

THE SUSTAINABILITY OF FUTURE CITY HUB IN JAKARTA–BERLIN SISTER CITY PARTNERSHIP: A PLATFORM-BASED PARADIPLOMACY MODEL FOR DIGITAL TRANSFORMATION

Oktaviani Rosmala¹, Sulis Ariska Novrianti², Muhammad Naufal Helga Fikri³,
dan Herie Saksono⁴

¹ Fakultas Ilmu Sosial dan Ilmu Politik, Universitas Jember, Jember, Jatim, Indonesia

² Fakultas Ilmu Administrasi, Universitas Brawijaya, Malang, Jatim, Indonesia

³ Fakultas Ilmu Administrasi, Universitas Indonesia, Depok, Jabar, Indonesia

⁴ Fakultas Ekonomi dan Bisnis, Universitas Islam Al-Azhar (UNIZAR), Mataram, NTB, dan Pusat Riset Pemerintahan Dalam Negeri, Badan Riset dan Inovasi Nasional (PR PDN BRIN), Indonesia

e-mail addresses: oktaavr16@gmail.com, sulisarsk@gmail.com;

naufalhelga271004@gmail.com; and herie.saksono26@gmail.com

ABSTRAK

Penelitian ini bertujuan untuk merumuskan peran Future City Hub (FCH) dalam kerangka kerjasama *Sister City* Jakarta-Berlin. Penelitian ini juga berperan dalam mengevaluasi efektivitas Future City Hub terhadap ekosistem startup Jakarta dan merumuskan model tata kelola yang berkelanjutan. Penelitian menggunakan pendekatan kualitatif berbasis *Policy Evaluation Research* dengan analisis data sekunder, tersier, dan kuarterner. Ditemukan bahwa keberlanjutan FCH ditentukan oleh integrasi tiga dimensi utama, yaitu: keberlanjutan kelembagaan, kesinambungan ekosistem, dan kontribusi terhadap transformasi digital. Terungkap bahwa FCH merepresentasikan model baru paradiplomasi berbasis platform, dimana platform digital berfungsi sebagai orkestrator ekosistem inovasi lintas negara. Model ini memperluas teori *platform governance* dan diplomasi kota dengan memasukkan orkestrasi ekosistem dan kebijakan adaptif sebagai mekanisme utama keberlanjutannya. Studi ini memberikan kontribusi teoretis melalui pengembangan Model Keberlanjutan Paradiplomasi Berbasis Platform, serta implikasi praktis bagi tata kelola perkotaan. Dari sisi kebijakan, hasil penelitian menekankan pentingnya *roadmap* jangka panjang, diversifikasi sumber pendanaan, dan kolaborasi multipihak dalam menjamin keberlanjutan platform kolaborasi digital. Selain itu, model FCH berpotensi direplikasi sebagai praktik terbaik bagi kota-kota lain di Asia dalam mengoptimalkan kerja sama *Sister City* untuk mengakselerasi transformasi digital dan pembangunan berbasis inovasi.
Kata kunci : Future City Hub, Kota Kembar, Paradiplomasi, Transformasi Digital, Ekosistem Startup.

ABSTRACT

This study aims to define the role of the Future City Hub (FCH) within the framework of the Jakarta-Berlin Sister City. This study also serves to evaluate the effectiveness of the Future City Hub on Jakarta's startup ecosystem and to formulate a sustainable governance model. The

research employs a qualitative approach based on Policy Evaluation Research, utilizing secondary, tertiary, and quaternary data analysis. It was found that the sustainability of the FCH is determined by the integration of three key dimensions: institutional sustainability, ecosystem continuity, and contribution to digital transformation. It was revealed that the FCH represents a new model of platform-based paradiplomacy, where the digital platform functions as an orchestrator of a cross-border innovation ecosystem. This model expands the theory of platform governance and city diplomacy by incorporating ecosystem orchestration and adaptive policies as its primary mechanisms for sustainability. This study makes a theoretical contribution through the development of the Platform-Based Paradiplomacy Sustainability Model, as well as practical implications for urban governance. From a policy perspective, the research findings emphasize the importance of a long-term roadmap, diversification of funding sources, and multi-stakeholder collaboration in ensuring the sustainability of digital collaboration platforms. In addition, the FCH model has the potential to serve as a best practice for other cities in Asia in optimizing sister city partnerships to accelerate digital transformation and innovation-driven development.

Keywords: *Future City Hub, Sister City, paradiplomacy, digital transformation, startup ecosystem.*

INTRODUCTION

Globalization has transformed the landscape of international relations from a formal state-to-state approach to the active engagement of subnational actors. Today, local governments play a significant role on the global stage through city-to-city cooperation or paradiplomacy (Prastita et al., 2026). In contemporary developments, the focus of paradiplomacy has shifted from merely traditional “low politics” issues toward a more strategic and technical form of city diplomacy (Acuto, 2020). This phenomenon is driven by the process of globalization, which has created “intermestic” affairs, where the boundaries between domestic and international policy have become blurred. Major cities now function as autonomous political units capable of transferring knowledge and innovation across borders (Acuto et al., 2021). Through this mechanism, city governments come together to address shared governance issues, implement collaborative projects, and build sustainable partnerships to share knowledge and expertise (Dvorak, 2020).

From a public policy perspective, Sister City cooperation has shifted from mere formality to an instrument of knowledge transfer and institutional capacity-building (Acuto et al., 2021). In Indonesia, the legal framework for paradiplomacy has been firmly established through Law No. 37 of 1999, Law No. 24 of 2000, and Law No. 23 of 2014 to support the effectiveness of local governments' foreign relations (Kuswanto, 2016). Pursuant to Jakarta Special Capital Region Regulation No. 6 of 2012 on the 2005–2025 Long-Term Development Plan (RPJPD), the long-term development direction of the Jakarta Special Capital Region emphasizes the transformation of Jakarta into a national administrative center. This transformation is aimed at creating a safe and livable city, improving the well-being of the community, and is supported by sustainable productivity and global competitiveness (*Pengelolaan Sister City/Province Dan Pembangunan Daerah Provinsi DKI Jakarta, 2025.*).

One of the most progressive partnerships is the Jakarta-Berlin Sister City collaboration, which has been in place since 1994 (Jakarta Smart City, 2025). This partnership is no longer merely a formal collaboration but has evolved into a technical collaboration focused on the entrepreneurial ecosystem and digital transformation (Audretsch & Belitski, 2021). A tangible manifestation of this commitment is the establishment of the Future City Hub (FCH), which operates as an Urban Living Lab (a laboratory for collaborating with policymakers to understand community needs). The FCH is designed as an open innovation ecosystem integrating the quadruple helix (government, academia, industry, and the community) to bridge the skills gap in Smart City implementation.

Although the FCH has a systematic policy, the program has revealed a research gap in urban public management. The challenges related to the support provided to local startups have not been comprehensively evaluated. This gap forms the basis for the urgency of this study to evaluate the sustainability of the Future City Hub for the startup ecosystem and digital transformation, particularly in Jakarta. This study poses the central question of how a sustainable governance model for platform-based paradiplomacy can be effectively implemented.

The methodology used in this article is a qualitative approach based on Policy Evaluation Research. Data was collected through secondary, tertiary, and

quaternary data analysis techniques sourced from documents initiated by Jakarta Smart City, composite index reports, and relevant literature. Data analysis was conducted using Content Analysis to examine the content of documents or media to identify patterns and meanings, and to draw conclusions.

METHOD

This study employs a qualitative method with a policy evaluation research design to deepen the analysis of the effectiveness and impact of the Future City Hub. Additionally, the qualitative approach allows researchers to capture perceptions, meanings, and processes as the context for policy implementation (Creswell & Poth, 2018). Policy evaluation research encompasses two types: process evaluation to examine implementation mechanisms, and impact evaluation to identify the sustainability of Jakarta's startup ecosystem and the acceleration of the city's digital transformation. By employing these two types of evaluation, the researcher can assess the sustainability of Jakarta's startup ecosystem and the city's digital transformation.

In this study, Future City Hub is evaluated not merely as a technical program, but as an expression of paradiplomacy, that is the involvement of subnational governments in international relations. This study requires a multi-layered analysis encompassing institutional, ecosystem, and digital transformation dimensions.

This study focuses on one main variable, namely the Evaluation of the Sustainability of the Future City Hub in the Jakarta–Berlin Sister City Partnership. This variable is operationalized into three dimensions, including;

1. Institutional Sustainability: This dimension measures the stability of the Future City Hub's governance structure, program continuity, the clarity of the FCH's institutional mandate, and the budgetary autonomy of the Jakarta–Berlin partnership. It is assessed based on how the two actors perceive the benefits of the partnership, their long-term managerial commitment, and their ability to adapt regulations to the rapid pace of digital transformation. In addition, institutional sustainability draws on the concept of "cultural lag," which identifies the adaptation gap between technological innovation and the regulatory capacity of bureaucracies. Success in this area

is marked by an improvement in Jakarta's Smart City Index, which is partly attributed to the FCH program. Additionally, other indicators of success include an increase in the number of trained personnel and the formal adoption of innovations from the FCH ecosystem into government policies or services.

2. **Ecosystem Sustainability:** This dimension assesses the Future City Hub's ability to generate tangible value for local startups. This approach emphasizes that the success of a program can expand the capabilities and real opportunities for its participants.
3. **Role in Digital Transformation:** Evaluates the FCH's contribution to Smart City Jakarta and the development of digital human resources. This dimension is relevant within the framework of paradiplomacy, given that one of the primary objectives of the Jakarta–Berlin Sister City partnership is the transfer of knowledge and technology in the field of digital urban planning. Success in this area is marked by an improvement in Jakarta's Smart City Index, which is partly attributed to the FCH program. Additionally, other indicators of success include an increase in the number of trained personnel and the formal adoption of innovations from the FCH ecosystem into government policies or services.

This study relies on data sources categorized by their level of depth:

1. **Secondary data:** This study uses literature reviews based on scientific publications from journals indexed in Scopus, Sinta, and Google Scholar as secondary data. These sources were collected by the researcher for analysis according to relevant topics.

2. **Tertiary data:** Tertiary data serves as a supplementary source in research to complement primary and secondary data (Sulung et al., 2024). This data is not obtained directly from primary sources or parties directly involved with the research subject (Adiyanta, 2019). In this case, the researcher utilized the Composite Index Data, specifically the East Ventures – Digital Competitiveness Index (EV-DCI) 2025, to enrich the research data.

3. **Quaternary Data:** Quaternary data is positioned as the highest-level source of information, characterized by its integrative and strategic nature. This data does not

merely present raw statistical figures but represents the synthesis, interpretation, and compilation of various primary, secondary, and tertiary sources that have been processed by official agencies into policy instruments or composite reports (Adiyanta, 2019; Jakarta Smart City, 2024). This study utilized the document “Jakarta Master Plan Toward a Global-Scale Smart City” published by the Jakarta Smart City Management Unit. This document is categorized as quaternary data because it presents a comprehensive analysis of the city’s profile and long-term strategic action plan (2025–2029) that integrates various sectoral data.

This study employs content analysis techniques to process textual or media data from official documents, reports, and scientific publications. This technique follows Krippendorff’s (2018) procedure, which focuses on the contextual meaning of each document and informant statement, rather than merely the frequency of word occurrence. The integration of this technique enables researchers to move from description toward deeper interpretation and shift from source-specific analysis toward cross-source synthesis.

DISCUSSION

The Future City Hub Jakarta serves as the physical manifestation of the evolution of Jakarta-Berlin paradiplomacy. Based on research findings, the Future City Hub operates under the Urban Living Lab model, an open innovation experimentation ecosystem that positions the city as a living laboratory. The existence of the FCH is strategically aligned with the mandate under which Jakarta is projected to become an international innovation hub (Book 1 - Portrait of Jakarta Toward a Global-Scale Smart City.pdf, n.d.). In this context, innovation is no longer top-down from the government but is generated through Quadruple Helix interactions, its a collaboration among government, academia, the industrial sector, and the public.

Data analysis indicates that the Future City Hub’s role as a platform orchestrator is its key differentiator from similar initiatives. As an orchestrator, the Future City Hub facilitates cross-border knowledge transfer with Berlin, one of the world’s leading startup hubs. This enables the standardization of Jakarta’s local startups’ quality, allowing them to compete in the global market. In theory, the Future City Hub is positioned as a collaboration between Jakarta and Berlin, with

the aim of strengthening Jakarta’s position in the global competition among cities (Jakarta Smart City, 2025). This initiative serves as a strategic platform for developing a digital ecosystem and attracting international talent, which are key indicators of a city’s transition into a globally competitive smart city

One of the most critical findings in this policy evaluation is the sustainability mechanism of the Future City Hub. In 2023, the European Union ended its funding for the Smart Change project aimed at implementing the Jakarta-Berlin partnership. A critical challenge for many international collaborations at the local level is operational failure once grants end. The resilience of the Jakarta Future City Hub (FCH) is supported by the transformation of the Jakarta Smart City Service Unit (UP JSC) into a Regional Public Service Agency (BLUD). This change in status is based on Governor’s Decree No. 17 of 2020.

The BLUD transformation provides significant financial management flexibility. Before becoming a BLUD, UP JSC was heavily reliant on the rigid local budget (APBD) bureaucracy, which often did not align with the fast-paced dynamics of the technology industry. With BLUD status, FCH has the autonomy to manage its own revenue and recruit professional non-civil servant experts at industry-standard salaries. This ensures that technology transfer and partnership relations with Berlin remain managed by technically competent personnel, not merely administrative staff.

Tahun	Peringkat	Skor
2025	1	78,4
2024	1	77,6
2023	1	73,2
2022	1	75,6
2021	1	78,2

Figure 1. Trend of Jakarta’s Digital Competitiveness Index (2021-2025)

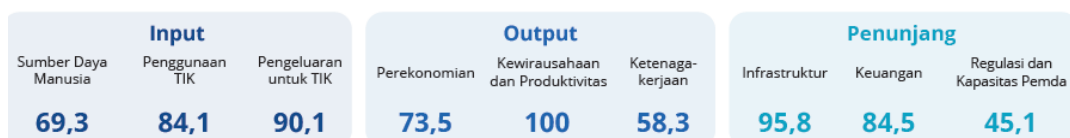


Figure 2. Jakarta Digital Competitiveness Pillars Score 2025

The effectiveness of FCH as a catalyst for digital transformation can be validated through tertiary data from the East Ventures – Digital Competitiveness Index (EV-DCI) 2025. Jakarta consistently ranks first in national digital competitiveness with an index score of 78.4. Researchers’ analysis found that the presence of FCH directly contributes to two key pillars of the index: the Entrepreneurship pillar and the Human Resources pillar. Within the Entrepreneurship pillar, FCH provides local startups with access to test their technological solutions on the city’s infrastructure through the Urban Living Lab program. This approach reduces experimentation costs for startups and increases the likelihood of product success in the market.

In the Human Resources pillar, collaboration with Berlin has raised the competency standards of digital talent in Jakarta. This synergy creates a positive spillover effect where the strengths of local talent meet access to global markets. Jakarta’s success in maintaining its digital dominance proves that investment in collaborative platforms like FCH yields systematic impacts. In this regard, Jakarta’s success through the Future City Hub can strengthen the city’s digital economic ecosystem as a whole.

The output pillar reveals strategic findings. Based on digital competitiveness index data, Jakarta achieved a score of 100 on the Entrepreneurship and Productivity indicators. Researchers argue that this top score is a tangible result of the existence of ecosystems such as the Future City Hub. Through the Urban Living Lab, the Future City Hub has successfully removed operational barriers for local startups to test technology and business scalability. This figure represents a highly mature level of digital sector productivity, where Jakarta has successfully transformed ICT investment (a score of 90.1 in expenditure) into productive economic output. Additionally, the Infrastructure pillar (95.8) and ICT Usage pillar (84.1) demonstrate that the integration of FCH’s physical facilities with Jakarta Smart City’s digital services is progressing in tandem.

The Regulatory and Local Government Capacity pillar (45.1) and the Labor pillar (58.3) represent critical evaluation points for the Future City Hub (FCH). The low regulatory score indicates a phenomenon of “cultural lag,” where the pace of startup innovation outstrips the speed at which traditional legislation and

bureaucracy can adapt. This situation risks hindering the expansion of the digital ecosystem that has been built.

In this context, FCH plays a vital role as a Digital Bridge through its status as a Regional Public Service Agency (BLUD). This status serves as a strategic mitigation measure to address the rigidity of conventional bureaucracy without requiring a complete overhaul of the structure. FCH provides a regulatory sandbox, a safe space for startups to operate under the technical guidance of international partners such as Berlin Partner. This transformation aligns with the policy direction of the Jakarta Development Plan 2025–2029, which prioritizes strengthening global digital capacity to address talent and regulatory gaps.

The labor market score of 58.3 confirms the existence of a talent gap. Although Jakarta is the economic hub, the availability of human resources meeting global competency standards remains limited. FCH is addressing this finding through a knowledge transfer program under the Jakarta-Berlin partnership. This low employment score serves as a strong justification for why the intensity of FCH's cross-border mentoring and talent exchange programs must be increased. In other words, the EV-DCI 2025 data indicates that without the intervention of a platform like FCH, Jakarta's digital ecosystem risks stagnation due to weak regulatory support and a shortage of professional talent.

CONCLUSION

This study concludes that the Future City Hub (FCH) Jakarta serves as a strategic instrument of paradiplomacy in the Jakarta-Berlin Sister City partnership. The FCH has evolved from a mere formal collaboration into a platform-based paradiplomacy model that functions as an orchestrator of a cross-border innovation ecosystem through the Urban Living Lab approach. Key findings indicate that the FCH's sustainability is highly dependent on institutional resilience, achieved through the transformation of Jakarta Smart City into a Regional Public Service Agency (BLUD). BLUD status provides the managerial and financial flexibility crucial for the hub's operational sustainability following the end of international funding. BLUD also ensures Jakarta has the capacity to recruit professional talent to maintain the standards of technology transfer from Berlin.

Empirically, the effectiveness of the FCH has been demonstrated by achieving a perfect score (100) on the Entrepreneurship and Productivity indicators in the EV-DCI 2025 report. This achievement demonstrates that the quadruple helix orchestration within FCH has successfully facilitated local startups in scaling up to a global level. However, this study also identifies challenges in the form of a Cultural Lag, reflected in the low scores for Regulation and Local Government Capacity. In this context, FCH plays a strategic role as a regulatory sandbox, enabling innovation to continue despite the constraints of traditional bureaucratic regulations.

Data integration between the Jakarta Master Plan 2025–2029 and actual on-the-ground performance indicates that FCH is a key pillar in realizing Jakarta's vision as a Global-Scale Smart City following the relocation of the national capital. This study recommends the need to strengthen the long-term roadmap and intensively enhance digital talent development programs to bridge the skills gap. This platform-based paradiplomacy model implemented in Jakarta has the potential to serve as a best practice for other cities in Asia in optimizing international partnerships to drive inclusive and sustainable digital transformation.

REFERENCES

- Acuto, M. (2020). *The New Urban Diplomacy*. Springer Nature.
- Acuto, M., Kosovac, A., & Hartley, K. (2021). City diplomacy: A review of the state of the art. *Diplomacy & Statecraft*, 32(1).
- Adiyanta, F. C. S. (2019). Hukum dan Studi Penelitian Empiris: Penggunaan Metode Survey sebagai Instrumen Penelitian Hukum Empiris. *Administrative Law and Governance Journal*, 2(4), 697-709. <https://ejournal2.undip.ac.id/index.php/alj/article/view/6604>
- Audretsch, D. B., & Belitski, M. (2021). Towards an entrepreneurial ecosystem: Evidence from European cities. *Journal of Technology Transfer*, 46(1), 160-189.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. SAGE Publications.
- Dvorak, J. (2020). City-to-city cooperation: A systematic literature review. *Journal of Public and Regional Policy*.

- East Ventures. (2025). *East Ventures – Digital Competitiveness Index (EV-DCI) 2025*. Jakarta: East Ventures. <https://east.vc/tag/east-ventures-digital-competitiveness-index-2025>
- Governor Pramono strengthened sister city synergy in Berlin // Jakarta Smart City*. (n.d.). Jakarta Smart City. <https://smartcity.jakarta.go.id/en/blog/gubernur-pramono-perkuat-sinergi-sister-city-di-berlin/>
- Krippendorff, K. (2018). *Content Analysis: An Introduction to Its Methodology*. SAGE Publications. <https://dx.doi.org/10.4135/9781071878781>
- Kuswanto, A. (2016). *Hukum Kerja Sama Daerah di Indonesia*. Jakarta: Sinar Grafika. H
- Prastita, R. A., Mega, E., & Paschaline, F. F. (2026). Reconfiguring Urban Governance: Paradiplomacy and Triple helix dynamics in ASEAN– Republic of Korea Smart City Collaboration. *IKAT the Indonesian Journal of Southeast Asian Studies*, 7(2), 131. <https://doi.org/10.22146/ikat.v7i2.115248>
- Sulung, U., Muspawi, M., & Universitas Jambi. (2024). MEMAHAMI SUMBER DATA PENELITIAN : PRIMER, SEKUNDER, DAN TERSIER. In *Jurnal Edu Research* (Vol. 5, Issue 3, pp. 110–112). <https://iicls.org/index.php/jer/article/download/238/195>
- Pengelolaan Sister City/Province dan Pembangunan Daerah Provinsi DKI Jakarta*. (n.d.). Google Books. [https://books.google.co.id/books?hl=id&lr=&id=-nNMEAAAQBAJ&oi=fnd&pg=PP1&dq=Ali,+M.,+et+al.+\(2025\).+Digital+Entrepreneurship+and+Global+Networking:+The+Jakarta-Berlin+Case.+Journal+of+Urban+Innovation.+&ots=byTkLs_Lxq&sig=f09xPY4OoMgE8HQHrRzMwJ3ocCk&redir_esc=y#v=onepage&q&f=false](https://books.google.co.id/books?hl=id&lr=&id=-nNMEAAAQBAJ&oi=fnd&pg=PP1&dq=Ali,+M.,+et+al.+(2025).+Digital+Entrepreneurship+and+Global+Networking:+The+Jakarta-Berlin+Case.+Journal+of+Urban+Innovation.+&ots=byTkLs_Lxq&sig=f09xPY4OoMgE8HQHrRzMwJ3ocCk&redir_esc=y#v=onepage&q&f=false)
- Unit Pengelola Jakarta Smart City. (2024). *Master Plan Buku 1: Potret Kota Jakarta Menuju Kota Cerdas Berskala Global*. Jakarta: Dinas Komunikasi, Informatika dan Statistik Provinsi DKI Jakarta. <https://smartcity.jakarta.go.id/id/jurnal/>
- Unit Pengelola Jakarta Smart City. (2024). *Master Plan Buku 2: Rencana Pembangunan Jakarta sebagai Kota Cerdas Berskala Global 2025-2029*. Jakarta: Dinas Komunikasi, Informatika dan Statistik Provinsi DKI Jakarta. <https://smartcity.jakarta.go.id/id/jurnal/>