

U-I COLLABORATION AND FIRM'S CAPABILITY AND PERFORMANCE: the role of research groups

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Introdução

University-industry collaboration (UIC) plays a crucial role in fostering innovation by enabling firms to access scientific knowledge, human capital, and technological resources (De Marchi et al., 2021). However, while the benefits of UIC are well-known, the influence of specific characteristics of research groups within universities on the outcomes for firms remains underexplored, especially in emerging economies. This study focuses on understanding how research group attributes affect the innovation capabilities and benefits firms derive from collaborating with universities in Brazil.

Problema de Pesquisa e Objetivo

This study investigates the relationship between Brazilian industrial firms and university research groups, focusing on how the characteristics of these groups influence firms' innovation outcomes. Research groups vary in size, scientific output, internationalization, and technological capabilities, which may affect collaboration benefits. The study uses data from the largest Brazilian research group census and surveys of firms that collaborated with universities from 2014 to 2016, providing a detailed analysis of university-industry interactions in an emerging economy context.

Fundamentação Teórica

Although UIC is known to foster innovation, the specific role of research group characteristics in determining the benefits firms obtain remains unclear (Hu et al., 2021), especially in emerging economies like Brazil. Firms often do not seek cutting-edge knowledge but practical resources offered by universities. Moreover, the heterogeneity of universities is overlooked, as studies usually treat them as uniform entities, limiting understanding of factors that truly influence innovation performance in firms.

Metodologia

This study proposes analyzing UIC at the research group level rather than treating universities as homogeneous entities. By focusing on characteristics such as internationalization, scientific and technological output, and infrastructure quality, the research aims to identify which factors enhance firms' innovation benefits. To this end, econometric methods were employed to develop and estimate three regression models. The data were drawn from the DGP-CNPq database and a survey conducted with firms engaged in collaborations with research groups.

Análise dos Resultados

The results show that the characteristics of research groups do not influence the benefits that companies obtain from collaboration. However, internationalization of research groups positively impacts the extent of benefits. Firm technological intensity and business capabilities are strong predictors of innovation performance. The presence of an R&D department and robust knowledge infrastructure also enhance firms' technological and business capabilities, indirectly supporting innovation outcomes.

Conclusão

This study advances the understanding of UIC by showing that research group internationalization and infrastructure matter more than scientific output for firm innovation. By treating universities as heterogeneous institutions, it offers insights for more effective collaboration strategies and public policies in emerging economies, highlighting the need to support international ties and practical resource exchange in UIC.

Contribuição / Impacto

This study highlights the crucial role of internationalized research groups and robust knowledge infrastructure in enhancing firms' innovation and technological capabilities. By emphasizing collaboration beyond mere scientific output, it guides policymakers to focus on strengthening infrastructure and fostering international ties. This approach promotes a more effective UIC, contributing to technological advancement and economic development, especially in emerging economies like Brazil.

Referências Bibliográficas

Hu, X., Tang, Y., & Motohashi, K. (2021). Varied university-industry knowledge transfer channels and product innovation performance in Guangdong manufacturing firms. *Knowledge Management Research & Practice*, 19(2), 197-207.