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# The importance of surrogate entrepreneurship for incubated Swedish technology ventures



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## ABSTRACT

Universities and incubators that are more experienced in venture creation have been found to appoint surrogate entrepreneurs as one way to improve entrepreneurial team formation. However, it is not known how such intervention into the core of a venture affects performance. This article investigates the impact of surrogate entrepreneurs on technology ventures stemming from leading Swedish university incubators. From a total of 170 ventures incorporated 1995–2005, belonging to 16 incubators, 59 ventures (35%) have received incubator help to recruit a surrogate entrepreneur. Swedish surrogate ventures perform significantly better in terms of growth and revenue compared to non-surrogates. Significantly higher performance of surrogates is also found in the subgroup academic technology ventures as well as the largest technology subgroup of information and communication technology (ICT) ventures. These findings in combination with a case study of the most productive incubation environment are used to propose future research and policy regarding university incubators intervening into entrepreneurial team formation in different ways.

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## 1. Introduction

This article investigates a trend in Sweden where universities and their incubators or technology transfer offices engage into the entrepreneurial team formation of technology ventures. At focus is the recruitment of surrogate entrepreneurs and how that impacts venture performance. As the term suggests, the surrogate entrepreneur is someone, other than the original founders, engaged to “give birth” to an initiated venture.

Since the mid-nineties, surrogate entrepreneurship has been suggested as a way of adding business knowledge and professional networks (Radosevich, 1995) to situations where inventors at universities and government laboratories are reluctant to engage significantly into venture creation (Kassicieh et al., 1996). Universities that are more experienced in venture creation prefer surrogate entrepreneurs in comparison to less experienced universities (Franklin et al., 2001). However, whether or not surrogate entrepreneurs improve venture performance has not been systematically investigated. One exception is Rothaermel and Thursby's study indicating higher survival rates for ventures combining surrogate entrepreneurs with strong university linkage (Rothaermel and Thursby, 2005). In line with this finding and the suggestions of others (Wright et al., 2007b; Lockett and

Wright, 2005), this article develops a view on surrogate entrepreneurship as a complementary entrepreneurial competence, attracted to and integrated with early technology ventures to increase capabilities and adaptability (Vohora et al., 2004). If surrogate entrepreneurship could be found to impact not only survival rate but also venture revenue and venture growth, a stronger argument could be made for universities to intervene into entrepreneurial team formation through different means, such as recruiting surrogate entrepreneurs (Wright et al., 2004).

The purpose of this article is thus to investigate the impact of surrogate entrepreneurship on venture performance, and from this motivate and propose further study of incubation practice, especially as regards intervention into entrepreneurial team formation. Fifteen years of relatively homogeneous Swedish incubation is analyzed using primarily public venture performance data. A case study of the most high-performing incubation environment explores surrogate entrepreneurship and other intervention into entrepreneurial team formation.

The article is structured as follows. A review of literature first discusses why and how university incubation matters. Next, surrogate entrepreneurship is qualified as a key factor in understanding entrepreneurial team formation. The Method section describes the selected empirical setting of Swedish university incubators and their technology ventures, and discusses the selected case study. The Results section presents the statistical findings and offers the case study of the environment producing most high-performing technology ventures in Sweden.

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The [Discussion section](#) relates the empirical evidence to an understanding of entrepreneurial team formation while raising questions for further research.

## 2. Literature review

The literature review will first investigate why and how universities engage into venture creation, before focusing on the phenomena of technology venture incubation. The specific study of surrogate entrepreneurship and how it relates to entrepreneurial team formation is then qualified.

### 2.1. How and why universities engage into venture creation

Universities can engage into venture creation in a variety of ways. Many universities have incubators that are designed to help ventures establish themselves on the market. University technology transfer offices (TTOs) may also engage into the creation of ventures ([Graff et al., 2002](#)), including financing and recruiting surrogate entrepreneurs ([Franklin et al., 2001](#)). Universities also often host business plan competitions and other extra-curricular activities aimed at student engagement in venture creation. A smaller amount of universities integrate venture creation as part of an action-based entrepreneurship education ([Janssen and Bacq, 2010](#), [Boocock et al., 2009](#)). TTOs and incubators increasingly involve students in early-stage idea evaluation and business development ([Nelson et al., 2005](#)). On rare occasions, students enrolled in venture creation educations are even recruited as surrogate entrepreneurs for early-stage technology ventures ([Barr et al., 2009](#); [Meyer et al., 2011](#); [Ollila and Williams-Middleton, 2011](#)).

There are primarily three reasons for universities to engage into venture creation. Firstly, venture creation can be seen as building the entrepreneurial skills and competences that are often difficult to acquire through more traditional education ([Ollila and Williams-Middleton, 2011](#)). This motivates broad-based approaches such as business plan competitions, student incubators and networking events of different kinds. Acquisition of skills and competences also motivates more elaborate programs that integrate entrepreneurship education with technology transfer ([Meyer et al., 2011](#)). Secondly, venture creation can be seen as accomplishing more radical or sustainable innovation, potentially having economic or societal impact, at least from a regional economic development point of view ([Graff et al., 2002](#)). This argument, emphasizing direct impact, is often expressed in national innovation policies in which universities are expected to accomplish such innovation ([Mustar et al., 2008](#); [Wright et al., 2007a](#)). A third reason for universities to engage into venture creation is revenue generation, whether from licensing fees, selling company shares or the potential of future donations from successful entrepreneurs.

University ventures have been found to be of different types ([Pirnay et al., 2003](#)). They differ between the status of individuals involved in the new business venturing process (researchers or students) and the nature of knowledge transferred from the university to the new venture (codified or not codified). [Heirman and Clarysse \(2004\)](#) identified four different starting configurations: “venture capital-backed start-ups”, “prospectors”, “product start-ups” and “transitional startups”. Half of the firms in their study were prospectors having no initial clear idea about their business model. Less frequent were venture capital backed start-ups as well as product start-ups, being close to market launch, and transitional start-ups, initially generating revenue through consultancy. [Druihe and Garnsey \(2004\)](#) identified three types of ventures, each having a different emphasis on resource creation

and opportunity recognition: companies based on novel scientific breakthroughs, product companies and software companies. The type of university sponsorship, university involvement in firm formation, the character of knowledge applied, and co-localization of the founders have also been proposed as categorization variables ([Bathelt et al., 2010](#)). These typologies complement one another and stimulate further questions. They also explain why studies of incubator and technology venture performance are complex and also remain scarce.

### 2.2. Incubation and performance

The understanding of incubators and how they affect venture performance is limited. Other concerns, such as typifying incubators ([Bergek and Norrman, 2008](#); [Clarysse et al., 2005](#)) and establishing the relevancy of incubation itself ([Siegel et al., 2003](#)), may have made the study of specific incubation activities and their impact on performance less common. Nevertheless, there are studies showing that ventures from university incubator and science parks have higher venture growth ([Löfsten and Lindelöf, 2002](#); [Colombo and Delmastro, 2002](#)) and greater innovativeness ([Squicciarini, 2008](#)), as compared to ventures started with no such university connection. These studies, however, do not explain the reasons for performance differences.

The variety of ways and reasons for universities to engage into venture creation also makes it a difficult phenomenon to study and evaluate without establishing clearer delimitation. Subsequently, the discussion in this article will focus on incubation of growth-oriented technology ventures. This includes technology incubators as well as TTOs engaging into technology ventures in other ways than merely acting as a licensor. However, this article excludes curricular and extra-curricular activities for students, except when these connect to organized technology incubation activities at the university. It also excludes discussing ventures that focus on consultancy and thus are customer-focused from the start rather than being primarily invention or technology-based.

In order to have economic impact, technology ventures are often seen as having to transcend different institutional, financial and cultural gaps labeled the “Valley of Death” ([Barr et al., 2009](#)). Incubators for technology ventures typically reside different activities to narrow these gaps and increase the likelihood of not only venture survival but also venture growth. The Valley has been found to include four different critical junctures that ventures need to overcome if they are to succeed: opportunity recognition, entrepreneurial commitment, credibility and sustainability ([Vohora et al., 2004](#)). Additional studies have identified these as gaps that ventures must cross: a technology discovery gap, a commercialization gap, and a venture launch gap ([Meyer et al., 2011](#)). Such junctures and gaps deter private investment of early stage technology development ([Auerswald and Branscomb, 2003](#)).

As indicated above, the questions and theoretical approaches to incubation are numerous and limited only by researchers' imagination and analytical tools ([Phan et al., 2005](#)). The phenomenon of incubation still is in its formative years ([Hackett and Dilts, 2004](#)). Early studies pointed at the importance of university image, laboratories and equipment, and student employees ([Mian, 1996](#)). More recent studies emphasize the recruitment and training of the incubation staff engaging into venture creation ([Lockett and Wright, 2005](#)) as well as their entrepreneurial competencies ([Rasmussen et al., 2011](#)). However, recent reviews of incubation and university spin-off literature also reveal that incubation practice around entrepreneurial team formation and appointing surrogate entrepreneurs have not qualified yet as core concerns

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