



GÖTEBORGS UNIVERSITET
HANDELSHÖGSKOLAN

Workshop
Innovation and Entrepreneurship in Health Care & Life Sciences
Thursday 11th Dec to Friday 12th Dec 2014

Sponsored by the Sten A Olsson Foundation for Research & Culture
Research program: 'Radical Innovation for the Enhancement of the Swedish Economy'

Organized by the Professor Maureen McKelvey
Institute of Innovation & Entrepreneurship
Department of Economy & Society

<http://es.handels.gu.se/avdelningar/institutet-for-innovation-och-entreprenorskap/>

The purpose of workshop is to bring together a select group of researchers, to discuss and debate current research about innovation and entrepreneurship in health care and life sciences. The papers are grouped into the following themes:

- Health care innovations & public policy
- Collaborations and networks
- Entrepreneurial companies in life sciences

Practicalities:

Papers: Please send your papers by Friday 5th December to Maureen.mckelvey@handels.gu.se and to ida.hermansson@gu.se

Each paper has a total of 45 minutes. 15 min for presentation, followed by 10 min for the discussant and 20 min general discussion.

The papers will be available via dropbox, as they arrive. Ida Hermansson will send you an invitation to join dropbox for the workshop. Her email is ida.hermansson@gu.se Ida can send you the papers via email if you prefer.

Hotel: International guests are staying at Hotell Vasa, Adress: Viktoriagatan 6 411 25 Göteborg Tel: +46 31- 17 36 30 ; The hotel is downtown, and it is located 2 blocks from the main building (Handelshögskolan, Vasagatan 1)

<http://www.hotelvasa.se/index3.php?page=start&lang=e>

Workshop: The workshop is at Handelshögskolan (School of Business, Economics and Law), found at Vasagatan 1. Inside the main entrance, Malmstensvåningen is at elevator A/B and floor 6. The room for Thursday 11 December is 'Matsalen', and Friday is 'Kurt Grönfors'. A laptop will be available.

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The weather: Swedes say there is no bad weather, only bad clothing. Before the dinner on Thursday, we will walk to, and around, an outdoor Christmas market. You will want to pack winter coat, hats and gloves – and maybe an umbrella.

Thursday 11 December 2014

8:45 Meet at Hotell Vasa reception

A student meet up with international guests and walk with you to the workshop facilities at Vasagatan 1, Malmstensvåning, Matsalen

9:15 Opening of workshop by McKelvey

Theme: Health care innovations & public policy

Chair: McKelvey

9:30 Paper to be presented by Windrum

“Crisis. What Crisis? Institutional work to shape and deliver systemic innovation with multiple health professional groups”

by Kirsi Hyytinen, Hannamaija Maatta, Marja Toivonen, Paul Windrum

Systemic innovations are required to tackle complex societal problems in the health care sector, with ageing populations increasing the overall demand for health services, and shifting the composition of demand towards long-term (multiple) chronic conditions, while the tax base to support and develop health for an elderly population is diminishing (Dunston et al., 2009). Systemic innovations seek to address this crisis through intertwined, co-evolutionary changes that involve new service development, organizational change, technological innovation, and the reconfiguration of multiple network relationships (Gallouj 1994, 2002, Windrum and García Goñi, 2008; Harrison et al., 2010, Rubalcaba et al., 2011).

Our case study examines the implementation of systemic innovation in integrated care by a new organisation in Finland. It involves new managerial practices, the creation of new partnerships with customers, and new services. The transformation has improved productivity, positively impacted on health, and enhanced multidisciplinary collaboration among many professional groups. Yet the study reveals that delivering systemic innovation can itself create new crises – amongst professional groups, and between managers and medical health professionals – at different organizational levels that threaten to undermine the sustainability of these transformations. This has included the dismissal of the CEO of the health organization and the resignation of 2 other senior managers.

Using detailed observational data collected from the weekly meetings of two key management teams responsible for organising the development of systemic change, together with individual face-to-face interviews, our study investigates the key events that have given rise to these crises and the institutional factors that have accelerated and hindered the development process of shaping and delivering systemic innovation in a primary health care organisation. Our findings highlight the purposeful action of individuals in day-to-day adjustments, adaptations and compromises aimed at creating, maintaining and disrupting institutions (Lawrence and Suddaby 2006).

Discussant: Gulbrandsen

10:15 Paper to be presented by Hopkins

"What happened to UK biotech? Explaining the poor performance of UK firms after 30 years of government support and industry investment"

by Michael Hopkins

This presentation, based on work in progress, looks at the emergence of an SME therapeutics sector in the UK, starting with the government's founding of Celltech in response to the strong support enjoyed in the US by early firms exploiting biotechnology.

Data on 247 firms focused on therapeutic product development traces the industry's progress through the decades, showing the growth of the sector as a co-evolutionary process dependent on policy interventions and the emergence of VC and other sources of capital.

Trends in product launches, financing and comparative scale (to the US) reveal the poor performance of the UK, despite apparent institutional convergence with the US. Possible explanations and policy implications will be discussed.

Discussant: Saeumundsson

11:00 Paper to be presented by Gulbrandsen

"Innovation perspectives and innovation policy: The case of the public health sector in Norway"

by Magnus Gulbrandsen and Taran Thune

The relationship between innovation theory, policy and practice has been conceptualised as an "innovation policy dance" (Kuhlmann et al. 2010). The assumption is that "the ideas, rationales and instruments of innovation policy emerge as a result of interactive learning among actors involved in innovation practice (I), innovation-related public intervention strategies (P), and innovation research and theory (T)" (*ibid.* p. 7; see also Mytelka & Smith 2002). Although the dance is a metaphor of a co-evolution process characterised by mutual influence and learning, it is also defined by gaps, misunderstandings, challenges and various forms of path-dependency. This perspective allows for a rich and nuanced understanding of how innovation policy develops within a broader systemic framework. There is thus a need to study innovation policy in the health sector more explicitly from an innovation perspective.

In this paper, we want to contribute to filling this gap by studying the 'policy dance' in the health sector, using policy documents and instruments from Norway as the foundation for exploring two main issues: who are the innovation policy actors (the dancers), and is there a match between a contemporary theoretical understanding of innovation and the way this is expressed in policy and practice in the health sector (the dance)?

Discussant: Mina

11:45 Vacate seminar room – Caterers need time to set table for lunch

12:15 Lunch

Menu: Grilled cod with creamy celery, bacon and potatoes with chive plus bread, butter and coffee/tea

13:15 Theme: Collaborations and networks

Chair: Windrum

13:15 Paper to be presented by Miozzo

"Securing commitment in inter-organizational collaboration for innovation: governance and functioning of industry-university strategic partnerships"

by Marcela Miozzo

In this paper, we develop the concept of "commitment regime" as the organisation and coordination mechanisms that govern the ability to secure commitment from participants towards the goals of a high-risk inter-organizational innovation partnership. Drawing on a multiple case study of industry-university partnerships in the USA and the UK in the life sciences, we show that the most important dimensions of a commitment regime are the nature of the formal contract, the relational governance, and the interplay between these. We show that in different types of industry-university partnerships – which we call "tapping in" partnerships, rights-oriented partnerships and translational research partnerships - variation in the type of commitment regime within each type can help explain the level of commitment from industry and university participants towards collaborative innovation that ensued.

Discussant: Thune

14:00 Paper to be presented by Llopis and D'Este

"Balancing benefits and costs of sparse knowledge networks: brokerage and medical innovation"

by Oscar Llopis and Pablo D'Este

We explore the association between brokerage positions and participation in innovation activities within the biomedical context. Prior research has highlighted that holding brokerage positions enhance innovation through access to heterogeneous knowledge and resources. In this paper, we take a personal-network perspective to examine multiple types of brokerage, by explicitly considering the attributes of actors being brokered. Accordingly, we examine the impact that different types of brokerage roles have on medical innovation. Our findings provide support to the idea that distinct brokerage roles have substantially different effects on innovation, suggesting that they offer divergent benefits and costs. In particular, our results highlight the positive impact of gatekeeper roles on innovation, compared to other brokerage roles such as liaisons, consultants and coordinators. Further, our results find partial support for the idea that the potential gains from brokerage positions depend on the institutional setting to where focal actors belong - in particular, contrasting hospital and university institutional settings.

Discussant: Hopkins

14:45 Paper to be presented by Rake

“The influence of collaboration on firm publications: Evidence from pharmaceutical cancer research “

by Maureen McKelvey and Bastian Rake

Although bio-pharmaceutical companies engage intensely in collaboration as well as in scientific publications it is not well understood how and why the choice of distinct partner types affects the quality of companies’ scientific publications. We contribute to this gap in the existing literature by analyzing whether collaboration with particular types of partners and whether network embeddedness influences the quality of publications in cancer research, and specifically of the scientific publications of biotech and of pharmaceutical companies. Our empirical analysis employs two different measures for scientific quality, publication in top-tier journals and the number of forward citations. The results suggest that publication in top-tier journals may depend on different factors and collaboration patterns compared to the number of citations an article receives.

Discussant: D’Este

15.30: Coffee

15:45 Chair: Miozzo

15:45 Paper to be presented by Thune

“Integration of clinical and scientific competencies in life science innovation”

by Taran Thune & Magnus Gulbrandsen

This paper looks at idea generation and idea development for research-based commercialization in the life sciences. Much has been written about patenting and the need for and influence of seed capital and other forms of funding and support in different phases of development, especially related to spin-offs and other firms. However, there is a need to look more closely at how ideas are developed inside health care organization and between clinical and scientific environments. Through a database of disclosures of invention as well as interviews with prolific inventors from academic life science, we aim to shed light on this “hidden innovation” system – the early disclosure phase as well as the interplay between scientific and clinical staff and between universities and hospitals.

Discussant: Llopis

16:30 Paper to be presented by Saeumudsson

“The effects of the establishment of engineering degree programs in biological engineering on research and innovation: A research proposal”

by Rögnvaldur Saeumundsson

We know from previous research that complementary advances in theoretical knowledge, instrumentation, and computational capacity affect the rate, direction and organization of innovation. In the proposed study we want to empirically study in real-time a change that is likely to have such an effect. In the last ten years or so engineering programs in biological engineering have been established at some universities, most notably by MIT. While a continuation of activities that have been on-going during the biotechnology revolution the increased emphasis on methods of engineering, i.e. quantification and simulation, is likely to change the direction, rate and organization of innovation. The objective of the study is to study the activities of faculty and students of these new programs in a selected field with the aim to understand how they affect the rate, direction and organization of innovation.

Discussant: Valentin

Dinner only for international guests and researchers presenting papers

18:30 Meet at Hotell Vasa reception, Walk to Liseberg

We will take to take you to Gothenburg’s famous amusement park where you can take a walk around the park and visit an Old-Fashioned Christmas Market. For information see:

<http://liseberg.com/en/home/Amusement-Park/Christmas-areas/>

Let Maureen or Ida know if you will not join us for this stroll in the Market. The reason being that we will leave your name at the entrance to Liseberg, so that you can enter without paying the entrance fee

20:00 – 22:00 Dinner at Liseberg, Wårdhuset

Christmas menu: Smoked duck breast; Swedish spiced pot roast ; Dessert buffet; Coffee

Friday 12 December 2014

7:15 Hotell Vasa reception

International guests will meet up at Hotell Vasa this early, so that we can walk to the nearby Hagakyrka, and take our seats for the Lucia celebration. Lucia is a major celebration in Sweden!

Check out this click, which was made by a colleague last year at Hagakyrka
<https://www.youtube.com/watch?v=2WIpQP5Vcm4>

9:30 Theme: Entrepreneurial companies in life sciences
Chair: Hopkins

Workshop at: Malmstensvåningen, Kurt Grönfors room

9:30 Paper to be presented by Jeppsson

“Initial public offerings and venture capital participation”

by Hans Jeppsson

Past empirical research on venture-backed initial public offerings has focused on venture capitalists' timing ability of bringing their portfolio companies public and capitalize on favorable market conditions assuming exiting occurs in connection with the IPO. This paper examines insider buying by existing venture capitalists in their portfolio companies during the IPO and the association with IPO underpricing, price revision and post-IPO stock return volatility. The findings of this study show that insider buying during IPOs is unassociated with underpricing (after controlling for price revisions), whereas there is a negative association between price revision and insider buying. The cost of bringing companies public is that of continued managerial/monitoring involvement, which restrains venture capitalists to redeploy advisory talent and capital to new ventures. In addition, a detailed analysis of ownership data documents in many instances a continuing role for venture capitalists as directors and shareholders in the years after going public. This study suggests that IPOs are financing events, not liquidity events, which contrast past research.

Discussant: Miozzo

10:15 Paper to be presented by Mina

“The ‘soft company’ business model of high-tech growth”

by: Andrea Mina, Jocelyn Probert, David Connell

The financing of innovation is a key aspect of the process of growth and structural change. The innovation and entrepreneurship literatures have placed overwhelming emphasis on the Silicon Valley model of venture capital investment, even though this is not the only way to develop new high-risk technologies in the private sector outside the R&D departments of large firms. A very different business model has supported the growth of the Cambridge (UK) cluster, where successful science-based firms funded lengthy phases of exploratory technology development by carrying out R&D contracts for customers and by building competitive advantage through ‘demand pull’ incentives and the strategic accumulation of intellectual property.

This paper illustrates the fundamental characteristics of this business model and provides case study evidence of its use in the development of medical innovations. While this empirical evidence is specific to the Cambridge context, the findings are more generally applicable to technologies – typically ‘platform’ technologies’ – whose developmental clock speed does not fit the requirements of the VC-backed company model.

Discussant: Jeppsson

11:00 Coffee with sandwiches in Trolle

11:30 Paper to be presented by Valentin

“The role of research hospitals in medical innovation systems”

by Finn Valentin & Lars Alkærsig

Case studies of medical innovations have found that research hospitals play a significant role in advancing medical technologies and in driving systemic effects in co-innovations with firms and universities. A different literature examines the challenges encountered by clinical research in finding its role in the new paradigm of genomics-based innovations and in adjusting to cost reductions and faster patient flows. Lack of large-N studies leaves it as an open question which of these contradictory expectations is best reflected in the performance of a large number of hospital innovations.

The present study is based on all medical innovations patented by Danish assigned since 2000. Using data on patent assignees to map intra- and inter-institutional collaboration behind each patent we apply multivariate regressions in a double comparison of both universities vs. hospitals and innovations in drugs vs. devices. We find that innovations from intra-institutional teams generally perform better, confirming the general importance of systemic effects. Nevertheless, almost two thirds of all innovations have mono-institutional inventor teams. In total, university innovations obtain stronger systemic effects, particularly from innovations involving companies. Particularly striking is the absence in drug discovery of systemic effects between university (basic) and hospital (clinical) research. These are the effects forming the key challenge to the translational research paradigm. Our findings support concerns for the way this paradigm is implemented.

Discussant: Rake

12:15 Paper to be presented by McKelvey

How networks and sectoral conditions affect commercialization in a KIE venture in the medical technology industry: A case study of Aerocrine

by Jens Laage-Hellman and Maureen McKelvey

This chapter focuses upon the case study of Aerocrine, a company which is active in the medical technology (or medtech) industry. The case study portrays the commercialization of medical and scientific knowledge, through the starting up and managing phases of a knowledge intensive entrepreneurial (KIE) venture. The case study focuses upon questions about how networks and sectoral conditions influence the process of commercialization, including the development and performance of this KIE venture. The case study provides an understanding of how one specific firm relies upon the innovation system to access, and further develop, knowledge and resources. More specifically, this chapter focuses upon the role of networks in providing resources as well as the different types of networks that the KIE venture develops over time. The medical technology sector is heavily regulated, and therefore companies must meet particular sectoral conditions related to clinical studies, if they are to be able to identify and exploit the innovative opportunities. This case study provides more detailed insights into how a KIE venture develops over time, in relation to the wider innovation system context.

Open discussion

13:00 Conclusion