2020). Innovation in the financial sector can enhance local own-source revenue and contribute to regional financial independence (Hilmawan, et al., 2023).

Based on this, we can hypothesise that innovation positively impacts regional financial independence (H1) and that innovative local governments have a higher level of regional financial independence (H2). Moreover, innovation is likely to positively impact the local own-source revenue growth rate (H3), and innovative local governments are expected to have a higher growth rate in local own-source revenue (H4).

#### *The Effect of Innovation on the Implementation of Electronic-Based Government System*

Electronic-based government has introduced new elements into public service practices that public service providers can adopt as innovations. These innovations aim to improve public service delivery by making it more efficient and effective. By introducing new technologies and methods, electronic-based government can enhance the quality of public service provision (Saleh, 2019).

The Electronic-Based Government System (EBGS) is an advancement of technology to improve public services and work process streamlines in the public sector. Its main goal is to make public services more efficient, effective, transparent, and accountable. With the help of this system, government agencies can provide timely and effective services to citizens while giving them access to information and transparency to hold public officials accountable. The level of

maturity indicates the capability and success of EBGs implementation (Ministry of Administrative and Bureaucratic Reform of the Republic of Indonesia, 2018) evaluated by examining its process and technical capabilities (Ministry of Administrative and Bureaucratic Reform of the Republic of Indonesia, 2019).

The advancements in digital democracy have greatly improved the exchange and retrieval of political information and have resulted in public administration reforms, fostering a digital innovation culture (Bevaola, 2018). Studies have revealed the digital innovations contribution and impact on public sector performance (Saleh, 2019). (H5: Innovation positively affects the maturity level of e-government implementation; H6: Innovative local government has a higher e-government implementation maturity level).

#### *The Effect of Innovation on Regional Competitiveness*

Innovation is a crucial indicator of the countries' and regions' competitiveness. (Halásková & Bednář, 2023). The promotion of innovations has a positive relationship with regional competitiveness (Alcalde-Heras, Oleaga, & Sisti, 2023). A study conducted in 31 developed and 16 developing countries using panel analysis in 2007-2017 revealed that innovation leads to competitiveness in developing countries (Sener & Delican, 2019). The regional innovation system could measure a region's competitiveness and growth trajectory through innovation (López-Rubio, Roig-Tierno, & Mas-Tur, 2020).

In Indonesia, the Regional Competitiveness Index is designed to evaluate and measure the competitive status of a particular region. The index assesses a region's capability to effectively employ all available resources towards achieving sustainable economic growth. This evaluation is based on several key factors: productivity, progress, competition, and independence. By utilizing this tool, regions can obtain a comprehensive overview of their competitiveness level compared to other regions, thus contributing to the country's overall competitiveness (Ministry of Research and Technology/National Research and Innovation Agency, 2019).

Regional Competitiveness Index components comprise four aspects, 12 pillars, 23 dimensions, and 78 indicators. Based on various studies, literature, and expert judgment, the main component lies in the innovation ecosystem's aspects. The ecosystem aspect of innovation is believed to be an aspect that will significantly affect a region's competitiveness (Ministry of Research and Technology/National Research and Innovation Agency, 2019). (H7: Innovation positively affects regional competitiveness; H8: Innovative local government has a higher level of regional competitiveness).

#### **RESEARCH METHOD**

The research utilised a combination of descriptive and inferential statistical analysis techniques. Descriptive statistics were applied to examine and elucidate the data collected, which consisted of the following: (a) Regional Innovation Index: measurements conducted by the Ministry of Home Affairs in 2019; (b) Local Own-Source Revenue: data from the Directorate General of Fiscal Balance, Ministry of Finance, covering the years 2017-2019; (c) Maturity Level of e-Government Implementation: measurement results from the Ministry of Administrative and Bureaucratic Reform for 2018-2019; and (d) Regional

Competitiveness Index: measurements conducted by the Ministry of Research and Technology/National Research and Innovation Agency in 2020.

Inferential statistics assessed the association and impact of innovation on regional financial independence, local own-source revenue growth rate, the maturity level of e-government implementation, and regional competitiveness. Thus, H1 (innovation positively impacts regional financial independence), H3 (innovation is likely to impact the local own-source revenue growth rate positively), H5 (innovation positively affects the maturity level of e-government implementation), and H7 (innovation positively affects regional competitiveness) were tested using partial least squares; while H2 (innovative local governments have a higher level of regional financial independence), H4 (innovative local governments are expected to have a higher growth rate in local own-source revenue), H6 (innovative local government has a higher level of the maturity level of e-government implementation), and H8 (innovative local government has a higher level of regional competitiveness) were analysed with different group tests. This analysis aims to test the significance of differences in regional performance levels based on their level of innovation.

## RESULTS AND DISCUSSION

### Results

#### *Descriptive Analysis*

Out of 542 local governments, 195 of them (35.98%) were highly innovative, 44 (8.12%) were innovative, 245 (45.20%) were less innovative, and the remaining 58 (10.70%) were uncategorized. The Central Java Provincial Government had the highest Regional Innovation Index score of 36,357, followed by the Situbondo Regency Government, with a score of 24,011 and the Yogyakarta City Government, with a score of 11,673 (Ministry of Home Affairs of the Republic of Indonesia, 2020).

**Table 1.** Innovation Index Category Crosstabulation

	Innovation Index Category				Total
	Highly Innovative	Innovative	Less Innovative	Uncategorized	
Province	21	3	10	0	34
Regency	128	32	177	45	382
City	46	9	58	13	126
<b>Total</b>	<b>195</b>	<b>44</b>	<b>245</b>	<b>58</b>	<b>542</b>

Source: Researcher, 2021

The amount of local own-source revenue can measure regional financial independence. In 2018, the national average of local own-source revenue was 13.14%, with the lowest being 0.10% and the highest being 86.80%. In 2019, the average decreased to 12.90%, with the lowest being 0.13% and the highest being 87.27%. A low average percentage suggests that local governments rely heavily on transferred funds to finance regional expenses (Directorate General of Fiscal Balance of the Ministry of Finance, 2018a, 2019).

Across the country, local governments experienced an average growth rate of 5.78% in their own-source revenue. Tambrauw Regency had the highest growth rate at 509.01%. However, 262 local governments (48.34%) experienced a

decline in revenue during 2018-2019. The most significant decline rate was in Puncak Regency at 54.52% (Directorate General of Fiscal Balance of the Ministry of Finance, 2017, 2018a, 2019).

**Table 2.** Local Governments with the Highest Local Own-Source Revenue Growth Rate

Local Government	Rate of Increase (per cent)
Tambrauw Regency	509.01
Waropen Regency	198.86
Asmat Regency	167.91
Raja Ampat Regency	149.40
Teluk Wondama Regency	113.65

Source: Researcher, 2021

**Table 3.** Local Governments with the Lowest Local Own-Source Revenue Growth Rate

Local Government	Rate of Increase (per cent)
Puncak Regency	-54.52
Tolikara Regency	-51.76
Pegunungan Arfak Regency	-50.44
Lamandau Regency	-49.78
Buton Tengah Regency	-34.53

Source: Researcher, 2021

Regarding e-government maturity, only 24.17% of local governments were rated as "Good," while the rest were classified as "Low." (Ministry of Administrative and Bureaucratic Reform of the Republic of Indonesia, 2019).

**Table 4.** The Maturity Level of e-Government Implementation

	Freq.	Per cent	Valid Percent	Cum. Per cent
Fair	131	24.2	24.2	24.2
Low	411	75.8	75.8	100.0
<b>Total</b>	<b>542</b>	<b>100.0</b>	<b>100.0</b>	

Source: Researcher, 2021

Out of 301 local governments, seven of them (2.33%) were classified as having 'Very High' competitiveness, while 102 (33.89%) were classified as 'High', 97 (32.23%) as 'Moderate', and 95 (31.56%) as 'Low'. The other 241 local governments' competitiveness level has not yet been measured.

**Table 5.** The Regional Competitiveness Index Crosstabulation

	RCI Category				Total
	Very High	High	Mode rate	Low	
Province	3	12	10	6	31
Regency	0	60	64	72	196
City	4	30	23	17	74
<b>Total</b>	<b>7</b>	<b>102</b>	<b>97</b>	<b>95</b>	<b>301</b>

Source: Researcher, 2021

### Hypotheses Test Result

Based on the results of hypothesis testing using partial least square, it was found that innovation had a positive impact on regional financial independence, e-government maturity level, and regional competitiveness. The coefficients for these factors were 0.451, 0.403, and 0.548, respectively, with P values of 0.000. However, there was no significant positive impact of innovation on the Local Own-Source Revenue Growth Rate, with a coefficient of -0.095 and a P value of 0.038. Therefore, it can be concluded that the research hypotheses regarding the positive impact of innovation on regional financial independence (H1), e-government maturity level (H5), and regional competitiveness (H7) were accepted, while hypothesis 3 regarding the positive impact of innovation on local own-source revenue growth rate was rejected.

**Table 6.** Path Coefficients

	<b>T Statistics</b>	<b>P Values</b>	<b>Decision</b>
Innovation -> Financial Independence	12.610	0.000	H1 Accepted
Innovation -> LOR Growth Rate	2.080	0.038	H3 Denied
Innovation -> E-Government	11.133	0.000	H5 Accepted
Innovation -> Regional Competitiveness	13.355	0.000	H7 Accepted

Source: Researcher, 2021

After conducting additional testing using the Kruskal-Wallis test, it was found that innovative local governments demonstrated better financial independence (Chi-Square= 131.247, Sig.= 0.000), had a higher level of e-government implementation maturity (Chi-Square= 86.564, Sig.= .000), and higher rates of regional competitiveness compared to less innovative local governments (Chi-Square= 90.764, Sig.= 0.000). As a result, the research hypotheses regarding the higher level of regional independence (H2), e-government implementation maturity (H6), and regional competitiveness (H8) in innovative local governments were accepted.

**Table 7.** Kruskal-Wallis Test

	<b>Chi-Square</b>	<b>Asymp. Sig.</b>	<b>Decision</b>
Financial Independence	131.247	0.000	H2 Accepted
LOR Growth Rate	5.068	0.167	H4 Denied
E-Government	86.564	0.000	H6 Accepted
Regional Competitiveness	90.764	0.000	H8 Accepted

Source: Researcher, 2021

**Table 8.** Innovation Index Category and Local-Own Source (LOR) Proportion Crosstabulation

<b>Innovation Index Category</b>	<b>LOR Proportion</b>				<b>Total</b>
	<b>Very High</b>	<b>High</b>	<b>Mod.</b>	<b>Low</b>	
Highly Innovative	86	54	36	19	195
Innovative	12	17	8	7	44
Less Innovative	38	57	80	70	245
Uncategorized	0	7	11	40	58
<b>Total</b>	<b>136</b>	<b>135</b>	<b>135</b>	<b>136</b>	<b>542</b>

Source: Researcher, 2021

**Table 9.** Innovation Index Category and Maturity Level of e-Government Implementation (MLGI) Crosstabulation

Innovation Index Category	MLGI Category		Total
	Fair	Low	
Highly Innovative	91	104	195
Innovative	10	34	44
Less Innovative	29	216	245
Uncategorized	1	57	58
<b>Total</b>	<b>131</b>	<b>411</b>	<b>542</b>

Source: Researcher, 2021

**Table 10.** Innovation Index Category and Regional Competitiveness Index (RCI) Category Crosstabulation

Innovation Index Category	RCI Category				Total
	Very High	High	Mod.	Low	
Highly Innovative	7	83	43	20	153
Innovative	0	9	12	6	27
Less Innovative	0	10	41	63	114
Uncategorized	0	0	1	6	7
<b>Total</b>	<b>7</b>	<b>102</b>	<b>97</b>	<b>95</b>	<b>301</b>

Source: Researcher, 2021

Moreover, the test results showed no differences in local-own source revenue growth rates based on local government innovation levels (Chi-Square= 5.068, Sig.= 0.167). Thus, hypothesis 4 stated that 'innovative local government has a higher level of local own-source revenue growth rate' was rejected (table 7).

**Table 11.** Innovation Index Category and Local-Own Source (LOR) Growth Crosstabulation

Innovation Index Category	LOR Growth Category				Total
	Very High	High	Mod.	Low	
Highly Innovative	33	60	48	54	195
Innovative	9	10	16	9	44
Less Innovative	67	61	65	52	245
Uncategorized	27	4	6	21	58
<b>Total</b>	<b>136</b>	<b>135</b>	<b>135</b>	<b>136</b>	<b>542</b>

Source: Researcher, 2021

## Discussion

The decentralisation policy affects how the central government and local governments handle finances. Local governments have their sources of revenue, which they use to fund regional projects based on their priorities. The Local Government Budget is made up of regional revenues, expenditures, and financing. Local revenue sources come from local taxes, transfers from the central government, and other legal regional revenues. Of the three sources, transfers from the central government make up the most significant portion of regional revenue (Directorate General of Fiscal Balance of the Ministry of Finance, 2018b).

Nationally, there has been an increase in regional income, with local revenue experiencing the most significant growth. However, the composition of regional revenue is still dominated by fiscal balance transfers from the central

government, especially for regency/city governments. It indicates that these governments heavily rely on government funds to finance their regional expenses (Directorate General of Fiscal Balance of the Ministry of Finance, 2018b).

According to the results of a descriptive analysis, it was discovered that 83 local governments, which make up 63.24% of the total, are highly innovative and have a higher proportion of own-source revenues than the national average. On the other hand, 70 regional governments, which account for 51.47% of the less innovative group, have a lower proportion of own-source revenue than the national average (Directorate General of Fiscal Balance of the Ministry of Finance, 2019).

It has been found that innovation is linked to a region's local own-source revenue and regional financial independence (Hilmawan, et al., 2023). However, innovation requires funding, and involving more stakeholders can increase the required budget (OECD, 2017). Therefore, regions with better fiscal independence are better equipped to innovate. At the same time, innovation has a crucial role in developing a local government economy (Phan, Cleave, & Arku, 2020). Thus, it is essential to consider innovation programs that not only improve public services but also increase local revenue to finance regional development better.

Moreover, the study found that the level of innovation in regional government significantly impacted the maturity of e-government implementation. Most of public sector innovations focused on information systems and e-government implementation. Significant achievements in public administration reforms (Bevaola, 2018) and public sector performance improvement (Saleh, 2019) have resulted from digital governance practices.

Additionally, the research confirmed that innovation significantly affects regional competitiveness, highlighting its crucial role in promoting such competitiveness. Specifically, as many as 90 regional governments (58.82%) in the highly innovative category had a very high or high regional competitiveness index. In contrast, 104 regional governments (91.23%) in less innovative regions had a moderate or low regional competitiveness index. Increasing innovation has been proven to influence regional competitiveness positively (Alcalde-Heras, Oleaga, & Sisti, 2023).

Previous studies indicates that innovation can result in enhanced performance, better working processes, improved public service delivery, and increased competitiveness (Ali, et al., 2021; Moreira, Gherman, & Sousa, 2017). It demonstrates the importance of the innovation concept within local governments (Phan, Cleave, & Arku, 2020). By enabling governments to overcome resource constraints and tackle emerging societal issues, innovation can have a significant impact. While financial autonomy may be a limiting factor in some regions, it's important to remember that innovation is a valuable tool for enhancing performance management and generating more local revenue. Through effective management of central government transfer funds and a focus on fair distribution of public welfare, local governments can ensure that their communities thrive (Gunarto, Wahasusmiah, & Merina, 2021).

In the regional concept of sustainability, the competitiveness level is an important parameter that determines the welfare of society. Regions can be compared based on their competitiveness level to explain differences in regional prosperity and determine the right strategy to improve the people's welfare.

Regions must recognise their potential for development and impact on the welfare of the local community, especially in a market where imported products are allowed to enter. The increase in economic growth over time measures the success of a region's efforts. Hence, every region must create a favourable business climate to encourage new ideas, improvements, and equitable economic growth by creating new businesses, industries, and jobs (Ministry of Research and Technology/National Research and Innovation Agency, 2019).

To achieve equitable economic growth, the government must ensure that central and regional governments work together and support each other. It can be done by enhancing the capacity of regional governments through various means, such as developing the skills of government officials, managing budgets, improving infrastructure, and enhancing public services. These efforts are crucial to improving regional competitiveness and achieving the government's economic growth goals (Ministry of Research and Technology/National Research and Innovation Agency, 2019)

Innovation in the public sector can boost competitiveness and productivity. Governments can foster innovation by promoting science and technology and by supporting funding programs (Alcalde-Heras, Oleaga, & Sisti, 2023). Collaboration between different levels of government is necessary to maximise innovation benefits and improve public value and citizens' well-being.

## CONCLUSION

Regional innovation aims to improve the region and benefit its citizens through increased local revenue, better government performance, and improved public services. According to the study, innovation positively impacted regional financial independence, the maturity level of e-government implementation, and regional competitiveness. However, it did not positively affect local own-source revenue's growth rate. The study emphasised innovation's crucial role in enhancing regional government administration's performance.

The results of this research have significant implications for both theory and practice. They emphasise the need for the government to focus on innovation not only in the area of e-government and public services but also in promoting economic growth and enhancing regional competitiveness. The research findings also provide practical recommendations for local government agencies, which play a crucial role in driving innovation, to carefully evaluate the quality of their innovative initiatives. This evaluation process will lead to the development of more impactful innovations that can foster increased regional economic capacity to improve community welfare.

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