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From public agency to hybrid organization: the institutional transformation of Cimahi Techno Park, Indonesia

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Abstract

This study analyzes the institutional dynamics of Cimahi Techno Park (CTP), a local government-owned Science and Technology Park (STP) currently undergoing a transformation toward a hybrid organizational model. The study aims to identify these gaps by analyzing institutional dynamics, characteristics of hybridity, and barriers to CTP's transformation. The research method employed is based on a qualitative case study, in which data were collected through interviews, observations, and document analysis to examine competing public-private logics, collaborative governance practices, and institutional barriers. The findings showed that although the CTP has developed early forms of hybridity through collaborative networks involving the government, academics, industry, and the creative community, its operational autonomy remains constrained by structural rigidity, limited financial autonomy, and gaps in human resource capacity. This study demonstrates that transforming the CTP from a public agency into STP a hybrid organization requires more than just administrative reforms; it necessitates broader institutional changes in governance, capacity, and policy alignment. The research has formulated a transformation model toward a Regional Public Service Agency that emphasizes human resource development, financial autonomy, and the institutionalization of collaborative governance mechanisms. This study contributes to the development of the concept of hybrid organizations as a public sector innovation in developing countries.

Keywords: *hybrid organization, government transformation, science techno park, governance innovation*

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Introduction

The global economic transformation toward a knowledge-based economy positions innovation and technology as the primary foundations of national and regional competitiveness. Within this context, Science and Technology Parks (STPs) have emerged as institutional mechanisms that go beyond the provision of physical infrastructure, functioning instead as managers of innovation ecosystems that connect research institutions, industry, and government through collaborative arrangements (Entringer & Da Silva, 2020); Granstrand & Holgersson, 2020; Sun et al., 2019). STP has been empirically proven to improve the innovation performance of tenant firms through access to research resources, university-industry networks, and incubation support (Albahari et al., 2018; Steffen et al., 2017; Ubeda et al., 2019; Siegel et al., 2003). STPs function as intermediary institutions that facilitate knowledge flows, promote research–industry collaboration, and support the development of technology-based enterprises. Recent studies further highlight that STPs are increasingly expected to act as orchestrators of innovation ecosystems, emphasizing not only the provision of

infrastructure but also governance capacity, network coordination, and institutional adaptability in rapidly changing environments (Díez-Vial & Montoro-Sánchez, 2016; Sun et al., 2019; Granstrand & Holgersson, 2020). This shift reflects the evolving role of STPs from passive facilitators to active innovation intermediaries within global knowledge economies. At the same time, they are professionally managed organizations specifically designed to foster a culture of innovation, enhance the competitiveness of knowledge-based firms, and link universities, industry, and markets within an integrated innovation ecosystem (Steffen Mario Oscar et al., 2017; Fulgencio, 2017). Professional managerial capacity, a collaborative environment, and flexibility in partnerships constitute critical success factors (CSFs) for Science and Technology Parks (STPs) (Albahari et al., 2018; Steffen Mario Oscar et al., 2017; Bonacina Roldan et al., 2018)

Various studies have shown that STPs managed through a hybrid institutional model, combining public and private logics, offer advantages in operational flexibility and partnership effectiveness. Hybrid organizational theory posits that organizations situated at the "interface of two or more logics" are better equipped to carry out innovative functions adaptively (Hahn et al., 2015). However, most existing studies on hybrid organizations have focused primarily on social enterprises, healthcare institutions, and public service delivery, with limited attention to their application in innovation infrastructure such as STPs, particularly in developing country contexts (Battilana & Le e, 2014; Brandsen & Karré, 2021; Sandoval Hamón et al., 2024). Consequently, little is known about how government-owned STPs navigate institutional constraints and governance complexities in transitioning from bureaucratic structures to hybrid organizational forms. This highlights a clear research gap in understanding the processes, challenges, and institutional dynamics of hybrid transformation in public innovation organizations.

This study addresses this gap by examining the institutional transformation of Cimahi Techno Park (CTP) as a government-owned STP, focusing on how hybrid organizational principles are operationalized under bureaucratic constraints. In the realm of governance, the integrative framework of Collaborative Governance by Emerson et al., (2012) emphasizes that collaborative governance regimes operate through a constellation of system contexts, collaborative dynamics (shared motivation, principled engagement, joint capacity), and joint action that give rise to institutional adaptation. While international experiences from countries such as Finland, South Korea, and Singapore demonstrate the effectiveness of hybrid institutional arrangements in STP governance, there remains a lack of empirical understanding of how such models are adapted within more constrained bureaucratic systems in developing countries. The international context of STPs, such as those in Finland and Singapore, demonstrates that semi-automated institutional structures, public-private partnerships, and professional management can form dynamic innovation ecosystems (Bellini et al., 2013; Phua, 2018; Sun et al., 2019). In contrast, many STPs in Indonesia still operate within the framework of Regional Technical Implementation Unit, which tend to be bureaucratic and less flexible, underscoring the need for institutional transformation towards a hybrid model, such as the Regional Public Service Agency, with collaborative governance.

In Indonesia, the development of STPs is a crucial component of the national strategy to enhance innovation systems and foster the transformation of a knowledge-based economy. The government has prioritized the development of STPs in the National Research and Innovation Roadmap and the National Medium Term

Development Plan (RPJMN), aiming to develop 100 STPs across various regions. Despite this strong policy commitment, recent studies indicate that the institutional performance of many regional STPs remains relatively limited, suggesting a gap between national policy ambitions and local implementation capacity (Perobelli et al., 2025; Weinert, 2016; Khoirunisa et al., 2023). However, most regional STPs still operate under a bureaucratic Regional Technical Implementation Unit structure, relying on the regional budget, and are limited in managerial flexibility and partnerships with the private sector (Perobelli et al., 2025; Vakkuri et al., 2021). The limitations of the Regional Technical Implementation Unit structure mean that many regional STPs are unable to play an optimal role as innovation catalysts, primarily due to a lack of regional regulatory support, weak managerial capacity, and inadequate multi-party collaboration, which are the main prerequisites for the successful development of science and technology parks (Triastuti et al., 2023; Khoirunisa et al., 2023).

Several studies also indicate that regional STPs face significant challenges in funding independence, the sustainability of incubation programs, and the development of alternative financing models, as the Regional Technical Implementation Unit*f* management system restricts operational flexibility (Ávila & Amorim, 2018; Vakkuri et al., 2021). This condition reflects a broader institutional constraint whereby public-sector organizations struggle to balance bureaucratic accountability with the flexibility required for innovation-driven environments (Mazzucato, 2018; (Kattel & Mazzucato, 2018). These institutional obstacles are reinforced by the finding that transformation to a more autonomous organizational form, such as Regional Public Service Agency, is often hampered by inadequate administrative readiness, weak accountability mechanisms, and the lack of adaptation of internal business processes (Febriansyah et al., 2023). Accordingly, there remains a critical research gap regarding how institutional rigidity, governance limitations, and capacity constraints shape the transformation of public STPs toward hybrid organizational models, particularly in developing countries such as Indonesia. Thus, the main challenge in developing regional STPs lies not only in the technical aspects of innovation programs but also in the ability to undertake institutional reforms toward a hybrid organizational model that provides operational flexibility, diversified funding, and collaborative governance.

The concept of hybrid organizations developed from the need to address the dilemma between market efficiency and public accountability in the delivery of government functions and social services. Hybrid organizations are understood as entities that operate at the intersection of multiple institutional logics, particularly public sector logic (service and accountability) and private sector logic (efficiency and economic value). In such organizations, identity, structure, and managerial practices are formed through a negotiation process between public and business principles (Skelcher & Smith, 2015). Thus, hybrid organizations are not only structural but also ideological and normative, reflecting efforts to adapt to social and economic complexities that a purely bureaucratic model cannot address. (Denis et al., 2015) emphasize that the dynamics of hybrid organizations are characterized by tensions between social and economic goals, which, when managed well, can drive organizational innovation.

Recent studies also suggest that hybridity has become a dominant governance approach for addressing complex public-sector challenges, particularly in contexts requiring innovation, flexibility, and cross-sector collaboration (Brandsen & Karré, 2021; Vakkuri et al., 2021; Baudot et al., 2022; Benish & Mattei, 2020; Benish, 2020). In the context of public administration, hybrid organizational forms often emerge in quasi-governmental organizations such as public corporations, government-linked companies

(GLCs), and Regional Public Service Agency, which combine public social responsibility with market-based operational capabilities (Reddick et al., 2020).

Similarly, (Boccardelli et al., 2017) assert that organizational hybridity is a response to the pressures of global hypercompetition and digital transformation, which demand more flexible, collaborative, and learning-oriented institutional forms. Hybrid organizations create an arena where various institutional logics, efficiency, innovation, and accountability interact, often generating productive contradictions that accelerate organizational learning. This perspective highlights that hybridity is particularly relevant in innovation-driven sectors, where organizations must balance public accountability with entrepreneurial orientation and rapid adaptation (Cinar et al., 2019; Perobelli et al., 2025; Fuglsang & Møller, 2020; Sun et al., 2019; Fulgencio, 2017). Hybrid organizing serves as a strategic framework that enables organizations to experiment, engage in bricolage, and foster cross-sector innovation (Annosi et al., 2017; Annosi & Brunetta, 2017; Battilana & Lee, 2014). This organizational form strengthens adaptive capacity, especially in the face of complex policy environments and the need for collaboration between universities, industry, and government, a key characteristic of innovation ecosystems such as Science and Technology Parks. However, despite its relevance, empirical applications of hybrid organization theory in the context of Science and Technology Parks remain relatively limited, particularly in developing countries where institutional constraints are more pronounced (Albahari et al., 2018; Perobelli et al., 2025; Van Gestel et al., 2020; Sandoval Hamón et al., 2024).

Furthermore, hybrid organizations are characterized by dual features, as they remain subject to public regulation while simultaneously exercising autonomy in financial management, human resources, and external partnerships (Vakkuri et al., 2021; Grossi et al., 2022). This model provides public institutions with opportunities to compete efficiently in the market without losing public legitimacy. From this perspective, hybridity is not simply a hybrid institutional form, but an adaptive strategy that enables public organizations to remain relevant in a rapidly changing environment. Empirical studies also demonstrate the important role of hybrid organizations in innovation and research due to their ability to adapt to uncertainty, strengthen collaboration between actors, and leverage cross-sector resources (Boccardelli et al., 2017; Brandsen & Karré, 2021; Hahn et al., 2015).

Recent evidence also indicates that hybrid organizational arrangements can enhance resilience and innovation performance if supported by strong governance capacity and institutional alignment (Alexius & Furusten, 2020; Vakkuri et al., 2021; Baudot et al., 2022; Reddick et al., 2020). In the context of innovation, hybrid organizations enable synergy between academic capacity and market orientation, and provide space for the government to become a facilitator of collaboration, rather than simply a regulator. Thus, the hybrid organization concept provides an ideal institutional framework for managing regional innovation ecosystems such as Science and Technology Parks, which demand flexibility, accountability, and financial independence simultaneously. This theoretical perspective is particularly relevant for analyzing institutional transformation processes in public STPs, where bureaucratic structures often coexist with demands for innovation and flexibility.

Empirically, various countries have demonstrated the successful implementation of hybrid organizations in developing innovation ecosystems. A study of the Otaniemi Science Park in Finland found that semi-private institutions supported by city governments and universities could create a flexible, financially independent, and innovative environment (Bellini et al., 2013). Meanwhile, One-North Singapore is a

model of a professionally managed government-linked company (GLC) under JTC Corporation, a typical form of hybrid organization that balances public control and market efficiency (Phua, 2018). These international experiences indicate that hybrid organizational arrangements can significantly enhance the performance of innovation ecosystems through greater flexibility, diversified funding, and stronger cross-sector collaboration (Colombo et al., 2019; Albahari et al., 2017).

However, their successful implementation depends heavily on institutional capacity, governance quality, and regulatory support, which often vary across countries. In the Indonesian context, the hybrid organizational model has begun to be adopted through the policies of Public Service Agencies and Regional Public Service Agency, which provide managerial autonomy and financial management flexibility for public institutions based on Regulation of the Minister of Finance of the Republic of Indonesia Number 202/PMK.05/2022. However, in practice, many regional institutions, including Science and Technology Parks like Cimahi Techno Park, still operate as Regional Technical Implementation Units with rigid bureaucratic structures and a heavy reliance on the regional budget (Ávila & Amorim, 2018; Vakkuri et al., 2021). This situation creates an institutional misfit between the needs of a dynamic innovation ecosystem and a rigid public administration framework.

This misalignment highlights a critical issue in the Indonesian context, where the institutional design of public organizations has not fully adapted to the demands of innovation-driven governance. Therefore, a hybrid organization approach is crucial for analyzing how STPs can transform into more autonomous, flexible, and collaborative entities to support regional innovation. Accordingly, this study positions Cimahi Techno Park (CTP) as an empirical case to examine how hybrid organizational principles can be applied within a constrained bureaucratic setting. Specifically, this study seeks to answer the following research question: how do government-owned Science and Technology Parks (STPs) navigate institutional constraints and governance complexities in transitioning toward hybrid organizational forms? This inquiry contributes to both theoretical and practical discussions on public sector innovation in developing countries.

Research Methods

This research uses a qualitative case study design to deeply understand the institutional dynamics and practices of hybrid organizations in Cimahi Techno Park (CTP), one of the Science and Technology Parks developed by the local government. The qualitative approach was chosen because the research topic is oriented towards social processes and institutional transformation, which requires an understanding of the meaning, interactions, and policy contexts surrounding it (Stake, 1995; Yin et al., 2018). The research was conducted at Cimahi Techno Park (CTP), located in Cimahi City, West Java Province. The location was selected purposively because CTP is an STP that represents the active role of local government in fostering the innovation ecosystem and digital creative industry.

The research was conducted over nine months (January–October 2025), encompassing a pre-field phase (identification of policies and institutional documents), field data collection (interviews and observations), and analysis and validation of the results. The research utilizes primary and secondary data. Interviews were conducted in July–October 2025, using guidelines that focused on: (a) institutional structure, (b) public–private logic, (c) partnerships & collaboration, (d) need for institutional autonomy, and (e) perceptions of hybrid organizations.

Table 1. Key Informants

Informants	Organizations	Role/Information substance	Reasoning
CTP Management (5 informants, in-depth interviews, 60-120 minutes)	Cimahi Techno Park	Organizational structure, operations, and incubation programs	Understanding the core operations of CTP
Office of Trade, Cooperatives, Small and Medium Enterprises, and Industry (2 informants, semi-structured interviews, 60-90 minutes)	Cimahi City Governments	Policies, regulations, and institutional relationships	Parent institution that oversees CTP
Academic Partners (3 informants, semi-structured interviews, 60-90 minutes)	TEDC, UNJANI, UNIKOM	Research collaboration and technology transfer	Part of the triple helix
Incubated startup (5 informant, semi-structured interviews, 30–60 minutes)	CTP Tenant	Evaluation of incubation services and practices	Direct program users
Regional Research and Innovation Agency of West Java Province (2 informant, semi-structured interviews, 60–90 minutes)	Provincial Government	Direction of regional innovation policy	Regional innovation coaches

Source : processed by author, 2026

Table 2. Data source and collection technique

Data Type	Data Source	Collection Technique	Purpose
Primary	Key informants	Semi-structured interviews	Understanding the internal and external dynamics of CTP
Secondary	Regular regulations, strategic plans, performance reports, MoUs, incubation documents, BRIN reports	Document study	Mapping formal structures and governance mechanisms
Observation	Incubation and collaboration activities	Non-participatory observation	Recording actor interactions and collaborative practices

Source : processed by author, 2026

Data analysis was carried out thematically and interactively following the analysis model (Miles et al., 2014), which consists of three main stages: data reduction, data, conclusion drawing and verification. In addition to thematic analysis, a pattern-matching technique Yin (2018) was also used to test the correspondence between field findings and theoretical propositions regarding the characteristics of hybrid organizations, such as dual logic, structural flexibility, and managerial autonomy. To ensure the validity and reliability of the research results. Furthermore, member checking with several key informants was conducted to confirm the researcher's interpretation of the interview results. The researchers also implemented an audit trail to systematically document the data analysis process, ensuring transparency and traceability.

Table 3. Validity and Reliability Strategy

Validity Startegy	Operational Description	Purpose	Reference
Triangulation of sources and methods	Comparing interviews, documents, and observations	Ensuring consistency between data	(Denzin & Lincoln, 2018a)
Member checking	Confirming interpretations with informants	Improving data accuracy	(Denzin & Lincoln, 2018a)
Audit trail	Recording the analysis and coding process	Maintaining transparency and traceability	(Miles et al., 2014b)
Peer debriefing	Discussions with colleagues/experts	Objectivity of interpretation	(Merriam & Tisdell, 2016)

Source : processed by author, 2026

Results and Discussion

The findings reveal that Cimahi Techno Park (CTP) operates under significant institutional constraints due to its status as a Regional Technical Implementation Unit within the local government structure. These constraints primarily relate to limited financial autonomy, restricted decision-making authority, and rigid administrative procedures that affect the organization's ability to respond to dynamic innovation demands. Interview data indicate that most strategic decisions, including budgeting, partnership development, and program design, require approval from the parent agency, resulting in delayed responses to external collaboration opportunities.

Furthermore, the findings show that CTP's operational practices are characterized by an emerging hybrid orientation, where public sector mandates coexist with market-driven expectations. While CTP is formally required to comply with bureaucratic rules and accountability mechanisms, in practice it has developed adaptive strategies to engage with industry partners, support startup incubation, and deliver innovation-based services. Informants highlighted that collaboration with universities, private sector actors, and innovation communities has become a key mechanism for overcoming internal limitations and expanding organizational capacity.

In addition, the study finds that CTP has begun to experiment with alternative managerial approaches, including project-based partnerships and informal collaboration schemes, to compensate for the lack of institutional flexibility. These practices reflect an ongoing process of organizational adaptation, in which CTP attempts to balance its public service obligations with the need for efficiency, responsiveness, and sustainability within the regional innovation ecosystem. However, these hybrid practices remain fragmented and are not yet fully supported by an enabling institutional framework.

The following section presents an overview of Cimahi Techno Park as the context of analysis. Cimahi Techno Park (CTP) is a regional Science and Technology Park (STP) developed by the Cimahi City Government since 2013, in line with the national policy of strengthening the regional innovation system (SIDa) and the implementation of the National Research Master Plan. CTP was initiated by the Cimahi City Government, which, since the early 2000s, has identified creative industries and information technology as leading regional sectors. The idea of establishing a techno park originated from the need to bridge research results, community creativity, and opportunities for commercializing local technology. Support from the central government, through the Ministry of Research and Technology at the time, helped establish CTP as one of the ten regional Science Techno Park pilot projects.

Legally and formally, the Cimahi Techno Park (CTP) was established through a Mayor's Regulation of Cimahi City and is designated as a Regional Technical Implementation Unit under the Office of Trade, Cooperatives, Small and Medium Enterprises, and Industry (Disdagkoperin). This institutional status positions CTP within the local government apparatus, responsible for carrying out operational and technical functions in innovation and technology development. Within this organizational framework, CTP is mandated to perform several core functions, including: developing technology-based business incubation programs; facilitating applied research and downstreaming research products; and fostering the digital creative industry and local startups.

This function aligns with the principles formulated by the International Association of Science Parks, which define STP as a professional organization strategically managed to foster innovation, develop technology-based entrepreneurship, and enhance regional economic competitiveness through cross-sector collaboration.

Within the context of regional innovation systems, CTP's position is highly strategic because it acts as an intermediary institution connecting three key innovation subsystems: government, academia, and industry. Local governments act as policy enablers and providers of infrastructure and regulatory support; universities and local research institutions act as knowledge providers through the transfer of knowledge and technology; while small and medium-sized industries (SMEs) and start-ups act as co-creators and users of innovation. The collaboration between these three actors aligns with the Triple Helix model (Etzkowitz & Leydesdorff, 2000), where cross-sector interaction is key to creating a sustainable innovation ecosystem.

Furthermore, CTP also serves as a center for developing digital technology-based human resource competencies. Several flagship programs have been implemented, including the Digital Entrepreneurship Academy, Creative Coding Camp, and Creative Start-Up Incubation, which involve students, creative communities, and micro-entrepreneurs. In implementing these programs, CTP collaborates with various institutions, including TEDC Polytechnic, Jenderal Achmad Yani University (UNJANI), and several co-working spaces in Greater Bandung. This collaboration expands the regional innovation network and strengthens Cimahi's role within West Java's digital economy ecosystem (Cadorin et al., 2017; Löfsten & Klofsten, 2024).

However, from an institutional perspective, CTP's status as a Regional Technical Implementation Unit presents significant structural and managerial limitations. All strategic decisions related to budgeting, professional recruitment, and the establishment of the partnership program must go through the bureaucratic mechanisms of the Communication and Informatics Agency (Kominfo), the central agency. This hierarchical structure results in a slow response to collaboration and innovation opportunities that require high speed and flexibility. Furthermore, CTP's funding source is entirely dependent on annual regional budget allocations, with no authority to independently manage revenue from incubation or training services.

These limitations give rise to what is known as institutional lock-in, a condition where a rigid organizational structure hinders an institution's adaptive ability to evolve with the dynamics of the innovation ecosystem (Denis et al., 2015; Li & Abiad, 2009). While CTPs are required to act as agile, innovative organizations based on public entrepreneurship, they are also bound by bureaucratic logic that prioritizes administrative procedures and accountability. Consequently, a gap exists between the institution's vision as an innovation intermediary and its structural capacity, which

remains strictly aligned with the logic of regional government (van Gestel et al., 2020; Vakkuri et al., 2021; Sætre, 2023; Zhu et al., 2023).

Nevertheless, the existence of CTPs remains strategically valuable in building a regionally-based innovation institutional model. In recent years, CTPs have begun to demonstrate a shift in institutional orientation toward greater adaptability by building collaborative networks across actors. These steps include establishing regional innovation forums, developing Business Incubator Unit development plans, and proposing institutional transformation into a Regional Public Service Agency. This transformation is expected to provide managerial flexibility, space for professional recruitment, and flexibility in managing revenue and business partnerships (Brandsen & Karré, 2021; Vakkuri et al., 2021; De Waele et al., 2021).

Thus, conceptually and empirically, CTPs can be understood as entities in institutional transition, attempting to balance the public's role as implementers of regional innovation policies with the demands of efficiency and independence, similar to those of private entities. This situation reflects the process of moving towards a hybrid organizational form, as described in theory (Skelcher & Smith, 2015) where public organizations begin to adopt cross-logical values, structures, and practices to enhance their innovation capacity.

Hybrid Characteristics of CTP Organizations

Cimahi Techno Park (CTP) is a local government Science and Technology Park (STP) established to support the national agenda of strengthening innovation systems and accelerating downstreaming of technology. CTP's position in the Cimahi region, which has a creative economy and digital industry base, positions it as a strategic collaboration hub between the local government, academics, and the industrial community, in line with the characteristics of science parks that function as spaces for knowledge exchange and integrated innovation development (Xiao & North, 2018; Yan et al., 2018; Theeranattapong et al., 2021). As emphasized in related studies, STPs are ideally managed by professionals and have the capacity to facilitate incubation processes, technology transfer, and strengthening networks between actors (Tejon, 2024; Mian et al., 2016; Cadorin et al., 2017). Since its establishment in 2013, CTP has organized various incubation programs, digital training, and technology-based business facilitation, but its effectiveness is still heavily influenced by the institutional design that oversees it (Perobelli et al., 2025; Fuglsang & Møller, 2020; Ng et al., 2020)

As a Regional Technical Implementation Unit, CTP operates within a centralized bureaucratic structure, which various studies have found to be a major obstacle to STP development at the regional level, as it limits funding flexibility, managerial innovation space, and institutional independence (Triastuti et al., 2023). The Regional Technical Implementation Unit model also makes it difficult for institutions like CTP to implement market-based management patterns, including establishing long-term business partnerships or developing innovation support services oriented towards financial sustainability (Mursalim & Anwar, 2024). This situation is further reinforced by findings from other regional studies showing that bureaucratically managed STPs tend to be unable to respond quickly to industry needs and struggle to develop innovative business models due to limited decision-making autonomy (Febriansyah et al., 2023; Ávila & Amorim, 2018; Vakkuri et al., 2021; Perobelli et al., 2025; Zhu et al., 2023).

Nevertheless, the growing collaborative dynamics among government, universities, industry players, and creative communities in CTPs indicate the emergence of a hybrid innovation governance model, in which public and private sector actors are

beginning to interact and share resources to support the innovation process. This practice aligns with the literature that suggests the success of STPs is largely determined by their ability to build collaborative networks and facilitate cross-sector knowledge flows (Tejon, 2024; Xiao & North, 2018; Yan et al., 2018; Theeranattapong et al., 2021). However, the sustainability of this collaborative dynamic remains constrained by the lack of an institutional model that provides adequate operational autonomy and managerial flexibility. Studies on the transformation of public institutions into Regional Public Service Agencies indicate that financial flexibility and a semi-business management model are essential to strengthen the effectiveness of STP-like institutions (Febriansyah et al., 2023; Perobelli et al., 2025; Vakkuri et al., 2021; Grossi et al., 2022).

Thus, an important question arises: how can CTP be transformed from a rigid Regional Technical Implementation Unit structure into a hybrid organization capable of integrating public accountability with the efficiency and managerial dynamics required in manage an innovation ecosystem? A further question is how the principles of hybrid governance, which emphasize collaboration, multi-stakeholder coordination, and institutional flexibility, can be applied to strengthen the effectiveness of CTP as a local government STP. This study aims to analyze the institutional dynamics of CTP, evaluate its readiness for transformation into a hybrid organizational form, such as a Regional Public Service Agency, and formulate a conceptual model for adaptive and sustainable regional STP management, grounded in theory and empirical findings from the literature on STP development, innovation collaboration, and organizational hybridity.

Based on institutional analysis and management practices, Cimahi Techno Park (CTP) exhibits the characteristics of a hybrid organization formed through the interaction of two distinct institutional logics: public logic and private logic (market logic). Within the theoretical framework Billis (2010) Hybrid organizations exist between two competing value systems: on the one hand, subject to the principles of accountability, regulation, and public service; on the other, they are required to be efficient, competitive, and innovative, much like business organizations. In the context of CTP, these two logics not only coexist structurally but also shape the organization's work dynamics, collaboration patterns, and strategic decisions. As a local government institution, CTP is obligated to comply with bureaucratic regulations and regional financial management regulations. However, in carrying out its function as an innovation intermediary, CTP must operate with high flexibility to respond to market opportunities, industry partnerships, and the needs of start-up players. The tension between these two logics creates what (Denis et al., 2015), calls organizational hybridity tension—a condition in which public organizations must simultaneously negotiate the values of economic efficiency and social legitimacy (Skelcher & Smith, 2015; van Gestel et al., 2020; Sætre, 2023)

The concrete manifestation of CTP hybridity is evident in its intersectoral collaboration mechanisms involving the public sector, academia, innovation communities, and local industry. In practice, CTP management has implemented collaborative principles resembling the Triple Helix model (Etzkowitz & Leydesdorff, 2000) and even advancing toward a Quadruple Helix model, involving communities and digital creative actors. This collaboration, for example, is realized through the Digital Entrepreneurship Academy program, ICT-based training for SMEs, and mentoring startups in collaboration with TEDC Polytechnic, UNJANI, and the Bandung Business Incubator. Although managed within a Technical Implementation Unit structure, CTP has successfully leveraged informal cross-institutional networks to strengthen its innovation capacity. This practice illustrates what Boccardelli et al., (2017) call strategic

hybridity: the ability of an organization to combine formal, rule-based structures with informal networks based on trust and creativity (Fuglsang & Møller, 2020; Zollo et al., 2023; Theeranattapong et al., 2021).

Beyond the collaborative aspect, CTP's hybrid character is also evident in its public resource and service management model. On the one hand, budgeting, facility use, and activity reporting are subject to regional financial regulations; On the other hand, CTP is required to produce market-oriented outputs such as developing innovative products, providing paid training services, and fostering digital entrepreneurs. To overcome administrative limitations, CTP management has begun developing project-based collaboration and non-financial partnership schemes through memorandums of understanding (MoUs) with external institutions. This approach reflects a form of managerial adaptation typical of hybrid organizations that seek to create organizational ambidexterity, namely the ability to exploit public resources while simultaneously exploring market opportunities (O'Reilly III & Tushman, 2013. Thus, despite remaining bound by bureaucratic structures, CTP has attempted to negotiate its dual role between administrative accountability and public entrepreneurship (Grossi et al., 2022; Vakkuri et al., 2021; De Waele et al., 2021).

However, CTP hybridity is also characterized by several institutional tensions. As explained by (Hahn et al., 2015), Hybrid organizations often face a dilemma between social mission and market orientation. In the case of CTP, this dilemma arises when managers must choose between prioritizing public service activities (such as free training for the community) or activities with potential revenue generation (such as commercial training and business incubation programs). Furthermore, the status of a government-owned technical service unit prevents managers from fully delegating surplus revenue to service development. This situation suggests that CTP is still in the early stages of institutional hybridization, in which institutional innovation proceeds alongside negotiations over values and interests among actors (Schmitz, 2015; Maine et al., 2024)

Nevertheless, the characteristics of CTP hybridity can be seen as a form of institutional experimentation toward a more adaptive institutional model, such as the Regional Public Service Agency. In the Regional Public Service Agency model, the principles of efficiency and flexibility are emphasized without sacrificing public accountability, thereby aligning with the needs of organizations like CTP operating in the innovation sector. This approach aligns with the argument (Brandsen & Karré, 2021) that hybridity is not an anomaly in public organizations, but rather a necessity in the collaborative era. CTP thus serves as an empirical example of how regional organizations can develop hybrid governance practices by combining public and private logics, while also fostering institutional learning in they adapt to the dynamics of the innovation system. If guided and facilitated by appropriate institutional policies, this hybrid character can become a key strength of CTP in strengthening the regional innovation ecosystem and become a model for local government STP management in Indonesia.

To clarify how institutional hybridity is formed in the management of Cimahi Techno Park (CTP), the following diagram illustrates the interactions between public and private logics that shape the organization's dynamics. This visualization demonstrates CTP's position as an entity situated between bureaucratic demands and the need for market flexibility, and illustrates the cross-actor collaboration patterns that are the primary source of its hybrid character. This diagram helps demonstrate how

tensions, integration, and the roles of each actor influence each other in the CTP management process.

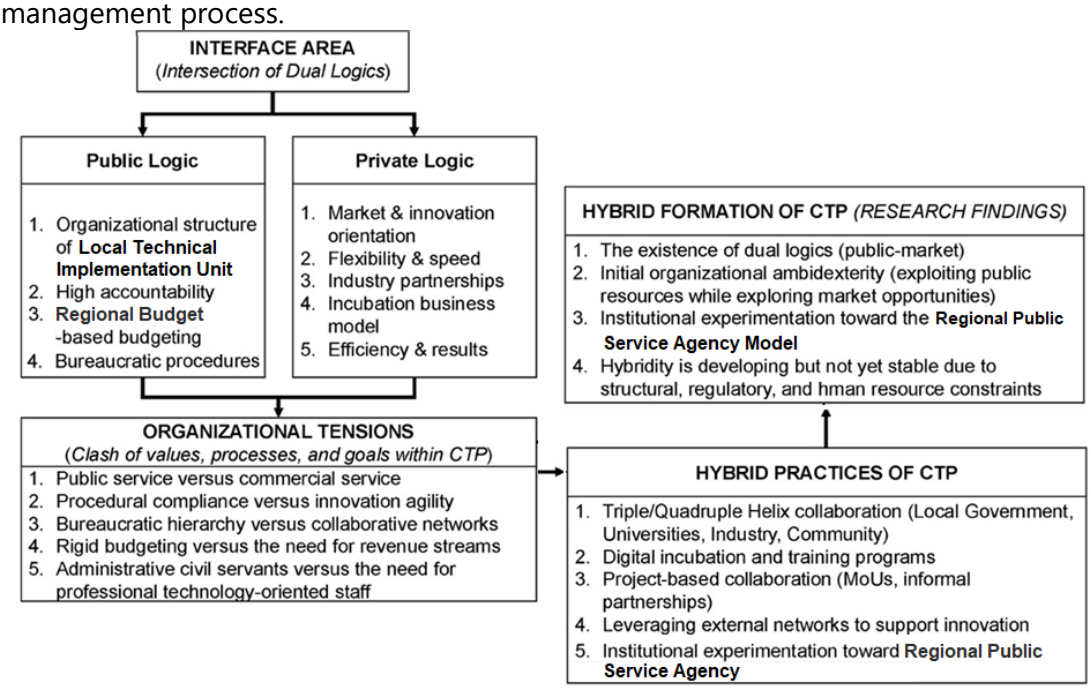

Figure 1. Cimahi Techno Park (CTP) Hybrid
Source: processed by author, 2025

This conceptual model illustrates how hybridity in Cimahi Techno Park (CTP) emerges from the interaction between public and private institutional logics, rather than being formally designed from the outset. Empirical findings indicate that CTP operates under a dominant public logic characterized by bureaucratic structures, accountability requirements, and dependence on public budgeting. At the same time, its role as an innovation intermediary necessitates the adoption of private logic elements, including market orientation, flexibility, and industry collaboration.

The intersection of these dual logics creates an "interface area" in which competing values, processes, and goals generate organizational tensions. These tensions are manifested in conflicts between public service obligations and commercial orientation, procedural compliance and innovation agility, as well as rigid administrative structures and the need for collaborative networks.

Importantly, the findings show that these tensions do not only constrain organizational performance but also act as a driving force for the emergence of hybrid practices. These practices include multi-stakeholder collaboration, incubation programs, informal partnerships, and institutional experimentation toward the Regional Public Service Agency model.

Thus, hybridity in CTP should be understood as a dynamic and emergent process shaped by institutional constraints and functional demands, rather than a stable organizational form. This explains why the hybrid formation remains in a transitional phase, as structural, regulatory, and human resource limitations prevent the full institutionalization of hybrid governance.

The model therefore contributes to the literature by demonstrating that hybridization in public innovation organizations is driven by the interplay between institutional rigidity and adaptive practices, highlighting the importance of governance transformation in enabling sustainable hybridity.

Barriers to Transformation Towards Regional Public Service Agency

The institutional transformation of Cimahi Techno Park (CTP) into a Regional Public Service Agency is a strategic step that is normatively expected to increase operational flexibility, managerial efficiency, and the institution's financial independence. The Regional Public Service Agency model, as stipulated in Minister of Home Affairs Regulation Number 79 of 2018 and the General Guidelines for Regional Public Service Agency Management, provides greater autonomy to government work units to manage revenue, human resources, and assets more dynamically without abandoning the principle of public accountability. In the context of CTP, this change in status is considered crucial to enable managers to adopt performance-based management principles and expand cross-actor collaboration within the innovation ecosystem. However, the analysis shows that the process of Regional Public Service Agency transformation faces complex structural, regulatory, and cultural barriers that stem not only from administrative factors but also from institutional dynamics and organizational behavior.

The first obstacle is regulatory and structural, related to the bureaucratic, legal, and governance framework. As a Regional Technical Implementation Unit under the Communication and Informatics Office, CTP lacks the flexibility to manage its own revenue, even though several activities, such as digital training, technology consulting, and business incubation, have the potential to generate revenue. All revenue must be deposited into the regional treasury and cannot be directly used for program development. This situation creates institutional constraints that hinder the principles of efficiency and sustainability, which are key characteristics of hybrid organizations (Billis, 2010).

Furthermore, the process of changing status to a Public Service Agency involves lengthy, multi-layered administrative requirements, ranging from preparing business plans and performance analyses to financial reports for the last three years, to feasibility evaluations by the local government and the Ministry of Finance. Many local governments lack the institutional capacity to prepare all these documents quickly and accurately, including the technical understanding of Regional Public Service Agency-based management. As a result, CTP remains trapped in a bureaucratic path-dependency structure that slows organizational innovation, while the innovation ecosystem demands agility and adaptation (Vakkuri et al., 2021; Perobelli et al., 2025; Grossi et al., 2022; Zhu et al., 2023).

The second obstacle stems from institutional capacity and human resources (HR). Based on the empirical study in the dissertation, the majority of CTP personnel still come from the state civil service with administrative backgrounds, rather than professionals in innovation management, technology entrepreneurship, or industrial partnerships. A work pattern based on adherence to procedures leads to low flexibility and a low entrepreneurial orientation in the institution. Organizations like STP require teams with cross-disciplinary capabilities to bridge research, business, and public policy (Boccardelli et al., 2017).

This limitation is exacerbated by the absence of flexible recruitment mechanisms, such as those permitted under the Regional Public Service Agency model, which allow institutions to recruit professional experts outside the civil servant system. Consequently, CTP faces a competency gap in innovation project management, business networking, and service-based revenue management. This situation illustrates

that institutional transformation is not merely a regulatory issue but also involves organizational capability building, namely, the organization's ability to capitalize on opportunities for change by strengthening human resources and management (O'Reilly III & Tushman, 2013; Ávila & Amorim, 2018; Sætre, 2023; Cadorin et al., 2017).

The third obstacle concerns coordination among actors and the dynamics of collaborative governance. Within the framework of Collaborative Governance theory (Emerson et al., 2012) The success of a collaborative regime depends heavily on shared motivation, principled engagement, and joint capacity among the involved actors. However, in the case of CTP, cross-sector coordination remains ad hoc and has not been institutionalized in a formal mechanism. Local governments, academics, and industry players have differing perceptions of CTP's strategic role. The government views CTP primarily as a technical tool for implementing activities, whereas academics and the innovation community view it as a creative space that requires managerial autonomy. These differing perceptions have led to fragmentation and a weak shared vision for developing regional innovation ecosystems. Furthermore, the absence of regional regulations specifically establishing the governance of the Regional Public Service Agency-based STP model has left the CTP institutional transition process without a clear policy direction. This has led to inconsistencies between the objectives of national innovation policy and its implementation at the regional level, as has been observed in several other STPs, such as Bandung Techno Park and Solo Techno Park (Soenarso et al., 2013; Perobelli et al., 2025; Maine et al., 2024; Theeranattapong et al., 2021).

The final obstacle is cultural and normative, namely, resistance to change among local government officials. The process of moving towards a Regional Public Service Agency is often perceived as a threat to bureaucratic comfort because it shifts work patterns from procedure-based to performance- and results-driven. Furthermore, the transformation to a hybrid organizational model requires a paradigm shift, from the government's role as a provider to that of an innovation enabler. In many cases, this paradigm shift requires time and strong leadership to build a new organizational culture that is more open to collaboration and innovation (Denis et al., 2015; Skelcher & Smith, 2015). At this point, CTP faces an institutional dilemma: on the one hand, external demands lead to the decentralization of authority and professional management; on the other hand, internal structures are still shaped by logics of control and hierarchy. This tension makes the institutional transformation process slow and often symbolic without producing substantive change (Brandsen & Karré, 2021; van Gestel et al., 2020; Schmitz, 2015).

Considering all these obstacles, it can be concluded that the transformation from a CTP to a Regional Public Service Agency cannot be understood solely as an administrative issue but rather as a multidimensional institutional shift. Structural, regulatory, capacity, and cultural barriers must be managed simultaneously through institutional learning and adaptive governance strategies. In line with hybrid organization theory, this transformation process should be seen as part of an organization's journey to find a balance between public legitimacy and market efficiency (Billis, 2010; Denis et al., 2015). Therefore, regional policy support, transformational leadership, and institutional capacity building are key prerequisites for CTPs to evolve into autonomous, adaptive, and sustainable regional innovation institutions.

To provide a structured overview of the direction of the required institutional changes, this study presents a CTP Transformation Model Chart for Regional Public

Service Agency. This chart summarizes the key steps CTPs must take to shift from a bureaucratic Regional Technical Implementation Unit structure to a more flexible, adaptive, and service-oriented Regional Public Service Agency-based hybrid organizational form. This visualization clearly places the relationship between existing institutional barriers, the need for capacity building, and the stages of managerial reform that are prerequisites for successful institutional transformation.

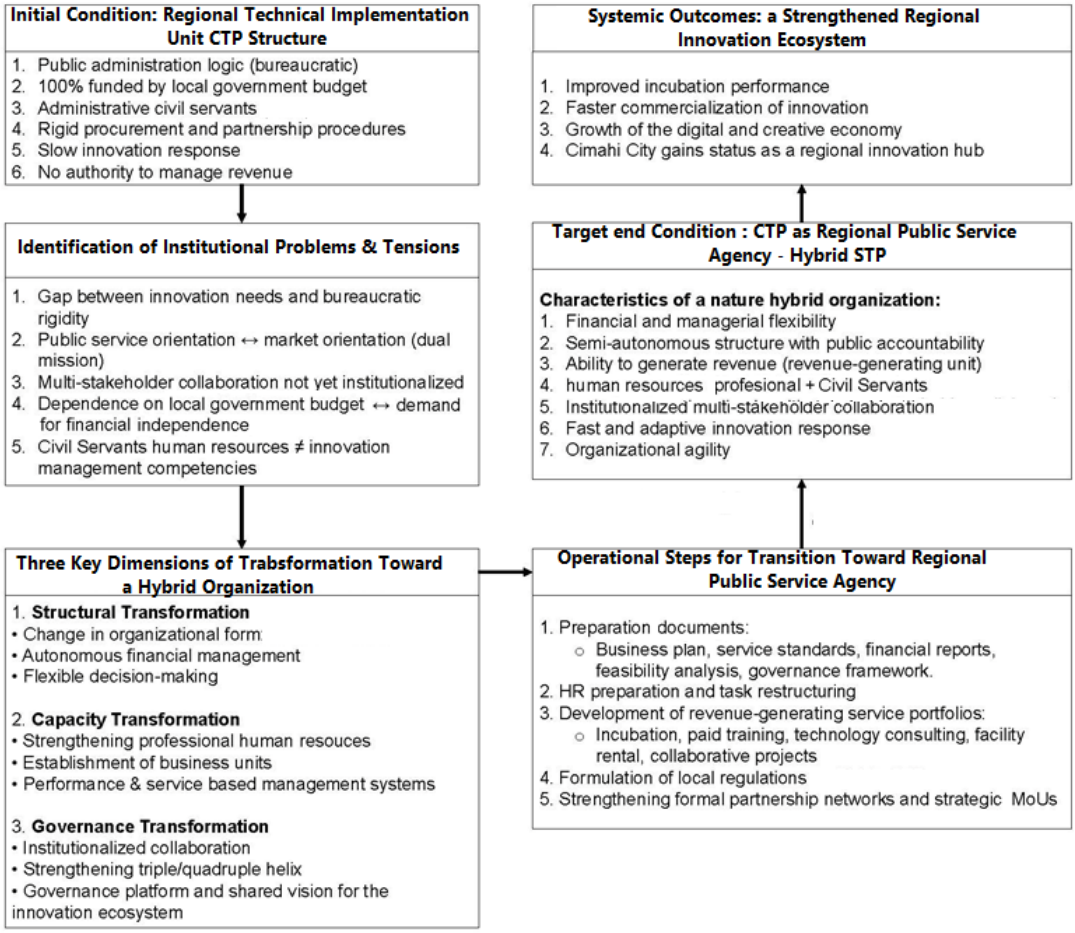

Figure 2. Chart of CTP Transformation Model toward Regional Public Service Agency
Source: data processed, 2025 (*Hybrid Organization Transition Model for Local Government STP*)

This model illustrates that the transformation of Cimahi Techno Park (CTP) is not merely an administrative adjustment but a systemic and multi-dimensional process involving structural, capacity, and governance transformation. Unlike conventional models of public sector reform, which often emphasize formal institutional restructuring, this model highlights the dynamic interaction between institutional constraints and adaptive practices in shaping hybrid organizational forms.

Theoretically, this model contributes to the literature on hybrid organizations by demonstrating that hybridization in public innovation institutions is not a linear or design-driven process, but an emergent and iterative transformation shaped by the interplay between bureaucratic rigidity and innovation demands. This extends existing perspectives that tend to conceptualize hybrid organizations as predefined institutional arrangements, by emphasizing hybridity as a process of continuous negotiation between competing logics.

Furthermore, the model differs from existing frameworks by explicitly integrating three key dimensions of transformation-structural, capacity, and governance, within a single analytical framework linked to empirical findings from a developing country context. While prior studies often examine these dimensions separately, this model shows how their interaction determines the success of hybrid transformation in Science and Technology Parks (STPs).

In practical terms, the model also outlines operational steps that translate these dimensions into actionable strategies, such as regulatory reform, human resource restructuring, and the development of revenue generating activities. Therefore, the transformation toward a Regional Public Service Agency is understood not only as a change in administrative status but as a process of institutional hybridization that aligns public accountability with market-oriented efficiency.

Conclusion

This study concludes that Cimahi Techno Park (CTP) represents a regional innovation institution in transition to a hybrid organization. Formally, CTP still operates as a Regional Technical Implementation Unit under the Office of Trade, Cooperatives, Small and Medium Enterprises, with an institutional character predominantly following the logic of public bureaucracy. However, CTP's functions and operational orientation have demonstrated strong hybrid characteristics through various forms of cross-sector collaboration among government, academia, industry players, and the innovation community.

This hybrid character is reflected in three main aspects. First, CTP's institutional structure demonstrates the integration of public functions (service and accountability) with private functions (efficiency and market orientation), which operate simultaneously, though not yet in balance. Second, collaborative practices among actors demonstrate that CTP management has developed informal partnership mechanisms through research collaborations, business incubation, and digital entrepreneurship training. Third, institutional innovation is emerging through cross-agency initiatives and public-private partnerships that expand CTP's capacity within the regional innovation ecosystem. However, institutional transformation towards a Regional Public Service Agency still faces fundamental obstacles, both in terms of regulations, institutional capacity, and coordination between actors. Theoretically, these findings confirm the view that public organizations operating in the innovation sector require a hybrid institutional model to adapt to external pressures, maintain public legitimacy, and improve efficiency and innovation performance.

Based on the research findings, several strategic measures are required to strengthen the institutional transformation of Cimahi Techno Park and other regional STPs in Indonesia. The transition toward a Regional Public Service Agency should be accelerated through affirmative regional policies supported by a clear institutional roadmap and enabling regulations to ensure flexibility in financial management, professional recruitment, and performance-based service pricing. Strengthening institutional capacity and professionalizing STP management are also essential, particularly through capacity building for civil servants in innovation management and public entrepreneurship, as well as the recruitment of non-civil servant professionals through project-based contractual schemes. In addition, stronger policy integration among actors in the regional innovation system is needed through formal coordination mechanisms involving government, universities, and industry to support effective collaboration. Diversifying funding sources through industry research partnerships,

corporate social responsibility programs, funding support from the National Research and Innovation Agency, and private sector collaboration is also crucial to enhance financial sustainability. Finally, the hybrid organizational model developed by CTP can serve as a pilot for the development of adaptive and context-sensitive STPs in other regions.

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