

**MAPPING ENTREPRENEURIAL MOBILITY: A MACHINE LEARNING  
PERSPECTIVE ON FIRM COMPETITIVENESS AND ECOSYSTEM DYNAMICS**

**ANGELICA PIGOLA**

UNIVERSIDADE ESTADUAL DE CAMPINAS (UNICAMP)

**BRUNO BRANDÃO FISCHER**

UNIVERSIDADE ESTADUAL DE CAMPINAS (UNICAMP)

**GUSTAVO HERMÍNIO SALATI MARCONDES DE MORAES**

UNIVERSIDADE ESTADUAL DE CAMPINAS (UNICAMP)

**Agradecimento à órgão de fomento:**

This research was funding by Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES), Brazil, grant number 001

## **Introdução**

Entrepreneurial mobility—the movement of entrepreneurs across territories—plays an increasingly critical role in shaping firm competitiveness. However, the micro-level spatial dynamics of entrepreneurial ecosystems (EEs), particularly in relation to individual firm outcomes, remain underexplored.

## **Problema de Pesquisa e Objetivo**

This study investigates how entrepreneurial mobility across different territories affects firm-level competitiveness, as measured by firm survival and integration into Global Value Chains (i.e., export activity). It also examines the moderating role of sectoral technology intensity and the influence of EE configurations, offering a spatially grounded micro-level perspective.

## **Fundamentação Teórica**

The research builds upon theories of spatial fluidity in entrepreneurship and the contextual embeddedness of firms within EEs. It considers how mobility interacts with technological intensity and ecosystem attributes — especially institutional and demand-side components—to impact competitive performance.

## **Metodologia**

Machine learning techniques are applied to firm-level data (2015–2020) from the Small Business Innovation Research Program (PIPE/FAPESP) in São Paulo, Brazil. Predictive models identify key determinants of firm survival and export activity, focusing on interactions between entrepreneurial mobility, sectoral technology intensity, and EE configurations. Temporal mapping is used to trace changes in firms' competitive profiles over time.

## **Análise dos Resultados**

Entrepreneurial mobility is positively associated with improved firm-level competitiveness. These effects are especially pronounced in medium-high and high technology sectors, suggesting that location becomes increasingly strategic with greater technological intensity. EE configurations, particularly institutional and demand elements, significantly influence these outcomes. Temporal analyses reveal a shift from internal firm attributes to external contextual factors in driving competitiveness.

## **Conclusão**

The findings emphasize the growing relevance of spatially integrated EEs and the strategic role of location in enhancing firm competitiveness. Mobility across ecosystems enables firms to bridge spatial gaps, especially in high-tech sectors where ecosystem quality is a critical asset.

## **Contribuição / Impacto**

This study contributes to entrepreneurship literature by integrating firm-level outcomes with mobility and ecosystem configurations using machine learning. It provides a novel micro-level understanding of how spatial dynamics shape firm competitiveness and highlights the growing importance of ecosystem integration and territorial strategy in high-tech entrepreneurial contexts.

## **Referências Bibliográficas**

Sørensen, J. B., & Sharkey, A. J. (2014). Entrepreneurship as a Mobility Process. *American Sociological Review*, 79(2), 328–349.

<https://doi.org/10.1177/0003122414521810>

Fischer, B., Alves, A. C., Vonortas, N. S., & Brown, R. (2024). Foundations of entrepreneurial ecosystems configurations. *The Journal of Technology Transfer*, 1–27. <https://doi.org/10.1007/s10961-024-10147-w>

Schäfer, S. (2021). Spatialities of entrepreneurial ecosystems. *Geography Compass*, 15(9), e12591. <https://doi.org/10.1111/gec3.12591>