

# University–business linkages: contributions to socioeconomic development from a territorial perspective

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## Abstract

This study analyzes the strategic role of University–Business Linkages (UBLs) in addressing socioeconomic challenges in Colombia from a territorial perspective. Using a multiple-case study design, we examine two organizations that promote social innovation, multisectoral collaboration, and territorial development. Findings highlight the importance of academia in applied research, co-creation processes, and social impact measurement, while also identifying persistent barriers such as difficulties in locating appropriate interlocutors within universities and aligning objectives among partners. The study reveals that these alliances are vital for fostering sustainable solutions and applied knowledge that contributes to local development. Furthermore, the article contributes to debates on UBLs in developing countries by emphasizing that lessons from the Global North cannot be automatically transferred to the Global South. Future research should develop robust methodologies to measure social impact, explore co-creation models tailored to specific territorial contexts, and examine public policies strengthening social innovation ecosystems in developing countries. Longitudinal and comparative studies are also recommended to deepen understanding of the transfer and adaptation of best practices across diverse territorial settings.

**Keywords:** university business linkages; case study; socioeconomic development.

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## 1. INTRODUCTION

Universities-Business Linkages (UBLs) have become a topic of growing interest in the academic literature (Garcia et al., 2014), as they are recognized as collaborative associations that strengthen the survival, relevance, and competitiveness of both sectors (Zavale & Langa, 2018). In knowledge-based economies, UBLs are essential not only for innovation and technology transfer but also for addressing broader socioeconomic challenges through collaborative problem-solving.

The academic literature on UBL identifies four main thematic streams. The first focuses on the characteristics of universities, companies, and scientists, and how these factors favor or hinder alliances between universities and companies. The second stream of research on UBL is oriented to the study of knowledge transfer channels, the type of knowledge transferred, and the breadth and depth of university-business alliances. The third stream of studies on University-Business Linkages develops technology policies, and the fourth group focuses on the development of spin-offs (Zavale & Langa, 2018). However, most of this evidence originates from developed countries, where institutional frameworks, innovation policies, and research capacities differ significantly from those in the Global South. As highlighted by Güemes-Castorena and Ponce-Jaramillo (2019), good practices and lessons derived from the Global North are not necessarily transferable to developing contexts, where structural inequalities, fragmented institutions, and resource constraints shape UBL dynamics.

UBLs are widely recognized as a key component within the 2030 Agenda and sustainability efforts; however, the way in which these collaborations contribute to socioeconomic development from a regional perspective remains insufficiently structured and warrants further scientific research (Olphin et al., 2024). Additionally, there is a research gap regarding the role of Higher Education Institutions (HIEs) in socio-economic development (Renault et al., 2016).

This research raises the need for context-sensitive research that examines how UBLs function in Latin American territories, where socioeconomic challenges are intertwined with structural issues such as

inequality, informality, and limited state capacity. Colombia offers a particularly relevant setting given its regional disparities, the diversity of its local innovation ecosystems, and the increasing policy emphasis on fostering university–industry–society collaboration. Based on the above context, the present study addresses the following research question: How do University–Business Linkages contribute to socioeconomic development from a territorial perspective?

## 2. THEORETICAL FRAMEWORK

### 2.1. University business linkages

UBLs have become increasingly important in recent years (Orlando et al., 2025). UBLs are based on systematic connections between universities and companies to promote innovation and socio-economic development (Güemes-Castorena & Ponce-Jaramillo, 2019). Various authors have studied the determining factors and strategies to strengthen this type of bond, as well as the frequent barriers and mechanisms of success (Hoc & Trong, 2019; Hou et al., 2021).

UBL strategies include joint research and development (R+D) projects, student and academic staff mobility, technology extension services, training and joint updating of curricula, incubation and support for spin-offs, shared access to infrastructures, and technology transfer seminars or workshops (Hoc & Trong, 2019).

### 2.2. UBL and social/territorial development

UBLs extend the role of Higher Education Institutions (HEIs) beyond teaching and research to perform generative and developmental functions within regional innovation systems (Gunasekara, 2006). These alliances are a fundamental part of regional development processes, especially when they are designed as platforms for the co-creation of knowledge and intersectoral learning (Olphin et al., 2024).

According to scientific literature, the contribution of UBLs to regional sustainability and competitiveness depends on the ability to adapt these collaborations to the needs of the territory, generating contextualized



solutions to social, economic, and environmental challenges (Olphin et al., 2024).

### 3. CONTEXT OF THE DESCRIBED RESEARCH/PRACTICE

To generate empirical evidence on the role of universities in socioeconomic development projects in alliance with the private sector, this study adopted a qualitative exploratory approach through the design of a multiple case study. The choice of this method responds to the need to analyze complex phenomena in depth and within their real-life context, especially when the boundaries between the phenomenon and its context are not evident (Edmonds & Kennedy, 2017).

#### 3.1. Research method and design

The study followed a descriptive multiple-case design, which allows comparison between cases to identify common patterns and context-specific particularities. Case Studies are considered a research method rather than being limited to a single approach or perspective within qualitative research. Case Studies usually focus on developing a narrative or on revealing a phenomenon in depth, often retrospectively (Edmonds & Kennedy, 2017).

#### 3.2. Unit of observation

The units of analysis were two private organizations operating in Colombia, selected based on their trajectory and explicit orientation toward social impact, multisectoral collaboration, and territorial development. One organization is headquartered in Cartagena (Case 1) and the other in Medellín (Case 2). The cases were chosen because they exemplify different yet complementary approaches to UBLs in two heterogeneous territorial contexts of Colombia: the Caribbean region and the Antioquia region.

#### 3.3. Participants

The study included two senior executives from each organization, who were directly involved in the design and management of projects linked with academia and other stakeholders. Their perspectives provide insights into both strategic decision-making and operational experiences in building UBLs.

#### 3.4. Data collection

Data were collected through a semi-structured interview protocol, structured around four thematic dimensions: (1) Information about the participant and the organization, (2) Context of the Organization, (3)

Alliances with other actors, and (4) Lessons learned and recommendations.

### 3.5. Data analysis

The information was examined using the Directed Thematic Content Analysis Technique, which combines deductive coding based on the interview protocol with inductive identification of emerging categories. Triangulation was achieved through researcher discussion and systematic comparison across cases, strengthening the credibility of findings.

## 4. MAIN RESULTS/REFLECTIONS

The analysis yielded insights across the four thematic dimensions of the study, complemented by transversal themes that illuminate broader patterns in

University–Business Linkages (UBLs) in Colombia. The following discussion synthesizes the findings, highlighting convergences, contrasts, and their implications for the design and practice of UBLs in territorial contexts. A comparative overview of both cases is presented in Table 1, which consolidates the main results and facilitates the identification of commonalities and divergences across the two organizations.

### 4.1. Participants and organizational information

Both organizations are characterized by strong leadership committed to social transformation. Case 1, a civil, multi-business foundation with over fifty years of experience, embodies an institutional trajectory rooted in the promotion of long-term territorial development. Case 2, by contrast, represents a younger social enterprise with eleven years of activity, explicitly designed to convert financial resources into measurable

**Table 1.** *Comparative summary of University–Business Linkages in two Colombian organizations*

Dimension	Case 1 – Cartagena	Case 2 – Medellín
Participants & Organization	Senior Executive; multi-business civil foundation with 50+ years of experience; focus on social and territorial transformation.	Senior Executive; social enterprise with 11 years of experience; converts income into sustainable social impact, with human-centered approach.
Organizational Context	Purpose: sustainable territorial development in Cartagena and Bolívar. Strategic lines: education, sustainable citizenship, poverty reduction. Positioning: convener of multisectoral efforts in a highly unequal region.	Purpose: transforming social realities through sustainability capacities. Strategic lines: training and human development, corporate volunteering, sustainability consultancy, territorial development. Positioning: bridge between social needs and business opportunities.
Alliances with Universities & Other Actors	Multisectoral alliances with private sector, public sector, civil society, and universities. Academia contributes research, innovation, and programs (e.g., Early Childhood Center of Excellence, Boomerang Scholarships). Success factors: complementarity of knowledge, applied research, sustained collaboration.	Collaboration with universities for impact measurement and knowledge management. Active in Medellín's innovation ecosystem (university–business–state). Barriers: difficulties identifying interlocutors within universities. Facilitators: clear communication, institutional participation in networks.
Lessons Learned & Recommendations	Barriers: minimal; fluid work with universities. Recommendations: align organizational and academic purposes; maintain openness to diverse approaches; recognize expertise for national development.	Barriers: weak interlocution channels with universities. Recommendations: promote open innovation spaces; strengthen academia–business collaboration to create sustainable solutions.

social impact while placing human wellbeing at the center of its operations. Despite their different institutional forms and histories, both cases converge in the prioritization of social value creation and the recognition of alliances as a strategic mechanism to achieve organizational goals. This suggests that committed leadership acts as a decisive factor in articulating university partnerships and ensuring the sustainability of collaborative agendas.

#### 4.2. Organizational context

The cases also reveal distinct territorial orientations. Case 1 focuses on Cartagena and Bolivar, working to address structural challenges of inequality through strategic lines in education, citizenship, and poverty alleviation. Its positioning as a convener of multisectoral initiatives underscores its role as an institutional intermediary in contexts of high social fragmentation. Conversely, Case 2 is embedded in Medellin, emphasizing capacity-building and sustainability through initiatives such as corporate volunteering, consultancy, and human development programs. Its role as a bridge between social needs and business opportunities reflects a model of intermediation that is more market-oriented, yet socially driven. Although the geographic and thematic emphases differ, both organizations regard territorial challenges as opportunities for innovation and adapt their models to local socioeconomic realities.

#### 4.3. Partnerships with other actors

Collaboration with academia emerges as a defining feature of both organizations, though with varying levels of institutional maturity. Case 1 demonstrates fluid interaction with universities, evidenced by joint research projects, academic participation in governance bodies, and initiatives such as the Center of Excellence for Early Childhood. These partnerships are facilitated by the complementarity of knowledge and a shared orientation toward applied research. Case 2, in contrast, illustrates the opportunities and limitations of UBLs in emerging ecosystems. Its engagement with universities focuses primarily on methodologies for social impact measurement and knowledge

management, yet it faces persistent barriers in identifying appropriate interlocutors. These difficulties reveal the importance of institutionalized communication channels and highlight how coordination deficits within universities can constrain the scalability of alliances.

#### 4.4. Lessons learned and recommendations

The lessons drawn from the two cases underscore heterogeneous institutional experiences with UBLs. For Case 1, alliances with academia have evolved organically, with few barriers and relatively seamless collaboration. Its recommendations stress the alignment of organizational and academic purposes, the need for openness to diverse approaches, and the recognition of mutual expertise as a foundation for national development. Case 2, by contrast, underscores the fragility of partnerships when interlocution mechanisms are weak, recommending the creation of open innovation spaces and multisectoral dialogues as deliberate facilitation strategies. The contrast between the two cases thus reflects the coexistence of both fluid and frictional models of UBLs, shaped by organizational context and institutional readiness.

#### 4.5. Emerging themes

Three transversal themes emerged that transcend case-specific dynamics. First, social innovation appears as a cross-cutting axis, serving not only as a conceptual framework but also as a practical orientation for linking academic knowledge with business and social needs. Second, the importance of measurement and systematization is emphasized, with both organizations recognizing the limitations of traditional indicators and calling for context-sensitive methodologies to capture the real impact of alliances. Third, the territorial embeddedness of UBLs is highlighted, as both organizations adapt their strategies to the socioeconomic and cultural particularities of Cartagena, Bolivar, and Medellin, underscoring the non-transferability of generic models.

Together, these findings suggest that UBLs in Colombia are shaped by a logic of social innovation,

constrained by the methodological challenges of impact measurement, and deeply embedded in territorial realities. This combination of factors not only differentiates the Colombian experience from that of developed countries but also points to the need for flexible, context-driven approaches to alliance building in the Global South.

## 5. CONCLUSION

This multiple case study on university–business partnerships in Colombia demonstrates that such alliances constitute a crucial driver of sustainable territorial development. Although the two organizations analyzed differ in institutional form, scope, and trajectory, both converge in their commitment to social transformation, privileging multisectoral collaboration and the articulation of diverse actors to address pressing socioeconomic challenges. In this process, the role of academia is fundamental, providing not only research and innovation but also applied programs that strengthen local ecosystems, as also noted by Arza and Carattoli (2017) in their analysis of university–industry interactions in Latin America.

Nonetheless, the cases reveal persistent challenges. Among these are the challenges in identifying suitable interlocutors within universities and the need to better align purposes and expectations between academic and business partners. These barriers limit the scalability and sustainability of alliances, as also noted by Güemes-Castorena and Ponce-Jaramillo (2019), who emphasize the institutional and relational gaps that complicate the transfer of best practices in developing contexts.

The lessons learned highlight the importance of openness to diverse approaches, recognition of mutual capacities, and the promotion of open innovation spaces as enablers of effective collaboration. Emerging themes such as the centrality of social innovation, the systematization and measurement of social impact, and the territorial embeddedness of alliances underscore that UBLs in Colombia are shaped by logics distinct from those documented in the Global North. While research in developed economies often emphasizes technology transfer and commercialization

(Garcia et al., 2014; Zavale & Langa, 2018), the Colombian cases illustrate a different orientation, privileging the co-creation of socially relevant solutions—an approach increasingly recognized as vital for inclusive development in the Global South.

Future research should expand on these insights by examining co-creation processes between academia and the productive sector in diverse territorial contexts and by analyzing how regional specificities shape the effectiveness of alliances. Longitudinal and comparative studies could enrich our understanding of how best practices are transferred, or fail to transfer, across territories, as highlighted by Zavale and Langa (2018) in their systematic review of UBLs in Sub-Saharan Africa. In parallel, it is essential to investigate the design of public policies that strengthen social innovation ecosystems, thereby providing the institutional frameworks that enable UBLs to contribute more effectively to inclusive and sustainable development, as also emphasized by Arza and Carattoli (2017).

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