How to commercialise university-generated knowledge internationally? A comparative analysis of contingent institutional conditions

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\textbf{A B S T R A C T}

Our paper sets out to explore the contingent institutional conditions that underpin knowledge transfer, and particularly commercialisation, from universities to enterprises across national borders. We explore the phenomenon in four technology-focused and research leading (in the national context) universities in Estonia, India, Portugal and the UK. We argue that participants in interactions (despite the fact that they maintain their core operations in different institutional fields) possess common knowledge bases, and shared norms and cognitive frameworks. In many cases however, the emergence of organisational rules to facilitate interactions do not lead to the institutionalisation of the processes at work: restricting the scope of both existing interactions and their advancement and offering a central role to nonpracticing entities. The paper advances university-led pooling of intellectual property (geographically or sectorally) as an alternative for institutionalisation.

1. Introduction

The central locus of innovation has become increasingly international and dependent upon linkages between different types of organisations and sources of knowledge (Heitor, 2015). This is partly because of the offshoring of corporate R & D facilities (Karlsson et al., 2006), leading to increased international technological collaborations often as part of global innovation networks (Gassler and Nones, 2008; Li, 2010). These are enabled by the low cost and global proliferation of ICTs that enable more distributed innovation processes (Schwaag Serger and Wise, 2010). At the same time, universities, viewed as sources of competitive edge that can advance innovation through the commercialisation of knowledge generated by the academic community (Wilson, 2012), are increasingly globally-engaged: through rapidly growing numbers of international co-publications, cross-border patenting, and human (scientific) capital mobility (OECD, 2008).

The exploitation of opportunities that come from the international transfer of university-generated knowledge requires participants, i.e. universities and enterprises, to interact effectively outside the institutional terrain (the terms that will be used hereafter is field) of their core operations, education and research in the case of the former and business venturing in the case of the latter. More specifically participants must interact in institutional fields differentiated by: i) type of organisation that tend to give rise to differences in goals, interests and time horizons informing R & D behaviour of participants in the interaction (Siegel et al., 2003), and ii) country, which influences prevailing regulatory regimes, and a broad range of cultural characteristics (language, religion and other) (Ionaescu et al., 2004: 4). Interacting across fields is influenced by sectoral characteristics (as will be discussed in more detail in the following Section): as the effects of between-country institutional differences may vary on account of sector specificities, whilst between-types-of-organisation differences may be shaped by sectoral systems (Malerba, 2005).

The underlying assumption of existing literature is that interacting across institutional fields is important in influencing the incidence and direction of international knowledge transfer (Malik, 2013). Institutions provide boundaries to the interactions, and influence (or according to some scholars determine) choices: facilitating more frequent interaction between participants in the field than with those outside (Scott, 1995). The challenge of interacting across fields may be persistent as institutions are path-dependent, as a result of their evolution in historical time in distinct organisational, sectoral and country contexts (Hodgson, 1988). Thus, in the main, interacting across institutional fields,\textsuperscript{1} in the case of our paper transferring university-generated knowledge...
internationally, may be less frequent even if opportunities exist in
bridging such fields (Burt, 2004). Within this intellectual context our
paper sets out to explore the contingent institutional conditions that could
foster the international transfer of university-generated knowledge, and
particularly commercialisation, to enterprises.

The importance of the institutional context (organisational, sectoral
and country) prompted us to adopt a comparative approach. Thus, we
focus on four national contexts: the UK, Portugal, Estonia and India that
vary considerably in terms of historical trajectories, embeddedness of
intellectual property (hereafter IP) relating regulation, and knowledge
generating capabilities (discussed in more detail in the third Section of
the paper). Within each national context we selected one university:

The rest of our paper is organised as follows. The next Section en-
gages with the literature on university-industry KT and institutional
theoretical constructs. Then we proceed to explain the design of the
study, data collection, the analysis processes deployed, and limitations.

The fourth Section compares the eight cases of international interaction
with enterprises, whilst Section 5 focuses squarely on the analysis of
institutional factors. The penultimate Section discusses our findings and
develops propositions. Finally, the paper presents some final conclu-
sions and explores implications for future research.

2. The literature

2.1. The internationalisation of knowledge transfer in context

In order to understand the nature of the transfers involved and
position our research in the existing body of literature we decided to
advance a typology of KT internationalisation. This combines two cri-
teria: i) the nature of the knowledge transfer activity with that of ii) the
type of internationalisation. The former draws on the ideas of
Perkmann et al. (2013) who advanced an increasingly influential divide
between academic engagement and commercialisation. It includes
formal activities such as collaborative research, contract research and
consulting, as well as informal activities like providing ad hoc advice
and networking with practitioners’ (Perkmann et al., 2013: 424).
Commercialisation is defined in this context as ‘the patenting and
licensing of inventions as well as academic entrepreneurship’ (Perkmann
et al., 2013: 423). This divide is also reflected upon the degree of the
user (i.e. the enterprise) involvement in the process of knowledge
generation. Thus, commercialisation revolves around knowledge gen-
erated from research that is academically driven, publicly funded, and
subsequently owned by the University. The second criterion draws from
Jin et al. (2011) who distinguish between i) direct linkages between
universities and enterprises operating in different national settings, and
ii) indirect ones (for example relationships with (invariably) a multi-
national through its domestic subsidiary, or those established with
foreign companies through universities operating in the same (as the
knowledge user) national context. Our paper focuses on the top right-
hand corner of Table 1: exploring direct international commercialisa-
tion. This invariably involve the development of a new relationship,
touching upon a novel area of research in institutional theory as will be
discussed in the sub-Section below, as the enterprise is usually not in-
volved in the generation of knowledge.

2.2. Institutional theory

The type of interaction explored in our paper is of particular interest
conceptually for institutional theory: on account of a gradual shift in
emphasis from within to between institutional settings. More specifi-
cally, this stream of institutionalist thinking poses the question: ‘how
social choices are shaped, mediated and channeled by the institutional
environment’ (Wooten and Hoffmann, 2008: 130)? Thus, action is not
defined by the actor but influenced (or even determined) by a per-

More recently however, there is increased acknowledgment of si-
tuations where individuals from different institutional fields interact.
This constitutes a shift in emphasis away from actors who occupy po-

of the

would act out institutionally prescribed actions
leading to stability and inertia.

2008). Instead research focused in-

The importance of the institutional context (organisational, sectoral

situations that individuals from different institutional fields interact
occasionally and informally around common activities to which they
devote limited time’ (Furnari, 2014: 440), exploring the initial
emergence of new practices that may eventually become in-
stitutionalised. Our inquiry focuses on interactions that, like boundary
work and interstitial spaces, take place between institutional fields,
thus, involving no common/shared institutional basis. In fact, partici-
pants maintain their core activities in different institutional fields:

More recently, research focused on interstitial spaces, i.e. ‘small-scale
settings where individuals positioned in different fields interact
occasionally and informally around common activities to which they
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امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات