Journal of International Conference Proceedings (JICP)
Vol. 9 No. 1, pp. 35-49, July, 2026
E-ISSN: 2621-993X P-ISSN: 2622-0989
https://ejournal.aibpmjournals.com/index.php/JICP/index

The Role of AI Governance and Digital Accountability in Promoting Inclusive Economic Development in Central Kalimantan

Pratiwi Subianto[1], Abdul Halim[1], Tiur Roida Simbolon[1], Kasi Eselonirmala Waruwu[1]
[1]Faculty of Economics and Business, Palangka Raya University
Jalan Yos Sudarso, Palangka Raya, Central Kalimantan, 73112, Indonesia
Correspondence Email: pratiwi.subianto@feb.upr.ac.id[1]
ORCID ID: https://orcid.org/0000-0003-0012-5113

ARTICLE INFORMATION

Publication information

Research article

HOW TO CITE
Subianto, P., Halim, A., Simbolon, T. R., & Waruwu, K. E. (2026). *The role of AI governance and digital accountability in promoting inclusive economic development in Central Kalimantan*. *Journal of International Conference Proceedings (JICP), 9*(1), 35–49.

DOI:
https://doi.org/10.32535/jicp.v9i1.4686

Received: 12 May 2026
Accepted: 14 June 2026
Published: 15 July 2026

ABSTRACT

Artificial Intelligence (AI) has emerged as a key driver of global economic transformation, offering opportunities for productivity growth, public service efficiency, and regional innovation. However, AI also poses risks of socioeconomic inequality, algorithmic bias, digital exclusion, and weak accountability, challenges particularly pronounced in developing regions like Central Kalimantan. This study analyzes the role of AI Governance and accountability in driving inclusive economic development and formulates a Digital Accountability Framework for Central Kalimantan using a Systematic Literature Review (SLR) with a PRISMA approach. Findings reveal that AI can support inclusive growth through agriculture productivity, forest fire monitoring, targeted public services, and SME strengthening. Without ethical governance, however, AI risks deepening inequality, marginalizing indigenous communities, and creating dependency on nontransparent systems. Therefore, AI Governance must function as institutional development infrastructure. The proposed framework encompasses transparency, fairness, human oversight, data governance, grievance mechanisms, and multistakeholder involvement for inclusive, adaptive, and sustainable development in Central Kalimantan.

Keywords: Accountability; Artificial Intelligence; AI Governance; Inclusive Economic Development; Systematic Literature Review

Journal of International Conference Proceedings (JICP)
Vol. 9 No. 1, pp. 35-49, July, 2026
E-ISSN: 2621-993X P-ISSN: 2622-0989
https://ejournal.aibpmjournals.com/index.php/JICP/index

INTRODUCTION

The rapid development of Artificial Intelligence (AI) has become a key driver of global economic transformation, improving production efficiency, industrial innovation, and data-driven economic growth. The 2024 AI Index report confirms AI is now widely integrated across economic sectors, creating new dynamics in technology governance and public policy (Stanford, 2024). However, accelerated AI adoption is not always accompanied by adequate governance readiness. Only 15% of organizations have effective AI governance systems despite 81% implementing AI (Modelop, 2024). Although 97% of organizational leaders express a commitment to responsible AI, nearly 48% of them still lack the resources to implement an adequate governance framework (Domino, 2024) . This situation indicates that the rapid development of AI has the potential to conflict with the principles of accountability, transparency, and fairness.

Ethical challenges in the implementation of Artificial Intelligence (AI) are on the rise. Data indicates that AI-related incidents increased by approximately 50% between 2022 and 2024, reflecting heightened risks of algorithmic bias, privacy violations, and unintended social impacts Harry Booth, (2025). Only a small fraction of companies have actually implemented comprehensive accountability mechanisms in their use of AI; in fact, fewer than 20% of companies transparently explain their internal governance systems Haverkamp G., (2025). This underscores the urgency of strengthening the AI Governance framework to support sustainable and inclusive economic development.

In Indonesia, AI holds great potential to drive economic growth, improve public services, and expand digital inclusion. However, the success of digital transformation depends on building public trust through transparent, ethical, and accountable governance Desouza & Picavet, (2024). Central Kalimantan's vast territory, low population density, resource-based economy, and urban-rural digital divide make AI governance and digital accountability increasingly critical. AI implementation in the region cannot be treated merely as a technological agenda but must be positioned as part of regional development governance considering social, economic, ecological, and institutional dimensions. In this context, AI Governance serves as the institutional infrastructure determining whether AI will expand economic inclusion or deepen inequality.

Table 1. Latest Global Data on AI Governance and Its Challenges (2022–2025)

No	Indicator	Data Findings
1	Global AI Adoption	81% of organizations are using AI
2	AI Governance Effectiveness	Only 15% of organizations have effective governance
3	Commitment to ethical AI	97% of organizations are committed
4	Implementation limitations	48% of organizations lack governance resources
5	Increase in AI incidents	Up by approximately 50% (2022–2024)
6	Corporate transparency	<20% of companies are transparent regarding AI governance
7	Global AI regulations	181 AI policies proposed (2023)
8	Global AI discourse	Discussed in 49 countries (2023)

Sources: McKinsey Global Survey (2023); Stanford HAI (2024); WBA (2023); Domino Data Lab (2024); ModelOp (2024); AI Incident Database (2024).

These global conditions are directly relevant to Indonesia, where AI regulation remains transitional, moving from normative principles toward a more operational accountability

system, posing unique challenges for local governments like Central Kalimantan in terms of responsibilities, data governance, audit mechanisms, and high-risk system oversight.

AI holds potential to support inclusive economic development in Central Kalimantan through agriculture productivity, forest fire monitoring, social assistance targeting, infrastructure planning, and SME support. However, risks including urban data bias, exclusion of indigenous communities, opaque decision-making, and weak grievance mechanisms require AI governance and digital accountability to be embedded across all stages from planning through policy evaluation.

Most existing studies focus on global or national contexts, leaving a significant research gap at the regional level. This study therefore aims to: (1) analyze AI governance in supporting inclusive economic development in Central Kalimantan; (2) identify regional challenges and risks; and (3) formulate a contextual Digital Accountability Framework for transparent and public-interest-oriented AI governance, enriching literature while providing practical recommendations for local governments and stakeholders.

LITERATURE REVIEW

Artificial Intelligence (AI) in Economic Development

AI has become a key driver of global economic transformation with potential to boost productivity, growth, and efficiency across public and private sectors International Monetary Fund, (2024) yet its distributional impact remains ambivalent as AI can exacerbate inequality through a winner-takes-all mechanism benefiting highly skilled groups over vulnerable ones Schindler et al., (2021). Empirical results on AI's economic impacts vary heavily depending on implemented policies Comunale, (2024) and in Indonesia, digitalization including AI requires stronger institutional capacity and human resources to accelerate inclusive growth OECD, (2024)

AI Governance

AI Governance emerged in response to risks such as algorithmic bias, discrimination, and privacy violations, yet global AI governance remains fragmented without a universally integrated framework, requiring a multidimensional approach integrating ethical, regulatory, and innovation aspects encompassing transparency, accountability, and stakeholder participation. In Indonesia, AI governance faces serious challenges due to decentralized governance and limited local capacity Wadipalapa et al., (2024), with most literature still focused on global principles rather than context-specific local implementation models.

Accountability in AI Governance

Digital Accountability encompasses system transparency, clarity of responsibility, and oversight mechanisms requiring simultaneous technical, institutional, and social dimensions Papagiannidis et al., (2025), while current AI regulations still struggle to balance innovation and social protection regarding data privacy and algorithmic fairness Comunale, (2024), and lack of central-local coordination remains a major obstacle to effective accountability systems in Indonesia (Wadipalapa et al., 2024).

Inclusive Economic Development

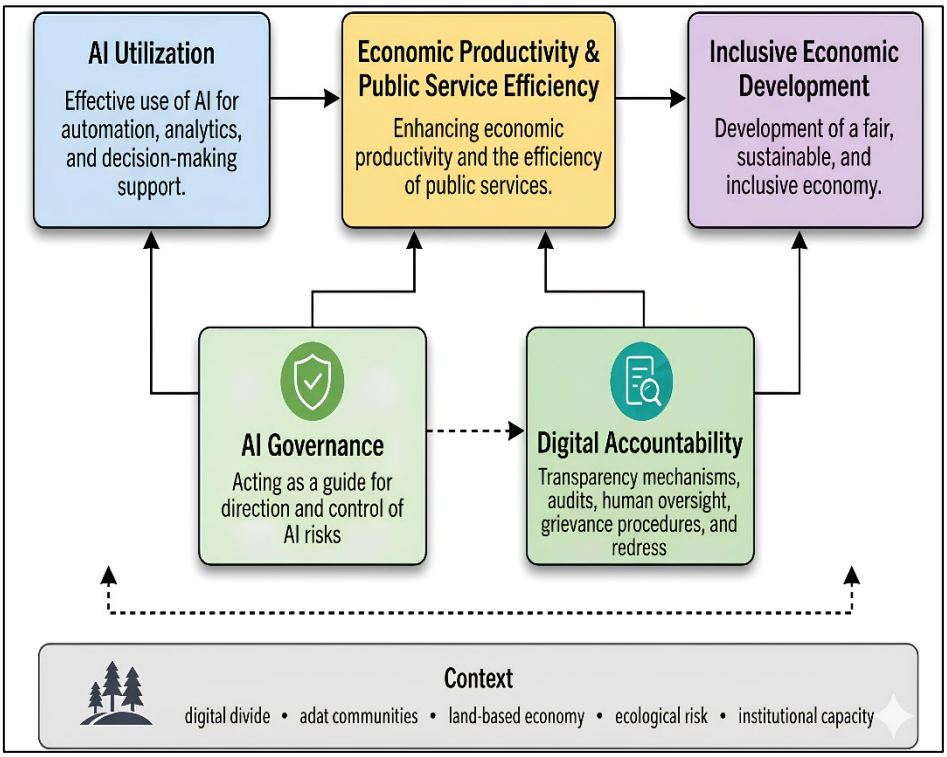
Inclusive economic development depends on equitable technology access, education policies, workforce training, and social protection, as without policy intervention AI risks deepening structural inequalities Comunale, (2024;) OECD, (2024) AI Governance and Digital Accountability therefore serve as critical bridging mechanisms ensuring AI drives inclusive and sustainable economic development, particularly in Central Kalimantan where its vast territory, resource based economy, urban rural digital divide, and

indigenous communities require AI directed toward smallholder agriculture, forest fire monitoring, social assistance, infrastructure, and MSME support.

Relationships Among Variables

Based on a five-year literature synthesis, AI, AI Governance, Digital Accountability, and inclusive economic development share a mutually reinforcing relationship. AI drives economic transformation through productivity, public service efficiency, and data-driven decision-making, yet without adequate governance risks exacerbating inequalities and concentrating benefits among technologically advantaged groups. AI Governance ensures transparent and responsible AI development, while Digital Accountability bridges governance with inclusive outcomes through algorithmic audits, clear responsibilities, and community remedies. In Central Kalimantan, AI must be directed toward strategic sectors including smallholder agriculture, forest fire monitoring, social assistance, and MSME support

Figure 1. Conceptual Model of the Role of AI Governance and Digital Accountability in Promoting Inclusive Economic Development



Source: Developed by the author based on a synthesis of literature from the International Monetary Fund (2024); the Organisation for Economic Co-operation and Development (2023); the World Bank (2023); as well as Dwivedi et al. (2023) and Stahl (2023).

Figure 1 illustrates that AI through automation, analytics, and decision making support enhances economic productivity and public service efficiency, requiring AI Governance and Digital Accountability as mechanisms for transparency, auditing, human oversight, and public protection. Implementation must be critically adapted to local contexts including the digital divide, institutional capacity, indigenous communities, land-based economies, and ecological risks to achieve truly inclusive outcomes.

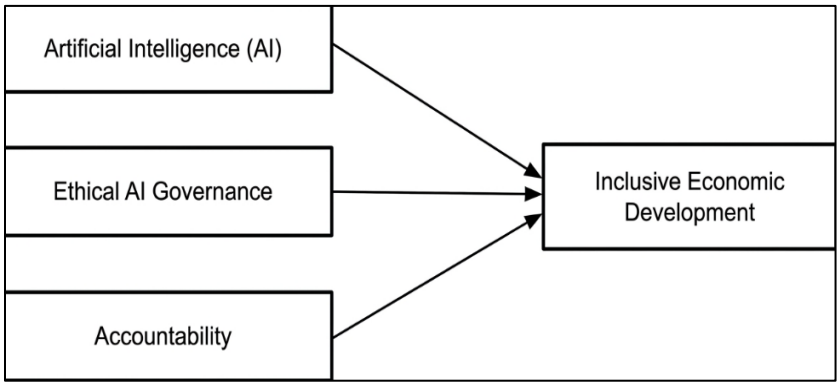
Conceptual Propositions

Since this SLR-based research does not conduct direct statistical tests, six conceptual propositions are formulated based on literature synthesis and contextual analysis:

P1: AI drives economic development through productivity, public service efficiency, innovation, and data driven decision making.
P2: AI without adequate governance risks exacerbating inequality, algorithmic bias, and concentration of benefits among technologically advantaged groups.
P3: AI Governance ensures AI use is ethical, transparent, fair, and in the public interest.
P4: Digital Accountability strengthens transparency, system audits, human oversight, and redress mechanisms for affected parties.
P5: The integration of AI Governance and Digital Accountability strengthens inclusive economic development in Central Kalimantan across strategic sectors such as agriculture, land management, forest fire monitoring, and SMEs.
P6: Central Kalimantan's local context digital divide, resource-based economy, indigenous communities, and ecological risks significantly influences the effectiveness of AI Governance and Digital Accountability in driving inclusive economic development.

Conceptual Framework

Figure 3. Research Conceptual Framework



Source: Adapted by the author based on the International Monetary Fund (2024); the Organisation for Economic Co-operation and Development (2023); the World Bank (2023); and Dwivedi et al. (2023).

Figure 3 illustrates that Artificial Intelligence (AI), AI Governance, and accountability are factors influencing inclusive economic development. AI serves as the primary driver of growth, while AI Governance ensures fair and transparent use of technology, and accountability strengthens trust and reduces social risks. These three variables collectively contribute to fostering inclusive and sustainable economic development.

RESEARCH METHOD

Research Design

This study employs a qualitative approach using a systematic literature review (SLR) method combined with regional contextual analysis. This approach was chosen because the study aims to develop a conceptual framework and Digital Accountability relevant to inclusive economic development in Central Kalimantan. The SLR method allows researchers to systematically and transparently identify, evaluate, and synthesize findings from various studies. According to Kitchenham et al., (2020), SLR is an effective approach for building a strong theoretical foundation and identifying research gaps. This approach is widely used in technology and public policy research because it can comprehensively integrate various perspectives.

Journal of International Conference Proceedings (JICP)
Vol. 9 No. 1, pp. 35-49, July, 2026
E-ISSN: 2621-993X P-ISSN: 2622-0989
https://ejournal.aibpmjournals.com/index.php/JICP/index

Sampling

Population and Units of Analysis

The population in this study consists of all scientific literature relevant to the topics of Artificial Intelligence, AI Governance, and accountability in inclusive economic development. The units of analysis are articles from reputable international journals (Scopus/WoS), accredited national journals, official reports from international institutions (IMF, OECD, World Bank), and policy documents related to AI.

Sampling Techniques

Purposive sampling was employed by selecting sources based on specific inclusion criteria, namely publications from 2020–2025, relevance to AI, governance, and economic development, and academic credibility from peer-reviewed journals or global institutions Ahmad, M., & Wilkins, (2025)

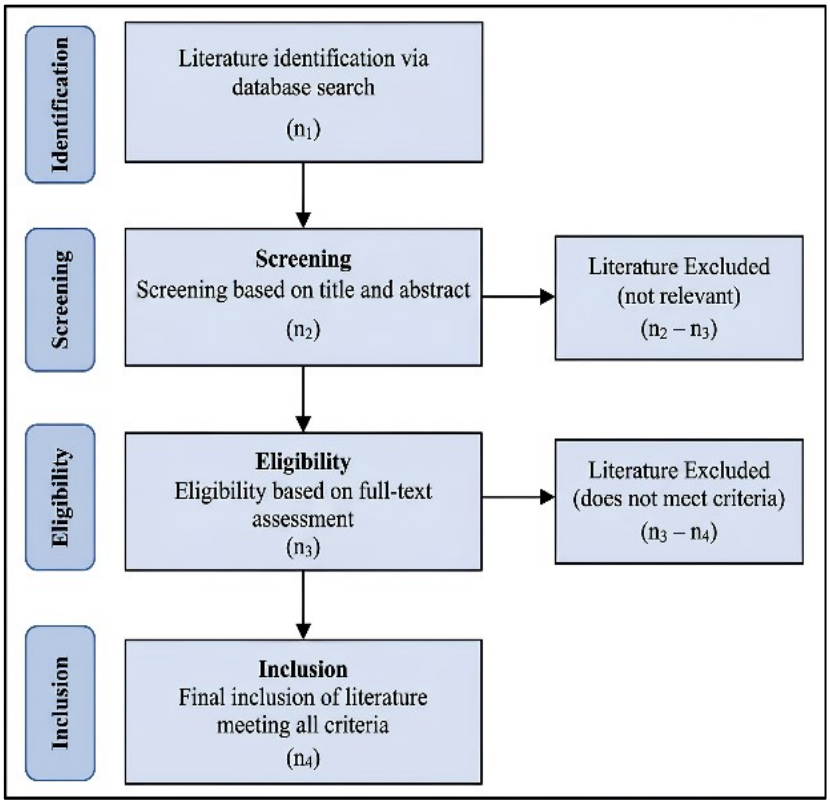
Data Profile (Literature Sources)

The analyzed literature consists of 11 international journal articles, 7 national journals, 11 official institutional reports (IMF, OECD, etc.), 2 books or book chapters, and 2 media articles.

Data Collection

Data was collected through scientific databases and official sources including Scopus, Google Scholar, ScienceDirect, SpringerLink, and international institution websites, using keywords such as Artificial Intelligence and Economic Development, AI Governance, AI Accountability, Inclusive Growth, and Digital Economy.

Figure 4. Data Collection Process Following SLR Stages



Note :
n1 = Number of initially identified literature
n2 = Number of literature sources after screening
n_3 = Number of eligible studies

n_4 = Final number of included studies
Source: Adapted from PRISMA 2020

This approach refers to the PRISMA model, which is widely used in systematic reviews (2020–2024) and emphasizes transparency in the literature selection process.

Measurement Instruments
In SLR-based qualitative research, the primary instrument is the researcher themselves (*human instrument*), supported by a data extraction matrix, a literature synthesis table, and thematic coding. The variables are operationalized as follows:
Artificial Intelligence (AI) is measured through technology adoption level, productivity contribution, and labor market impact International Monetary Fund, (2024)
AI Governance covers transparency, fairness, non-discrimination, and regulation in accordance with OECD, (2024) principles on trustworthy AI.
Digital Accountability covers transparency, fairness, non-discrimination, and regulation in accordance with Cheong, (2024)
Inclusive Economic Development includes equitable economic access, digital inclusion, inequality reduction, and public welfare improvement (World Bank, 2023; UNDP, 2022).

Data Analysis Techniques
Data were analyzed using descriptive and thematic qualitative analysis, involving data reduction, variable categorization, literature synthesis, and conceptual framework development. This approach is supported by the study by Ahmed et al., (2025) who affirm that thematic analysis effectively identifies patterns and relationships among variables in literature-based research.

Validity and Reliability
Research quality was ensured through source triangulation across journals, reports, and policies, literature cross-checking, and the use of credible sources including IMF, OECD, and Scopus journals. According to Flick et al., (2025) validity in qualitative research is strengthened through source diversity and consistency of analysis.

RESULTS

Distribution of Literature by Year of Publication

Table 2. Distribution of Analyzed Literature (2020–2025)

Year	Number of Articles	Percentage (%)
2020	2	6.06
2021	1	3.03
2022	2	6.06
2023	3	9.09
2024	11	33.33
2025	14	42.42
Total	**33**	**100.00**

Source: Data compiled by the author from various sources

Table 2 shows that the majority of the analyzed literature originates from the 2024–2025 period, with a peak in publications in 2025 at 42.42%. This indicates that research on AI Governance and inclusive economic development is a relatively new and rapidly evolving topic in recent years. The low number of publications in 2020–2023 was due to limited access to the latest publications at the time the research was conducted. This trend

reinforces the relevance of research examining the integration of AI and economic development in the current context.

Literature Classification Based on Research Focus

Table 3. Classification of Research Focus in the Literature

Category	Number	Percentage (%)
AI and Economic Growth	8	24.2
AI Governance	10	30.3
Digital Accountability	6	18.2
Digital Economic Inclusion	4	12.1
Regional/Local Studies	5	15.2
Total	**33**	**100**

Source: Data compiled by the author from various literature

Based on Table 3, the majority of studies focus on the relationship between AI and economic growth (24.2%), followed by studies on AI Governance (30.3%). Meanwhile, studies specifically addressing Digital Accountability account for only 18.2%, and research based on regional or local contexts only 15.2%. These findings indicate a significant research gap regarding the implementation of Digital Accountability at the regional level, thereby reinforcing the urgency of this study in addressing this gap in the literature.

Thematic Analysis of Research Variables

Table 4. Thematic Synthesis of AI Governance, Digital Accountability, and Inclusive Economic Development

Synthesis Themes	Key Findings	Frequency of Occurrence (%)
AI Utilization	AI supports productivity, public service efficiency, innovation, and digital economic transformation	87,9
AI Governance	The literature emphasizes transparency, fairness, regulation, risk management, security, and human oversight	81,8
Digital Accountability	Digital accountability includes algorithmic audits, data governance, clarity of responsibility, human oversight, appeal mechanisms, and redress	66,7
Inclusive Economic Development	The impact of AI on inclusive development is influenced by access to technology, human resource capacity, public policy, and the distribution of benefits	75,8
Regional and Contextual Governance	The literature emphasizes the importance of a local approach in the implementation of AI in developing regions and countries	54,5

Source: Data compiled by the author from various literature

Table 4 most literature positions AI as a technology capable of enhancing productivity, public service efficiency, innovation, and digital economic transformation, consistent with the view that AI can accelerate economic growth (International Monetary Fund, 2024; OECD, 2024). However, these benefits are not automatic AI can exacerbate inequality without transparent and accountable governance, making AI Governance a necessary guiding mechanism to ensure AI operates within the public interest, while Digital Accountability ensures that processes, data, decisions, and impacts of AI usage remain answerable.

Notably, "Digital Accountability" appears less frequently in the literature than "AI Governance," suggesting that while governance discussions have expanded, operational mechanisms for digital accountability remain relatively underdeveloped despite its critical role in ensuring algorithmic audits, data governance, human oversight, appeal mechanisms, and remedies for communities affected by AI-based decisions (Cheong, 2024; Papagiannidis et al., 2025).

Relationships Among Variables (Synthesis Results)
Table 5. Synthesis of Conceptual Relationships Among Research Variables

Variable Relationships	Direction of Literature Findings	Strength of Findings (%)
AI Utilization → Economic Productivity	AI supports increased productivity, efficiency, and innovation.	87.9
AI Utilization → Economic Inequality	AI has the potential to exacerbate inequality if not managed ethically and accountably.	69.7
AI Governance → Digital Accountability	AI Governance strengthens transparency, auditability, clarity of responsibility, and oversight.	81.8
Digital Accountability → Inclusive Economic Development	Digital Accountability fosters public trust and a more equitable distribution of the benefits of technology.	75.8
AI Governance → inclusive economic development	AI Governance serves as a guiding mechanism to ensure AI generates inclusive benefits.	78.8
The Context of Central Kalimantan and AI Governance Design	The local context demands risk-based, participatory, and region-sensitive AI governance.	Contextual Analysis

Source: Data processed by the Author (2025)

AI demonstrates a strong conceptual relationship with economic productivity, service efficiency, and innovation. However, this does not always lead to inclusive development, as AI carries risks including technological access gaps, algorithmic bias, digital exclusion, and concentration of benefits among technologically advantaged groups (Schindler et al., 2021; Comunale, 2024). AI Governance and Digital Accountability therefore serve as critical bridging mechanisms, where AI Governance provides institutional direction and risk management frameworks, while Digital Accountability ensures AI usage can be monitored, audited, corrected, and held accountable.

In Central Kalimantan, these relationships must be understood contextually given the province's vast territory, resource based economy, rural urban digital divide, indigenous communities, and ecological risks. The effectiveness of AI Governance and Digital Accountability thus depends not only on normative principles but also on local institutional capacity to translate those principles into operational procedures and oversight mechanisms.

Contextual Conditions in Central Kalimantan for AI Governance

Table 6. Contextual Factors in Central Kalimantan Relevant to AI Governance and Digital Accountability

Contextual Factors	Empirical Conditions	Implications for AI Governance
Population and territory	The population is projected to reach 2,844,992 by 2025, with a density of 19 people per km².	AI systems must account for population distribution, limited service coverage, and the risk of model errors in remote areas.
Economic Structure	The agriculture, forestry, and fisheries sectors accounted for 22.36% of the GRDP in 2024, followed by the manufacturing industry at 15.75%.	AI use cases should be prioritized in agriculture, land management, environmental monitoring, public services, and SMEs.
Poverty and Vulnerability	The poverty rate stood at 5.19% in March 2025.	AI should be designed to reduce vulnerability, not merely to improve administrative efficiency.
Labor Market	The open unemployment rate stood at 3.97% in August 2025.	AI adoption must be linked to improved digital skills and workforce adaptation.
Internet access	Internet access for residents aged 5 and older reached 75.23% in 2024, but only 68.19% in rural areas and 84.29% in urban areas.	Designing AI services that are exclusively digital risks excluding rural communities.
Education Gap	The percentage of the population aged 15 and older with a college degree reached 17.73% in urban areas and only 5.29% in rural areas.	AI systems must account for differences in digital literacy, data literacy, and technological capacity.
Indigenous communities and land governance	Indigenous communities and traditional institutions have strong ties to land and environmental governance.	AI systems for land, forests, and the environment require consultation, human review, and community-based objection mechanisms.

Source: Data processed by the Author (2025)

Central Kalimantan's vast territory, low population density, and resource based economy make AI Governance and Digital Accountability particularly critical, as model errors or infrastructure weaknesses carry more serious consequences than in densely connected areas. The urban rural digital divide further risks reinforcing biases toward urban communities and excluding rural groups. AI must therefore be directed toward high risk, high value sectors including smallholder agriculture, land and environmental management, and data-driven public services.

Key Research Findings
AI holds significant potential for driving productivity, public service efficiency, and data driven decision-making, yet carries risks of inequality, algorithmic bias, and digital exclusion without adequate governance. AI Governance ensures transparent, fair, and responsible AI use, while Digital Accountability ensures AI systems are explainable, auditable, and correctable. In Central Kalimantan, governance must be designed contextually, accounting for its land based economy, digital divide, indigenous communities, ecological risks, and uneven institutional capacity. The primary contribution of this study is therefore a risk-based, place-oriented AI Governance and Digital Accountability framework supporting inclusive economic development in Central Kalimantan.

DISCUSSION

Clarification of Research Objectives and Contributions
This study analyzes the role of AI Governance and Digital Accountability in promoting inclusive economic development in Central Kalimantan, confirming that while AI holds significant potential for enhancing productivity, public service efficiency, and economic innovation, these benefits are not automatic without adequate governance, AI risks exacerbating socioeconomic inequalities, algorithmic bias, and digital exclusion Bachtiar & Fin, (2025). The primary contribution lies in developing a context-specific Digital Accountability framework integrating technology, governance, and economic development for developing regions Wadipalapa et al., (2024), underscoring evidence-based planning, transparency, and technology-based public accountability (Wirawan & Ratih, 2025) Bakri et al., 2024). AI Governance must be understood not merely as a normative ethical framework but as institutional infrastructure, while Digital Accountability ensures AI systems remain auditable, explainable, and correctable together forming critical prerequisites for inclusive and sustainable economic development in Central Kalimantan.

Discussion of Literature Synthesis Findings and the Context of Central Kalimantan
P1: AI has the potential to drive productivity and economic growth
AI has the potential to drive economic growth through increased productivity, public service efficiency, innovation, and data driven decision making International Monetary Fund, (2024) OECD, (2024) However, in the context of Central Kalimantan, these benefits are highly dependent on digital infrastructure readiness, human resource quality, and local institutional capacity, necessitating AI to be positioned as a development instrument rather than merely automation technology.
P2: AI has the potential to widen inequality without adequate governance
Without proper governance, AI risks exacerbating socioeconomic inequalities by creating divides between skilled and low skilled groups and concentrating benefits among those with greater technological access Schindler et al., (2021) In Central Kalimantan, this risk is particularly relevant given the persistent urban-rural digital divide, educational disparities, and digital literacy gaps, necessitating AI implementation directed not only toward efficiency but also toward expanding economic access for farmers, SMEs, rural communities, and indigenous peoples.

P3: AI Governance serves as a guiding mechanism for AI usage
AI Governance serves as a guiding mechanism ensuring transparent, fair, and responsible AI use, encompassing ethical principles, risk management, human oversight, regulation, and stakeholder participation World Economic Forum, (2023). In Central Kalimantan, AI Governance must be designed on a risk-based approach,

particularly for use cases involving land management, forest fires, social assistance, permitting, public services, and natural resource-based economic sectors

P4: Digital Accountability strengthens transparency and the distribution of AI benefits

Digital Accountability ensures AI systems are explainable, auditable, correctable, and evaluable through algorithmic audits, data governance, human oversight, and remedies for affected parties consistent with World Bank, (2023), which emphasizes transparency and accountability as key factors in building public trust in technology. In Central Kalimantan, Digital Accountability is particularly crucial given AI's direct impact on public access to aid, public services, permits, land governance, and economic opportunities, ensuring its benefits are felt fairly across all segments of society.

P5: The integration of AI Governance and Digital Accountability is a prerequisite for inclusive economic development

The integration of AI Governance and Digital Accountability is essential, as AI Governance directs AI use toward ethical principles, public interest, and risk management, while Digital Accountability ensures processes, data, and decisions remain answerable (Díaz-Rodríguez et al., (2023). In Central Kalimantan, this integration is particularly necessary given the region's vast territory, resource-based economy, rural-urban digital divide, indigenous communities, and ecological risks, requiring a governance framework that is contextual, risk-based, participatory, and accountable.

Theoretical Contribution

This study expands global literature by directly linking AI Governance to Digital Accountability and inclusive economic development at the regional level, demonstrating that Digital Accountability bridges AI ethical principles with institutional safeguards including algorithmic audits, data governance, and grievance mechanisms. It further highlights that natural resource-based economies, digital divides, indigenous communities, ecological risks, and local institutional capacity significantly influence AI policy effectiveness a notable contribution given most existing literature remains focused on global or corporate levels.

Managerial and Policy Implications

This study carries important implications for local governments, calling for strengthened AI regulations (Faisal, 2025), human resource capacity building through digital training (Juliyanti & Ditasari, 2025) development of audit and oversight mechanisms (Dotulung, 2025), and multi-stakeholder collaboration among government, academia, and the private sector (Komarudin et al., 2024). Specifically, the Central Kalimantan Provincial Government is recommended to establish a cross-sectoral, risk-based AI Accountability Council involving Bappeda, digital affairs offices, BPS, universities, indigenous communities, and civil society, as well as mandate AI impact assessments for high-risk systems related to land governance, forest fires, social assistance, and public services.

Research Limitations and Directions for Further Research

This study is limited by its reliance on SLR without direct empirical data, and its focus on the past five years may not capture all latest developments, constraining the ability to measure actual local-level implementation and affecting external validity. Future research is directed toward empirical studies using quantitative or mixed-methods approaches to test the proposed model, quantitative measurement of Digital Accountability indicators, comparative analyses across regions, and exploration of AI's role in environmentally-based sustainable development integrated with green economic policies.

CONCLUSION

This study demonstrates that AI holds significant potential for driving inclusive economic development through enhanced productivity, public service efficiency, and data-driven decision-making. However, without adequate governance, AI risks exacerbating socioeconomic inequalities, algorithmic bias, digital exclusion, and unequal benefit distribution.

In Central Kalimantan, AI Governance and Digital Accountability are critical prerequisites given the region's vast territory, resource-based economy, urban-rural digital divide, indigenous communities, and ecological risks. AI should therefore be directed toward strategic sectors including smallholder agriculture, forest fire monitoring, land governance, social assistance, infrastructure, and SME support. The integration of AI Governance and Digital Accountability must encompass impact assessments, data governance, algorithmic audits, human oversight, and grievance mechanisms to ensure transparent, fair, and public-interest-oriented AI use, making AI an inclusive and sustainable development tool in Central Kalimantan.

Future research should empirically test the proposed framework using quantitative or mixed-methods approaches, develop operational Digital Accountability indicators, conduct comparative regional studies, and explore AI integration with the sustainable development agenda including the green economy and environmental management..

ACKNOWLEDGMENT

The authors would like to thank the Faculty of Economics and Business at Palangka Raya University for the financial support provided, as well as colleagues who contributed feedback and constructive academic discussions throughout the research and writing process.

DECLARATION OF CONFLICTING INTERESTS

The authors declare that there are no potential conflicts of interest related to the research, the writing process, or the publication of this article. The entire research process was conducted independently without any influence from external parties that could affect the results, interpretation, or conclusions of the research.

REFERENCES

Ahmad, M., & Wilkins, S. (2025). Purposive sampling in qualitative research: a framework for the entire journey. *Quality and Quantity*, *59*(2), 1461–1479. https://doi.org/10.1007/s11135-024-02022-5

Ahmed, S. K., Mohammed, R. A., Nashwan, A. J., Ibrahim, R. H., Abdalla, A. Q., M. Ameen, B. M., & Khdhir, R. M. (2025). Using thematic analysis in qualitative research. *Journal of Medicine, Surgery, and Public Health*, *6*, 100198. https://doi.org/10.1016/j.glmedi.2025.100198

Bachtiar, G., & Fin, F. (2025). Embedding Ethical AI in Digital Public Infrastructure : Strategic Governance Pathways for Indonesia. *Journal of Infrastructure Policy and Management*, *8*(2), 175–185. https://doi.org/10.35166/jipm.v8i2.123

Bakri, M. R., Bagiada, P., Yogantari, N., & Marlina, L. (2024). Accountability and fiscal transfer: The perfect duo for enhancing the regional economy. *Jurnal Tata Kelola Dan Akuntabilitas Keuangan Negara*, *10*(1), 105–122. https://doi.org/10.28986/jtaken.v10i1.1639

Cheong, B. C. (2024). Transparency and accountability in AI systems: safeguarding wellbeing in the age of algorithmic decision-making. *Frontiers in Human Dynamics*, *Volume 6-2024*. https://doi.org/10.3389/fhumd.2024.1421273

Comunale, M. (2024). The {Economic} {Impacts} and the {Regulation} of {AI}: A {Review} of the {Academic} {Literature} and {Policy} {Actions}. *IMF Working Papers*, *2024*(065), 1. https://doi.org/10.5089/9798400268588.001

Desouza, K. C., & Picavet, M. E. B. (2024). Realising Trustworthy and Inclusive Artificial Intelligence for Indonesia Realising Trustworthy and Inclusive. In *Business of Government* (p. 25). https://www.businessofgovernment.org/report/

Díaz-Rodríguez, N., Del Ser, J., Coeckelbergh, M., López de Prado, M., Herrera-Viedma, E., & Herrera, F. (2023). Connecting the dots in trustworthy Artificial Intelligence: From AI principles, ethics, and key requirements to responsible AI systems and regulation. *Information Fusion*, *99*, 101896. https://doi.org/10.1016/j.inffus.2023.101896

Domino. (2024). *97% of AI Leaders Commit to Responsible AI, Yet Nearly Half Lack Resources to Achieve the Necessary Governance*. Domino. https://domino.ai/press-releases/revelate-2024

Dotulung, M. T. P. (2025). Kajian Yuridis Transparansi Dan Akuntabilitas Pengelolaan Keuangan Daerah Berbasis Elektronik. *Kajian Yuridis Transparansi Dan Akuntabilitas Pengelolaan Keuangan Daerah Berbasis Elektronik*, *5*(4), 4630–4645. https://doi.org/10.31004/innovative.v5i4.20729

Faisal, M. (2025). Regulasi dan Tantangan Hukum Penggunaan AI di Sektor Publik dalam Risiko, Akuntabilitas, dan Kebijakan Strategis. *CENDEKIA : Jurnal Penelitian Dan Pengkajian Ilmiah*, *2*(1), 109–116. https://doi.org/10.62335/n1prjk86

Flick, U., Pratt, M. G., Köhler, T., & Welch, C. N. V.-0. (2025). *Trustworthiness in Qualitative Research: Reconsidering Replication BT - The Sage Handbook of Qualitative Research Quality* (pp. 451–468). Sage Publications Ltd. https://doi.org/10.4135/9781036243401.n30

Harry Booth. (2025). *What the Numbers Show About AI's Harms*. Time. https://time.com/7346091/ai-harm-risk

Haverkamp G. (2025). *With AI accountability stalling, boards must push tech giants for greater transparency*. Reuters. https://www.reuters.com/sustainability/

International Monetary Fund. (2024). *AI Will Transform the Global Economy. Let's Make Sure It Benefits Humanity*. International Monetary Fund. https://www.imf.org/en/blogs/articles/

Juliyanti, W., & Ditasari, R. (2025). Does E-Government Maturity Enhance Transparency and Public Accountability in Local Government Finance? (An Empirical Study on Regency Governments in Indonesia 2020–2022. *Jesya (Jurnal Ekonomi & Ekonomi Syariah)*, *8*(2), 1439–1620. https://doi.org/10.36778/jesya.v8i2.2146

Kitchenham, B. A., Budgen, D., & Brereton, P. (2020). *Evidence-Based Software Engineering and Systematic Reviews*. Taylor \& Francis Group. https://books.google.co.id/books?id=4qeSzQEACAAJ

Komarudin, D., Candra, E. ., & Nurdin, I. . (2024). Arus Jurnal Sosial dan Humaniora (AJSH) Dinamika Kebijakan Publik dan Inovasi Kecerdasan Buatan di. *Arus Jurnal Sosial Dan Humaniora*, *4*(3), 1793–1803. https://doi.org/10.57250/ajsh.v4i3.758

Modelop. (2024). *Responsible AI Benchmark Report 2024*. Modelop. https://www.modelop.com/resources-ebooks/responsible-ai-report-2024

OECD. (2024). OECD Economic Surveys: Indonesia 2024. In *OECD Publishing*. https://doi.org/10.1787/de87555a-en

Papagiannidis, E., Mikalef, P., & Conboy, K. (2025). Responsible artificial intelligence governance: A review and research framework. *The Journal of Strategic Information Systems*, *34*(2), 101885. https://doi.org/10.1016/j.jsis.2024.101885

Schindler, M., Korinek, A., & Stiglitz, J. (2021). Technological Progress, Artificial Intelligence, and Inclusive Growth. *IMF Working Papers*, *2021*(166), 1. https://doi.org/10.5089/9781513583280.001

Schmitt, L. (2022). Mapping global AI governance: a nascent regime in a fragmented landscape. *AI and Ethics*, *2*(2), 303–314. https://doi.org/10.1007/s43681-021-

00083-y

Sri, F., Latowa, M., & Sunadi, I. G. E. (2025). Pemanfaatan Artificial Intelligence (AI) Sebagai Inovasi Digital Dalam Tata Kelola Pemerintah Daerah. *Journal of Multi Technology (J-Multitechno)*, *1*(1), 44–53. https://doi.org/10.69623/j-multitechno.v1i1.137

Stanford. (2024). Artificial Intelligence Index Report 2024. In *Stanford University* (p. 502). https://hai.stanford.edu/ai-index/2024-ai-index-report

UNDP. (2022). *Human development report 2021-22: Uncertain times, unsettled lives: Shaping our future in a transforming world*. United Nations Development Programme. undp.org

Wadipalapa, R. P., Katharina, R., Nainggolan, P. P., Aminah, S., Apriani, T., Ma'rifah, D., & Anisah, A. L. (2024). An Ambitious Artificial Intelligence Policy in a Decentralised Governance System: Evidence From Indonesia. *Journal of Current Southeast Asian Affairs*, *43*(1), 65–93. https://doi.org/10.1177/18681034231226393

Wirawan, A., & Ratih, A. (2025). Integrasi Kecerdasan Buatan dalam Perencanaan Pembangunan Daerah : Pendekatan Evidence-Based Planning. *Jurnal Ekspos*, *3*(2), 35–42. https://ejurnal.kuduskab.go.id/index.php/ekspos/article/view/77

Wirtz, B. W., Weyerer, J. C., & Sturm, B. J. (2020). The Dark Sides of Artificial Intelligence: An Integrated AI Governance Framework for Public Administration. *International Journal of Public Administration*, *43*(9), 818–829. https://doi.org/10.1080/01900692.2020.1749851

World Bank. (2023). *Indonesia poverty assessment: Pathways towards economic security*. World Bank. https://worldbank.org

World Economic Forum. (2023). *World Economic Forum Launches AI Governance Alliance Focused on Responsible Generative AI*. World Economic Forum. https://www.weforum.org/