

WHAT MAKES THE DIFFERENCE? ANALYSING THE REGIONAL COMPONENT OF THE INFLUENCE OF UNIVERSITY'S STRUCTURAL CONFIGURATION ON ITS PERFORMANCE

Mabel Sánchez-Barrioluengo¹ and Paul Benneworth^{1*}

¹ INGENIO (CSIC-UPV) Universitat Politècnica de València. Camino de Vera s/n. 46022. Valencia, Spain

² CHEPS. University of Twente. Drienerlolaan 5, 7522 NB. Enschede, The Netherlands

* p.benneworth@utwente.nl

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EXTENDED ABSTRACT

Following an recent explosion of interest on the role of universities in regional development, there is a tendency to assert that contributing to regional development represents a (novel) third mission for universities alongside their traditional first (teaching) and second (research) missions. In the context of economic development, universities' general-abstract roles in creating, transmitting, circulating, extended and phasing out knowledge has become linked with their capacity to fix that knowledge in specific ways and allow its exploitation to create particular regional development benefits. There is therefore increasing interest in optimising these roles, maximising universities' specific regional contributions without undermining their ability to pursue independent scholarship and research in networks that extend beyond the region.

But missions cannot always seamlessly fit together (Pinheiro et al., 2012), particularly when this demands that universities strike a balance between making their knowledge most immediately useful for users and in serving their core teaching and research goals. This highlights the tensions between the general and specific aspects of universities' missions, between potential to build regional development activities and fitting them harmoniously into core university activities. Engaging with non-academic actors can create *prima facie* problems and tensions for a university, and we contend that more attention needs to be paid to how universities structure themselves to balance these tensions in delivering regional benefits. To date research into this problematic has split between small-scale case studies of particular organisational forms alongside quantitative analyses of which kinds of universities produce regional outputs.

We seek to bring quantitative clarity to this issue of universities' internal diversity by focusing on universities' structural and policy configuration for engagement Benneworth et al. (2014). We conceptualise these in terms of (a) formal management choices to promote regional engagement, such as the steering core, related to the leadership and strategy of each university; (b) the administrative machinery, rules, procedures and incentives that exist at institutional level to impulse knowledge transfer activities and social engagement at regional level; (c) the internal coupling, internal structures or departments for specific connection

mechanisms with non-academic agents the support structures; and (d) academic heartland, covering collective specificities of individual academics engaged with regional agents at different levels.

Our overarching question is how universities' internal organisational dynamics and structural configurations affect the production of regional outputs, according to two difficult models of university outputs (roughly corresponding to the breadth of regional mission envisaged by the university for itself): the entrepreneurial university -EU- and the regional innovation system university -RISU- (Trippel et al., 2014). The entrepreneurial university model claims universities promote regional development by engaging in patenting, licensing and academic spin-off activities, while the RISU model considers a broader spectrum of university activities, including contract research, research collaborations and informal industrial networking.

We answer this using a quantitative analysis drawing on the UK's HE-BCI survey of university engagement activities. Our analyses uses structural equation modelling to explore how these four kinds of internal structures affect the production of third mission outputs (EU vs. RISU). Our empirical results show the importance of the internal organizational configuration analysed, being the internal coupling the construct that further explains the diversity of UK university's structures. Nevertheless, the configuration of internal coupling varies between the EU and the RIS model: while in the first is composed only by the in-house license office/department, in the RIS model this department is combined also with other intermediary structures, such as those supporting the interaction with business and community, to facilitate and guarantee the successful transfer of technology to industry. In relation to the influence of internal configuration on university outputs, the steering core and the administrative machinery influence them in both the EU and the RIS university model, the latest being specifically relevant at the regional level (related to the importance of proximity where universities magnify the benefits of short distances). Internal coupling is specifically negatively influencing outputs in the EU model, a surprising result given the importance of intermediary mechanisms as the technology transfer offices (TTOs) to overcome communication barriers and effectively link academic scientist and those who could potentially commercialise research under this model. While policy makers and university managers are often quite optimistic about the impact of TTO in fostering technology transfer into the region, results presented here are in accordance with those that evidence their superfluous and counterproductive activities. Lastly, our results also suggest that more researchers (academic heartland) involved in academic engagement are not translated into an increment of performance in either university model.

Our paper demonstrates firstly that structural university configuration affects the ways in which universities produce their regional outputs, and that it is useful to analyse how other university models (besides EU vs. RISU) create regional benefits. Arguably more importantly, our results demonstrate empirically that our conceptual distinction represents a promising theoretical avenue for further exploration. Finally, we argue that given this structural difference, policies makers should consider how to tailor regional engagement policies to stimulate not merely the delivery of outputs, but also support the structural configurations best suited for their delivery.

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