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Situated regional university incubation: A multi-level stakeholder perspective

Maura McAdam [a,*], Kristel Miller [a], Rodney McAdam [b]

[a] Queen's University Management School, Riddel Hall, 185 Stranmillis Road, Belfast BT9 5EE, Northern Ireland
[b] Ulster University, Ulster Business School, Jordanstown, Belfast BT370QB, Northern Ireland

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ABSTRACT

From a macro perspective, it is widely acknowledged that University incubation models within a region are important stimulants of economic development through innovation and job creation. With the emergence of quadruple helix innovation ecosystems, universities have had re-evaluate their University incubation activity and models to engage more fully with industry and end users. However, within a given region, the type of University may influence their ability to engage with quadruple helix stakeholders and consequently impact their incubation activity. To date there is a scarcity of research which explores this 'meso' environment and its subsequent impact on University incubation models. Therefore, the aim of this paper is to use a stakeholder lens to explore University Incubation models within unique regional and organisational characteristics and constraints. The research methodology employed was based on a comparative case analysis of incubation of two different Universities within a UK peripheral region. It was found that variances existed in relation to the two universities incubation models which were found to result from both regional (macro environment) and organisational (meso environment) influences (i.e. university type). This research contributes to both regional and national agendas by empirically illustrating the need for appropriate design and tailoring of university incubation models (via acknowledgement of quadruple helix stakeholder influence) to incorporate contextual influences rather than adopting a best practise approach.

1. Introduction

It is widely recognised that sustainable economic development is dependant on the stimulation of innovation and new firm formation within regions (Mian, 2011; Liargovas, 2013). From the early 1980s, University Incubation models have emerged within the wider University Technology Transfer (UTT) process as effective mechanisms for nurturing and supporting spin-out firms (Allen and Rahman, 1985; Lewis, 2001; Voisey et al., 2006). Since then, such models have emerged globally with the aim of stimulating economic development and growth (Mian, 2011). Within the literature, although the process of incubation varies, it is generally considered to incorporate mentoring and knowledge exchange between various stakeholders to enhance sustainability and growth (Hackett and Dilts, 2008; Wonglimpiyarat, 2010; Ahmad and Ingle, 2011). Consequently, it is an interactive process often involving inter-organisational collaboration between government, universities, industry and end user stakeholders (Garrett-Jones et al., 2005; Fogelberg and Sandén, 2008; Howells et al., 2012).

Recent research identifies the need to consider contextual factors when exploring incubation processes in a regional setting (Liargovas, 2013; Carayannis and Rakhmatullin, 2014; Zahra et al., 2014). Although both Phan et al. (2005) and Tamasy (2007) refer to the impact of regional contextual factors on incubation, to date this is an underexplored area lacking a consistent theoretical foundation (Oakey et al., 2012). In addition, Daskalopoulou et al., (2010) suggest there is likely to be variances in university incubation models and performance across regions. This approach contrasts with a universal best practise ethos applicable across all regions and suggests the need to identify and leverage unique and idiosyncratic regional influences on university incubation models. In seeking to address these changes at a regional and local level, a number of studies have suggested that the triple helix model (Academia, Industry and Regional government actors) should be extended to include the users of innovation as a fourth helix and 'multi focal lens' (Carayannis and Rakhmatullin, 2014:212). Users are seen as a specific stakeholder grouping with that of society (Carayannis and Campbell, 2009; Afonso et al., 2012), where the level of engagement of such users may vary (Arnkil et al., 2010) and is seen as playing a demand role within the incubation

* Corresponding author.

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ecosystem and thus giving a commercial focus to the incubation process (Afonso et al., 2012). Moreover, Carayannis and Rakhmatullin (2014) suggest the need to classify stakeholder groupings that interact in a dynamic manner in producing innovative products for end users built upon regional strengths. In seeking to explore University incubation in this context it is thus suggested that stakeholder theory offers a unique perspective to probe the contextual nature of a region and its constituent university incubation models where the emphasis is on contextually grounded approaches as represented by different stakeholder groupings and their voices, tensions and synergies (Asheim and Coenen, 2005; Etzkowitz, et al., 2005; Plewa et al., 2013). However, when considering the role of stakeholders in incubation, there is a need to recognise that stakeholders may vary in accordance with region and university type. In addition, the strategy, culture, skills and knowledge of universities may all impact upon incubation models adopted (Hewitt-Dundas, 2012).

Accordingly, the aim of this paper is to use a stakeholder lens to explore the development of University incubation models within unique regional and organisational characteristics and constraints. The paper commences with an overview of university incubation models and their subsequent adoption. Stakeholder theory is then used as the theoretical lens by which to analyse this adoption. The following section then presents the methodological rationale and method; which is subsequently followed by a critical evaluation of case study findings. Finally, the implications for theory and practise are considered.

2. Regional University incubation

Over the past three decades, university incubation has emerged as a key contributor to regional economic growth (Corona et al., 2006; Liargovas, 2013). As a consequence, incubation models are seen as effective vehicles of job creation (Abetti, 2004) and as tools to initiate and revitalise industries and regions (Aaboen, 2009); thus emerging as one of “the mainstays of high technology industrial development' within regions” (Oakey et al., 2012:67). Conceptually, university incubators connect science, technology, education, knowledge, entrepreneurial talent and capital (Smilor and Gill, 1986; Mian, 1996; Aerts et al., 2007; Theodorakopoulos et al., 2014). They are embedded in a regional ecosystem composed of key stakeholders such as industrial clusters, universities, colleges, research laboratories, banks and investors. Thereby, incubators uniquely provide important links in the entrepreneurial value chain at a regional level (Phan et al., 2005). As hybrid organizations they are often established through collaboration amongst internal and external university stakeholders involved in university technology transfer activities, industry and governmental entities, and serve to promote technology transfer and diffusion into the local economy (Etzkowitz, et al., 2005; 2008).

Traditionally, incubation models take the tangible format of a shared office space where nascent or University spin-out companies can avail of professional business support and advice, network provision and shared support services (Bergek and Norrman, 2008). However, in recent years, the viability of this approach has been questioned resulting in the evolution of incubation models to include virtual forms whereby nascent entrepreneurial firms can avail of incubation services without residing within a formalised incubation unit (Breznitz et al., 2008; Tsai et al., 2009). This evolution of incubation models has been informed by a combination of the emergence of the knowledge economy (Smith and Zhang, 2012), regional strategy and EU policy (Laursen, 2011). Indeed, examples of new and emerging incubation models include accelerators and technology trampolines which reflect a shift from tangible office space to more intangible, flexible and high value services which involve external knowledge capability building, experiential learning, networking and synergies (Grimaldi and Grandi, 2005; Bikfalvi et al., 2007; Criaco et al., 2013). In addition, recent emphasis on innovation strategies at the regional level (Rasmussen et al., 2014) and in particular Smart Specialisation-based regional innovation (Garcilazo et al., 2010; Camagni and Capello, 2013; McCann and Ortega-Argilés, 2013), have signalled a move away from universalist best practise approaches to incubation (Cooke et al., 2000; Asheim and Coenen, 2005). Indeed, business incubator models are increasingly seen as evolutionary, non-linear and interactive processes between various stakeholders in a regional context (Todtling and Trippl, 2005; Afonso et al., 2012; Carayannis and Rakhmatullin, 2014; Ivanova, 2014) where the model adopted is reflective of contextual factors. In seeking to define the relevant stakeholder groupings, we adopt and interpret the quadruple helix model from a stakeholder perspective consistent with Carayannis and Rakhmatullin (2014). Here university incubation is seen as embedded within the wider University Technology Transfer process involving academic entrepreneurs, Technology Transfer Office (TTO) staff, incubator staff, industry funders, regional Government policy makers and funders, and innovation users as suggested by Arnkil et al. (2010). Consequently, there has been a co-evolution of university incubation models as a result of negotiation and collaboration between stakeholders in a bid to enhance regional innovation (Miller et al., 2014) thus signalling a new generation of incubation models (Mian, 2011) which warrant further investigation.

Camagni and Capello (2013) and Carayannis and Rakhmatullin, (2014) suggest that maximum engagement of all stakeholders involved in the quadruple helix model must be used to contextually ground regional innovation policy and practise. Place-based approaches to incubation highlight the development of heterogeneous relationships between regional quadruple helix stakeholders in suggesting tailoring to the local context rather than externalised best practises (Garcilazo et al., 2010; Barca et al., 2012). Moreover, in a regional university context, there is a need to consider the impact of organisational and institutional arrangements, namely the meso environment on incubation processes (Barbosa and Faria, 2011; Hewitt-Dundas, 2012; Van Looy et al., 2011). However, within the current incubation literature, there are a lack of studies which explore the meso environment within which university incubation models are situated and consequently the impact of unique organisational and regional characteristics and constraints of quadruple helix stakeholders on University Incubation Models (Zahra and Wright, 2011; Barbosa and Faria, 2011; Rasmussen et al., 2014; Carayannis and Rakhmatullin, 2014).

3. Stakeholder theory and situated regional incubation

Recent literature identifies the benefits of incubation model co-creation with multiple stakeholders as a means of sustainable competitive advantage (Chesbrough, 2011; Miller et al., 2014; Zahra et al., 2014). Extant research on incubation largely focuses on the ‘process’ of incubation (Hackett and Dilts, 2004; Larsen, 2011; Galbraith and McAdam, 2013) and consequently the challenges and suggested solutions on how to optimise growth within the micro environment of incubation has been referred to (Ahmad and Ingle, 2011). However, there is a lack of research and understanding of incubation models at the meso level. In the context of incubation, the meso environment encapsulates the myriad of relationships that take place between internal and external stakeholders as represented in the stakeholder interpretation of the quadruple helix model within unique organisational characteristics (i.e. culture, resources, and skills). Indeed, whilst the meso environment has its origins in economics (Baumol, 1968), the