Revista de Administración y Desarrollo de Proyectos
https://cefuturopdl.org/index.php/adp
2026. Vol. 2 (Núm. 2), pág. e202650

Editorial

Science, technology and innovation projects and municipal development

Proyectos de ciencia, tecnología e innovación y desarrollo municipal

Dariel de León García [a]

[a] Centro de Desarrollo Local y Comunitario (CEDEL), Cuba, https://orcid.org/0000-0001-5807-5628, dariel@cedel.cu

How to cite: de León García, D. (2026). Science, technology and innovation projects and municipal development. *Revista de Administración y Desarrollo de Proyectos*, *2*(2), e202650.

Received: 15/03/2026, **Accepted:** 30/03/2026, **Published online:** 15/07/ 2026

Municipal development is intrinsically linked to the capacity of local actors to generate, absorb, and disseminate knowledge. Within this framework, the management of Science, Technology, and Innovation (STI) projects emerges as a strategic axis for municipal development, transcending the traditional view of local administration centered on basic services. This editorial aims to critically reflect on the conceptual and practical nexus between STI project management and municipal development. It considers the systematic implementation of these projects as a necessary condition for addressing territory-specific challenges, associated with the imperative of enhancing quality of life from a sustainable perspective.

This analysis draws upon theoretical references pertaining to STI project management, as well as its interplay with local development itself. It examines prevailing trends in public policy and the challenges confronted at the municipal level. The management of such projects differs from conventional ones, given its pronounced uncertainty. To a large extent, it operates within unknown parameters and is oriented toward outcomes that extend beyond the economic sphere, encompassing social and environmental impacts (Sanabria-Rangel et al., 2023).

Municipalities require management approaches that, under certain conditions, incorporate particularities associated with local innovation systems—a concept understood as the network of institutions, policies, and actors, namely universities, enterprises, citizens, and local governments. These interact and generate territorial innovations (Álvarez et al., 2024). The municipality, conceived as this system, acts as a facilitator, coordinator, and simultaneously as a demander and direct user of innovations for the improvement of services and policies.

The literature reviewed reveals that STI projects at the municipal level fall into two main categories: social and public innovation projects, which are oriented toward improving governance and service delivery (e.g., mobility, community health, waste management, and citizen inclusion); and productive innovation projects, which focus on strengthening local value chains, supporting technology-based ventures, and attracting investment (Cunill & Ospina, 2020). Notably, the effective management of these projects requires the adoption of methodologies such as Research and Development (R&D) project management, along with various approaches that account for scale, resources, and the political cycles of municipalities.

The transformative impact of active STI project management on municipal development is multidimensional. Firstly, it contributes to local economic development through the diversification of the productive base, increased productivity of local enterprises, and the creation of higher-quality, value-added employment (Vázquez-Barquero, 2020). Secondly, it

fosters social development and territorial cohesion. STI projects focused on urban-rural solutions (affordable housing, energy efficiency, urban agriculture) or digital inclusion have a direct impact on society and quality of life, reducing internal disparities (Rodríguez-Pose & Hardy, 2020). Finally, it lays the groundwork for sustainable and resilient development. Technology and innovation in the management of water resources, waste, energy, and natural hazards enable municipalities to better address the challenges of climate change and transition toward sustainable spatial models (Neirotti et al., 2019).

According to Cunill & Ospina (2020), the literature identifies recurrent obstacles that hinder STI project management at the municipal level. The most frequently cited is the scarcity of financial resources and specialized human capital. Municipal budgets tend to be rigid and short-term, whereas STI projects require sustained investment and tolerance for failure in early stages. Furthermore, there is a shortage of civil servants with training in innovation management and techno-scientific project evaluation. A second challenge is institutional disarticulation. There is often a disconnect between national/regional STI agendas and the specific needs of municipalities, as well as weak linkages between higher education institutions, research centers, and the local productive sector (Carrillo, 2017). Sanabria-Rangel et al. (2023) address the problem of impact measurement. In this regard, STI projects are more complex to evaluate in terms of their outcomes, as they tend to be more subjective in nature. These impacts are rarely materialized in the short term, complicating their assessment using traditional municipal management indicators.

Several trends have emerged in response to these challenges, including the strengthening of multi-level governance instruments. In this context, municipalities interact in networks to exchange capacities, manage risks, and share costs in appropriately scaled STI projects (Rodríguez-Pose & Hardy, 2020). Another trend is the use of innovative public procurement mechanisms, whereby the municipality, as a major demander, stimulates the development of innovative solutions from the private sector to address specific public needs (Neirotti et al., 2019). A growing movement toward citizen innovation labs can also be observed. These involve users in all phases of the project, including design, yielding benefits such as increased relevance and adoption rates. Digitalization and the use of big data for municipal decision-making also constitute a fertile ground for applied STI projects (Vázquez-Barquero, 2020).

In Cuba, as part of the STI Programs and Projects System, the National Program "Local Development in Cuba" addresses a matter essential to the nation's development and the improvement of living conditions and quality of life within the territorial framework. This is to be fostered as part of a decentralization and municipal strengthening process evidenced in the guiding documents of national policy. The National Program "Local Development in Cuba" includes STI projects whose outcomes contribute elements for policies (national, sectoral, regional), regulatory frameworks, models, platforms, and tools that enable the removal of obstacles and the strengthening of municipalities to fulfill their new role and exercise the autonomy granted by the Constitution of the Republic of Cuba.

The analysis demonstrates that STI project management constitutes a necessary catalyst for comprehensive municipal development, one that reconciles economic growth, social welfare, and environmental sustainability. The desired municipality will largely be one that succeeds in harnessing the benefits of STI management as a pillar of its governance and that transforms knowledge into concrete solutions for its citizens. Future research should delve into comparative studies of successful cases and the development of impact evaluation frameworks adapted to the municipal reality.

References

Álvarez, R., Grazzi, M., Suárez, D., & Vergara, S. (2024). Innovation and Entrepreneurship in Latin America: Recent Evidence and Challenges. *Estudios de economía*, *51*(1), 5-17. https://dx.doi.org/10.4067/S0718-52862024000100005

Cunill, O., & Ospina, S. (2020). Innovación pública local en América Latina: Tendencias y desafíos. *Revista del CLAD Reforma y Democracia*, (77), 5-34. https://www.redalyc.org/articulo.oa?id=357564993001

Neirotti, P., De Marco, A., & Cagliano, A. C. (2019). Current trends in Smart City initiatives: Some stylised facts. *Cities, 38*, 25-36. https://doi.org/10.1016/j.cities.2013.12.010

Rodríguez-Pose, A., & Hardy, D. (2020). Innovación y desarrollo territorial: ¿Qué papel para las ciudades intermedias? *EURE, 46*(139), 5-28. https://doi.org/10.4067/S0250-71612020000300005

Sanabria Rangel, P. E., Morales Rubiano, M. E., & Montoya Restrepo, I. A. (2023). Vínculos entre estrategia e innovación en el ámbito de las organizaciones. *Diálogos sobre innovación*, 33-69. https://doi.org/10.18359/9789585103481

Vázquez Barquero, A. (2007). Desarrollo endógeno: Teorías y políticas de desarrollo territorial. *Investigaciones Regionales*, (11), 183–210. https://investigacionesregionales.org/es/article/desarrollo-endogeno-teorias-y-politicas-de-desarrollo-territorial

---

Editor: PhD. Arialys Hernández Nariño https://orcid.org/0000-0002-0180-4866