



Identifying new dimensions of business incubation: A multi-level analysis of Karolinska Institute's incubation system

Enrico Baraldi*, Malena Ingemansson Havenvid

Department of Engineering Sciences, Uppsala University, Sweden

Department of Industrial Economics and Technology Management, NTNU and the STS Centre, Uppsala University, Sweden

ARTICLE INFO

Article history:

Received 29 April 2014

Received in revised form

10 August 2015

Accepted 12 August 2015

Available online 9 September 2015

Keywords:

Karolinska Institute

Incubator

Incubation system

Value creation

Strategy

Network

Pharmaceutical

ABSTRACT

Relying on an in-depth case study of the incubator related to the Swedish medical university Karolinska Institute's (KI), this paper identifies new analytical and strategic dimensions of incubation. Departing from the current literature's prevalent focus on incubators as organizations performing a predefined set of activities for incubatees (facility renting, coaching, training and connecting), we perform a *multilevel analysis* embracing, next to the organizational and the project-specific levels, also the broader institutional and inter-organizational level. Our analysis relies on seven key components of incubation, namely its *time, place, sources, resources, control/governance, activities/services* and *outcomes*. Further, we view incubators as strategic actors engaged in value creation on a broader arena than the strict incubation context, even an international arena, where incubators' choices and interactions can be analyzed with the help of concepts from various streams in the business strategy literature. The specific strategic drivers of business incubation that we identify in the KI incubator's case are six: *positioning in the value chain, risk taking/time perspective, revenue model, governance/control, internationalization, and cooperation/competition*. The paper concludes with managerial implications urging incubators to take more of a strategic perspective rather than focussing only on the established components of their operations.

© 2015 Elsevier Ltd. All rights reserved.

1. Introduction

The literature on business incubators focuses mostly on the *organizational entity* which performs a set of activities or services for incubated firms, such as facility renting, coaching, training and networking (Mian, 1996; 1997; Rice, 2002; Peters et al., 2004; Bergek and Norrman, 2008; Bøllingtoft, 2012; Vanderstraeten and Matthysens, 2012; Lai and Lin, 2015). Further, the literature analyses certain dimensions characterizing the behavior of incubators, such as technological level and management support (Smith and Zhang, 2012: 228–9), internal resources (Somsuk and Laosirihongthong, 2014) or selection strategies, business support and mediation (Bergek and Norrman, 2008: 23–5), in order to categorize them into typologies (e.g., generalist Vs specialist, see Vanderstraeten and Matthysens (2012)), incubating models (see e.g., Grimaldi and Grandi (2005): 113–5) and historical generations (Bruneel et al., 2012).

While this research has the merit to describe the role and the functioning of incubators, it does so with an internal focus on incubators' operations as performed in relation to incubatees, rather

than capturing the *entire context embedding incubators*. There are indeed studies that take a more holistic perspective on incubators (e.g., Etzkowitz, 2002) and consider external stakeholders (Alsos et al., 2011), although most often delimiting the analysis to universities (Rothaermel and Thursby, 2005a, 2005b). Other stakeholders, such as public agencies, financiers and established firms, may be acknowledged as part of the incubator's context (see Mian (1997): 259), but their interactions with the incubators are not penetrated in detail in the extant literature. Moreover, when the context is considered, it appears to be restricted to university-centred networks (see e.g., McAdam and Marlow (2008)) or the local community and region (see e.g., Ehret et al. (2012)), or it is expressed in abstract terms as an innovation or technological "system" (Bergek and Norrman, 2008: 24–5). Finally, within these views of the incubating context, incubators are assumed to be functionally bound to perform only activities strictly related with incubation, namely firm selection (see Aerts et al. (2007)), business support (see Vanderstraeten and Matthysens (2012)) and mediation/networking (see Ahmad and Ingle (2011)).

However, investigating the development, functioning and broader embedding context of a particular case of incubator, which does not fit the established analytical categories, offers the opportunity to expand our understanding of the phenomenon of business incubation. This is the case of the incubator related to the

* Corresponding author.

E-mail addresses: Enrico.Baraldi@angstrom.uu.se (E. Baraldi), malena.havenvid@iot.ntnu.no (M. Ingemansson Havenvid).

Swedish medical university Karolinska Institute (KI): since the late 1990s, KI has built its own innovation-supporting system (Stone and Frank, 2001), encompassing a highly integrated set of organizations dealing with selecting medical discoveries across the Nordic countries and turning them into spin-offs, which KI's incubator directly controls and finances for up to 10–15 years with large funds, especially since one of these support organizations has been listed on the Stock Exchange (Baraldi and Waluszewski, 2011). KI's incubator includes the provisions not only of business support services but also of highly specialized drug discovery services to the incubated companies (Baraldi et al., 2014), which KI's incubator runs as time-bound drug development projects constantly monitored as if it were a venture capitalist (Baraldi and Ingemansson, 2013).

KI's incubator can hardly be categorized according to the existing literature's models and dimensions (e.g., Grimaldi and Grandi, 2005; Bergek and Norrman, 2008), including the three recognized generations of business incubators (Bruneel et al., 2012; Smith and Zhang, 2012: 230). In fact, as we shall discuss later, KI's incubator blends the features of several established models and is at best an outlier due to its extreme focus on science and a single industry (biomedical), maximal intervention in start-ups, strictest focus on "picking winning ideas" (Bergek and Norrman, 2008: 24), and extremely long incubation times. Moreover, KI's incubator includes a scope of activities which transcends those of a typical incubator, such as conducting actual product development and international operations. Against this background, this paper conducts an in-depth qualitative case study (Yin, 2003) of KI's incubator with the *dual purpose* of identifying (1) *new analytical dimensions* capturing the broader embeddedness and (2) *strategic drivers* addressing the long-term development of business incubators, thereby providing a more holistic perspective on this phenomenon. While most literature functionally restricts the role of incubators to just a few well-defined activities, with limited interfaces to the external context (typically to a local "entrepreneurial ecosystem", Fettes et al., 2010), this paper views incubation as a multifaceted and more complex phenomenon, entailing or indeed requiring broader and deeper external interfaces.

As for the first purpose, we perform a multilevel analysis embracing the broader *institutional* (Lundvall, 1999; Whitley 1994, 2000; Casper and Kettler, 2001; Casper and Mataves, 2003) and *inter-organizational* level (Anderson et al., 1994; Håkansson and Ford, 2002; Gadde et al., 2003), as well as the *organizational* and *project-specific* level of KI's incubator. In this way we can capture both the broader and the restricted context of incubation, including its connections to a local entrepreneurial ecosystem (Fettes et al., 2010; Abetti and Rancourt, 2008: 391). Research embracing the entire context of incubation is advocated by Hackett and Dilts (2004: 74) and Phan et al., (2005: 177), who stress the importance of investigating various levels of analysis ranging from national to regional innovation systems and from the incubator's environment to the single incubated firm or project (Ibid: 177). Thus, the first contribution of this paper is a three-level analytical scheme connecting incubation and its components especially to its *broader embedding context*, viewed not simply as a system to which incubators need to adapt, but as specific actors with whom incubators interact (Håkansson and Ford, 2002).

As for the second purpose, Vanderstraeten and Matthyssens (2012: 656) suggest that "Changes in the incubation market have prompted scholars to devote more attention to how incubators can strategically position themselves". Following these authors and Aaboén (2009) who view incubators as *strategic actors*, our analysis of such actors transcends the typical, operational incubation activities and embraces the strategic level. In this context, incubators' choices and interactions concern mainly the *creation of*

value in relation to external actors (Normann and Ramirez, 1993; Ramirez, 1999) and can be analyzed using concepts from various streams in the business strategy field: for instance, positions (Mintzberg, 1987) and positioning in a value system (Stabell and Fjeldstad, 1998), revenue models (Osterwalder and Pigneur, 2010), international operations (Andersson et al., 2002), and cooperation/competition with other actors (Baraldi et al., 2007; Gnyawali and Park, 2011). Thus, our second contribution is shifting the focus from incubators' *daily operations* (selection, support and mediation) to key *strategic* choices affecting their long-term development, expressed as a set of six strategic drivers extracted from the KI's incubator case.

This study features an incubator which is highly *specialized* (Schwartz and Hornych, 2008) in *bio-medicine*, with the strong academic ties that operating in this industry entails (Schwartz and Hornych, 2010). Despite the diffusion of "bio-incubators" (over 20 in Germany and the UK alone, Ehret et al., 2012: 302), with a few notable exceptions, such as the work of Cooke et al. (2006) who compare 8 bio-incubators, research focussing explicitly on this particular type of incubators is still limited. Thus, the third contribution of this paper addresses this gap in the incubation literature by providing a detailed empirical account of a bio-incubator, stressing the unique challenges and industrial context which this type of incubators face. The paper is organized as follows: after developing our theoretical framework for a multi-level analysis of incubators, we present our methodology; then we delve into the case of KI's incubator, followed by a discussion section which identifies six strategic drivers of business incubation. We conclude the paper with suggestions for further research and practical implications.

2. Previous literature on incubators and theoretical framework

This section first identifies a set of components characterizing the operations of business incubators, then it reviews the incubator literature in relation to the selected components (Section 2.1) and finally it combines them with three levels of analysis (Section 2.2). The literature provides a wealth of definitions of business incubators, which can be helpful to single out the central components in this concept. For instance, "organizations that supply joint *location, services, business support and networks to early stage ventures*" (Bergek and Norrman, 2008: 22; our italics); "a value-adding intervention system" that "...controls and links *resources* with the objective of facilitating the successful new venture development" (Hackett and Dilts, 2004: 57, our italics); or "a *place* where specific professional *resources* are organized to help the *emergence and first development* of new companies" (Albert and Gaynor, 2006: 134). Thus, *place, resources, services, control and time issues* appear as common themes in the incubator literature. While confirming the relevance of these five components, Grimaldi and Grandi (2005: 115) also add "origins of incubated ideas", which correspond to the *sources* sustaining a prototypical "incubation process", as the one proposed by Hackett and Dilts (2004): 57, Fig. 1) and leading to a set of incubation *outcomes*, measurable according to frameworks such as the one proposed by Mian (1997).

In other words, a business incubator can be viewed as any organization (cf. Bergek and Norrman, 2008: 22) or even a company (Phan et al., 2005: 175) following a basic scheme of "input-processing-output" to *create value* (Ramirez, 1999) in a certain time and space, by controlling certain resources necessary for its operations/activities. *Place, time, sources, resources, control (or governance), services (or activities) and outcomes* are accordingly seven key components of incubation appearing as recurring themes in

Download English Version:

<https://daneshyari.com/en/article/1021804>

Download Persian Version:

<https://daneshyari.com/article/1021804>

[Daneshyari.com](https://daneshyari.com)