

IFSAM Symposium on

Administration of research and industry collaboration

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Papers:

1. *Leadership Dilemmas and Dynamics in research projects – entrepreneurial leadership?* By ??? Hansson-Mønsted;
2. *University researchers' selfconception: Why interact with Business?* By Lee Davis and Peter Lotz;
3. *What Researchers Really Do: Implications For The Creation Of The Entrepreneurial University*, by Matti Kaulio and Max Rapp Ricciardi.

Abstract: The Symposium aims to explore the implications for the university, research and researchers of the recent calls for a more managerial university. The effects of these calls on what counts as knowledge and the activity of academics are debated from various angles: a) through the analysis of the new forms of entrepreneurship which are required to deliver 'valid' research to external stakeholders; b) through the study of the rationales underpinning university/business relationships, and; c) by looking at how policies directed to make universities more entrepreneurial affect individual researchers.

Symposium Format: Brief paper presentations followed by discussion

Relevance for ISFAM: The relevance for ISFAM relates to the impact that broader calls for managerialisation of the university have on the nature and commodification of research and on how academics operate within this institution. While general

Description of the symposium

Universities are under increasing pressure to contribute to the development of national and trans-national economies to improve the competitiveness of specific regional areas. This happens in a milieu which is characterized by a decreasing amount of public funding which forces universities to establish a dialogue with the surrounding environment in forms which are new respect to what has been done in the past. In this sense, not only research, and therefore knowledge, is defined in different forms and by

different instances but also the forms through which this is financed, executed and in the end communicated to the external world is different respect to what universities were used to.

These changes are part of a broader trend which views the university changing the forms through which it gains legitimacy in economies and societies. Whereas the medieval university was legitimated by the link with various kinds of religious institutions and credos and from the nineteenth century this derived instead by the institution's ability of reproducing elites (Ramirez, 2005), the current situation views the dominance of criteria inspired by the managerial rhetoric of efficiency and productivity of the allocation of resources and the outcomes achieved, respectively. Universities are good and legitimated if they respond to the calls coming from the economy and society rather than the other way round. Yet, it is the relevance of the research for the external stakeholder which constitutes the main source of legitimacy for the university and this creates a series of issues which this symposium intends to address.

The first concerns the new forms through which research activities need to be managed in university settings. It seems clear that university researchers cope with difficulty with the new demands which come from the external world. This is the case for different reasons which can all be related to the lack of 'professionalisation' of academics. In fact, academics are called to play various roles within their institutions (teachers, researchers and administrators) and this was supposed to be the strength of the institution for it guaranteed the right co-ordination amongst the activities that universities perform. This guaranteed the right holistic approach in designing and executing these activities in line with the idea of the University as *Universitas Studiorum*, i.e. a place where various branches of knowledge and instances were supposed to find a place of unitary reconciliation (Mazza, Quattrone and Riccaboni, 2006). In this sense, calls for greater professionalisation are heard with the most evident one envisaging the separation between teaching and research and the delegation of administrative duties to non-academic professionals. Whether this model is right or not is an issue which the symposium intends to address and how various forms of management of research activities can benefit the production of knowledge which is recognized as 'valid' by the external stakeholders in one of the main topics to be debated.

Secondly, the symposium intends to offer a venue for reflection on the reasons for and the modalities through which universities could and should interact with business. The university has always been a 'meeting point' where various disciplines but also various constituents of society meet in an often disorganized but always fruitful exchange. In this respect then, the calls for greater exchange with the business world are not stranger to the nature of the university as institution. However, given the growing diversity of interest and institutional arrangements, this fertilization is not easy to achieve and maintain. Thus the symposium intends to explore various related themes. There are: the understanding of the kind of relationships business/university which are fostered by various government agencies; the investigation of the typical patterns of collaboration in various disciplines; the typology of firms which collaborate with universities; what foster these collaborations and with what results; how contacts between firms and universities are established and what the role of specific institutional arrangements (such as liaison offices and similar) are.

Finally, the symposium debates on the implications for researchers of the above changes by focussing on very specific critical events where the logic of business and the logic of academia meet and create conflicts concerning issues of resource allocation, research project management and so forth.

WHAT RESEARCHERS REALLY DO: IMPLICATIONS FOR THE CREATION OF THE ENTREPRENEURIAL UNIVERSITY

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ABSTRACT

While a dominant part of past research on university-industry cooperation has focussed on policy issues, less attention has been paid to the consequences such policies lead to for the individual researcher. On the basis of an empirical study of 60 critical incidents academic project leader face, this paper draws implications for creating the entrepreneurial university. A key issue in the analysis is to discuss university research from the perspective of the ongoing “projectification” of the academy. Results indicate that project mature organization, as well as, the development of researchers’ project managerial skills will be key factors for the creation of the entrepreneurial university.

INTRODUCTION

In the ongoing process of increasing return on academic research, universities and governmental funding institutions search for new ways of exploiting “hidden” commercial values. Accordingly, with this new focus on the instrumental value of research new organizational forms emerge. Incubators (Gustavsson and Laestadius, 2005), Innovation systems (Lundvall, 1992), Triple Helix Initiatives (Etzkowitz, 2002), “Entrepreneurial University” (Etzkowitz, 2003) and Technology Parks (Gustavsson and Laestadius, 2005, Deiacco et. al, 2002), but also centres of excellence and large industry-focused programs are examples of such organizational forms. The emergence of these new organizational forms in the university can be seen as manifestations of a shift

from a discipline-structured, into a more system-structured work organization. This change is particularly present in the area of science and universities of technology in which large commercial potentials could be found. In this paper focus will be set on the ongoing transition of the university from a discipline-structured bureaucracy to, a temporary project organization. This latter type of organization is, by Midler (1995), referred to as the “projectified” organization. On an overall level the aim of this paper is to make an empirical contribution to the analysis of how entrepreneurial universities could be created. In particular, the aim of the paper is to illustrate the effects of the ongoing projectification of the university on individual researchers’ working conditions.

FRAMEWORK OF REFERENCE

An emerging field of research deals with the emergence of the “entrepreneurial university” (Etzkowitz, 2000, 2002, 2003; Jacobs, et. al. 2003). In this section the discourse about the entrepreneurial university will be approached from a transformation perspective as well as linked to theories of job design (Baron and Kreps, 2000). In the discussion these theoretical starting-points will then be related to more recent literature in the field.

Organizational models of the university

Most universities hold a strong culture, in terms of organization, traditions, practice and values. From an organizational point of view, the university holds a number of characteristics that distinguishes them from other types of organizations. Some researchers also claim that there is more than only one type of university cultures and that different types of cultures and ideals contrast with each other. Beckman (1989) identified four different university cultures (Figure 1). Each one of them is characterized by different ideas about what the university is and should do and how its’ work should be organized. Beckman describes these organizational cultures in a matrix with four quadrants. The matrix is spanned by the two dimensions of: “freedom of thought” and “openness”. The first dimension is constructed by the concepts of autonomy and heteronomy, describing to which extent the university could be regarded as an arena for the free thought, which is the case when the university is characterized by a high degree of autonomy, or if it could be considered a knowledge creating tool in the hands of the government, which is the case with heteronomous universities. The second dimension is composed by whether or not the cultures

are characterized by open (liberal) or closed (authoritarian) organizational principles.

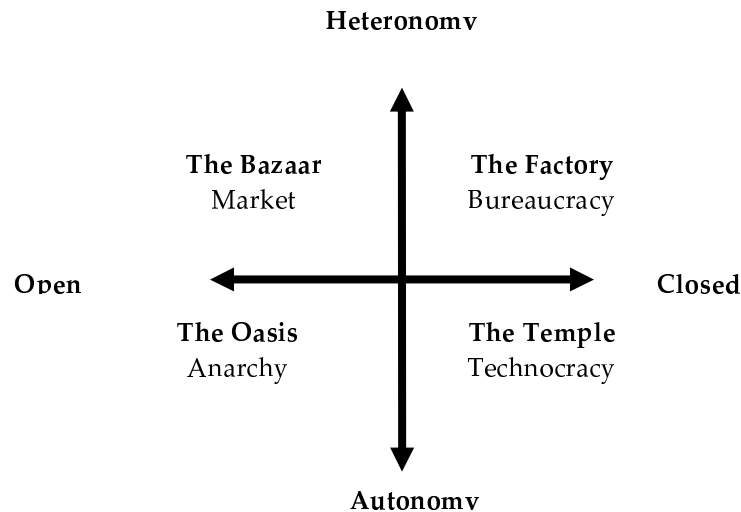


Figure 1. Four different university cultures (Beckman, 1989)

With these dimensions in mind, four different cultures emerge. The first culture is defined as the *Temple*, which is characterized by a philosophy of a high degree of integrity and autonomy and a high degree of authority combined with a closed mentality. In this type of culture there is no such thing as freedom to learn by creativity. Students are supposed to learn the elementary things first, and as they strive and get higher up in the hierarchy and gains academic positions, they are considered worthy to contribute to the academic debate. The positive side of the Temple is that it is hard to manipulate by external interest as governments or industry, since this culture is reluctant to take in new ideas that has not been corroborated, discussed and matured within the system. The Temple can contribute to a critical mind in society, but the destructive Temple can be resembled to isolated castles which do not contribute to society in any constructive respects.

The second culture is defined as the *Oasis*, which is a university culture where the importance of organizational as well as individual freedom is underlined. According to this culture, the ideal university is one in which the ancient Greek

ideals of academic freedom of thought are to be followed. The academic brotherhood is not necessarily hierarchic, but an organization of “primus inter pares”. According to this culture the highest ideal is not necessarily to get an education, but to become a cultured. The Oasis combines autonomy and an open organization characterized by equality and an open mindset.

The third academic culture is the *Factory*, a culture much favoured by governments. Factories could be viewed as a tool with which intellectuals necessary for the society such as priests, layers, doctor’s engineers, and so forth can be produced. The university is in this case resembled to a production plant in which the society controls and produces people with “usable” and practical knowledge. The “deprofessionalization” of the university is one of the most important characteristics of the Factory culture. The professionals such as the professor’s loose influence and bureaucrats get the benefits. The positive Factory culture is goal oriented and efficient, but the negative Factory culture could be described as the Gulag archipelago of knowledge creation.

Finally, the fourth culture is defined as the *Bazaar*, which is characterized by a high degree of heteronomy and openness. The Bazaar can be described as a marketplace of knowledge. The industry can find the knowledge they need, and the individuals can find the education they strive to get. Universities with this type of culture are providers of knowledge and strive to maximize “customer satisfaction”. The ideal Bazaar is a centre for innovative academic entrepreneurship in the service of the community; the negative Bazaar is a university that could be resembled as a jungle of short-mindedness, striving to produce only applied research and popular courses that are most sought after.

The transition from a bureaucratic ideal where the hierarchy theoretically spoken is strict, to project organization ideal where team-work and the sharing of power is stressed is not a process that will lack complexity and complications. The question can be posed as; what will happen when the academic culture – comprising the organizational characteristics sketched out above paired with the glorification of the “stars” in terms of the single successful professor – is transformed to the glorification to the project teams, where success and prestige is shared among team-members?

RESEARCH APPROACH

In order to illustrate the effects of the transformation of the university on researchers working conditions, data on critical incidents from academic project leaders were analysed.

The Critical Incident Technique

The approach used in this study was to focus upon fragments of conflicts academic project leaders face, or have faced, in their work and on the basis of this data analyse existing frictions with expectations of the role as researcher and with the organization. This was done by a version of the critical incident technique (CIT) was used as data collecting method. CIT was first developed by Flanagan (1954) for the U.S. Air Force as a means of analyzing man-machine interface in fighter jets and the suitability of pilots to continuing service. Originally, its conception consisted of "...a set of procedures for collecting direct observations of human behaviour in such a way as to facilitate their potential usefulness in solving practical problems and developing broad psychological principles" (Flanagan, 1954, pp 327-358). In this study, a "critical incident" refers to an event that "deviates from the expectation of the actor" (Olsen, 1992). Such an incident can either be negative, i.e. an incident which could have resulted in a negative outcome, or positive, i.e. an incident which can be characterized as an opportunity and caused, or could have caused, a positive outcome. This definition of a critical incident was also communicated to the respondent.

Data collecting procedure

The critical incidents were collected using an instrument developed with the purpose of eliciting unplanned issues with importance for the outcome of research projects. The instrument was handed out to five groups of academic project leaders taking part of a Project management programme for academic project leaders. Each respondent was asked to write one incident. Each incident comprised two pages of written text following the structure; context, critical incident and outcome/solution. On the basis of these descriptions the incidents were then discussed with the respondent and categorized into larger clusters using a grounded theory approach. All in all, 60 critical incidents have been collected.

Respondents

The respondents were all experienced project managers at a research university of technology in Sweden. The university has about 60% of the turnover devoted to research and has a reputation of good skills in collaboration with the industry and the ability to take entrepreneurial initiatives.

FINDINGS AND DISCUSSION: PROJECT MANAGEMENT SKILLS – AN INTERMEDIATE STEP TOWARDS THE ENTREPRENEURIAL UNIVERSITY?

At an overall level, eight factors were grounded in the data, comprising issues such as:

procedures of work, personal conflicts or interest, trust, confidentiality, resource planning, succession as well as group dynamics. Furthermore, a significant aspect among the issues were related to cooperative situations in which the logic of the academia meets the logic of industry (i.e. The Bazaar situation) and where conflicts of interest are present. On the basis of this analysis the following two issues will be further discussed.

- The concept of an “entrepreneurial university” has to be broadened and not only seen in the number of created companies, but also in the terms of industry funded research and managed industry relation.
- Project management skill among researchers is a missing intermediate stepping-stone towards the establishment of the entrepreneurial university.

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Leadership Dilemmas and Dynamics in research projects – entrepreneurial leadership?

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One of the major problems of organising research in universities (and public business schools as well) is the fact, that it is only a part-time activity with teaching, administration and recently also research communication being the other pillars. This situation (often described as mode two science-situation (Nowotny 2001)) is constantly creating complex conditions for long time planning and execution of research. The result is often a need of a special creativity and a to a growing degree of dependency on innovative leadership in order to create the foundation for new research funds and human resources, and in this way develop a strategy for expanding toward both study and teaching as well as research communication in the institution.

The new type of leadership demanded by the abovementioned changes and the ongoing competition with management of teaching and administration illustrates the actual dilemmas of leadership in research in public universities and thereby create a good point for analysis of leadership and construction of space for scientific projects.

A useful analogy for the modern research leadership could be the literature on project management. The seemingly proximity between project management (Kreiner 1995, 1996) and creating projects and research leadership appears to provide some answers to problems currently encountered in research leadership. In reality, the majority of the project management models build on relatively clear templates for projects (Lientz & Rea 1995), and not on the open-ended complexity for creativity, research and expert knowledge in post-industrial research performed on part-time bases and under high level of uncertainty (Mønsted 2003, Lash 2003, Latour 1987, Alvesson & Wilmott 2003). The complexity of scientific leadership with conveying goals and different roles, styles and time horizons (Mayntz 1985, Liyanage 1999) may build on elements from project management as well as from studies of professional credibility (Ziman, 2000) and epidemic cultures in science (Knorr-Cetina 1999).

Furthermore, the history of general management theory provides us with three very basic management modes or paradigms. The first being the scientific management approach also labelled as the Tayloristic tradition (Taylor 1914, Drucker 1999). Metaphors such as brain, hand and tool illustrate a very straightforward form of management: division of labour of known tasks, rule and control. Within the second paradigm the organization of the firm appears as important conditions. Management is not just about ordering but producing the right conditions for task accomplishment. It is a well known tradition with many faces (Mintzberg 1989, Simon 1996). In turn, the third paradigm focuses on complexity and self management in a fuzzy boundary context. Not only conditions are important but to an extent the very definition of the task is open as they are the goals. Here we encounter sets of reflective practitioners organising resources as well as themselves (March and Olsen 1979, Yukl 1989, Mønsted 2002, 2003, Hansson 2004).

The focus of the paper is on scientific leadership as leadership in and of a complex field. Research leadership now operates in situations with open boundaries, where trust, reputation and outside recognition is more important than traditional management in order to produce knowledge under conditions of high level of complexity. Thereby we have introduced new perspectives on leadership and management where dilemmas, uncertainty and complex relations to other managerial systems is in the forefront. The research question in the paper is constructed in order to investigate the dilemmas between managing an organisation, teaching and administrative tasks of staff, and leading the unknown route of investigation into new knowledge and creation of a platform for research. The focus is a look for innovative approaches to the dilemmas. Emphasis on the innovative or creative part of the research and the creation of space for research clearly points to the fact that research is working under uncertainty and consequently there should be room for a new goal as it may be reconstituted as more relevant avenues appear.

The case:

In order to empirical investigate and produce empirical evidence to the problematic between leadership and management in science we will use 3 case stories from our own institution – the case of constructing and developing the sections of the rather new department of Management, Politics & Philosophy at

CBS. The cases will show interesting dilemmas and competition for positions, new teaching fields and other resources. The emphasis in the analysis is on constructing new themes and fields in a complex new department, where a number of very different research groups, different in disciplinary history, in relations to the traditional business school environment are creating a new joint setting for research and teaching. The development in the Policy Group is instructive for the kind of processes we want to investigate. The group established itself over a period of 5-6 years with a well-defined profile in public policy analysis both in research and in teaching. In the last couple of years the group has developed collaboration with organisations and institutions and made room for a couple of external funded research projects on the borderline between private and public policy, especially the role of NGO's. This process has made its own spin-off in both teaching and research profile for the whole group. This kind of entrepreneurial spirit in relation to research and teaching is not very well understood in the literature on scientific leadership and managing of departments. Another case is about how large external funded research projects are generated and how the relationship with the department develops and especially what are the long-term effects – seen from an organisational point of view. Often it changes the scene for the profile of both research and teaching. The larger research projects recruit researchers, who then get some teaching time, and become assistant professors. The resources for the project often result in offering new courses and provide energy to change some of the existing courses and teaching profiles.

As ex post factor cases we do not aim to give a valid picture of what was major problems related to leadership and managing. Through interviews with central actors and research “entrepreneurs”, they will present the kind of reflexive story-telling they have of their own actions. By doing this we will be able to analyze different kinds of constructions of leadership dilemmas in action. The dilemmas and reflection on how to establish research within competing tasks helps us understand the process of self-management and leadership in this type of knowledge based organisations.

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University researchers' selfconception: Why interact with business?

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In most countries, universities are now expected to contribute directly to the productivity in the private sector by supplying knowledge to companies without awaiting dissemination through students and institutions devoted to more applied research. One way to do this is by producing codified and saleable knowledge, such as patents. Another way is by collaborating directly with companies in the knowledge creating processes.

Many governments have set up programs to facilitate such collaborations. As an example, many EU programs even require both universities and private firms to take part of funded projects. At the same time, many researchers collaborate with business companies apparently without any monetary benefits. So government programs encourage activities that already seem to exist. But while we have a reasonably good understanding of why companies want to collaborate with universities, very little is known about the different kinds of collaborations that are possible and the motivation of researchers to engage in such collaborations. This paper reports preliminary results from a novel survey of researchers' collaborative activities. It covers research at universities and other non-profit research organizations in the field of life sciences in Denmark. A web-based questionnaire was mailed in November 2005 to app. 1800 potential respondents, and responses are currently collected. The response rate is now estimated to be 30-40 percent. Collection closes by the end of January 2006.

The paper will present background statistics and tentative conclusions on the following issues:

- What are typical collaboration patterns of researchers in different scientific fields and of different seniority and academic ranking?
- Who are the collaborating firms?
- What drives researchers to collaborate?
- What were the actual results of collaboration?
- How was contact established? Has the collaboration e.g. been facilitated by university offices, such as TechTrans offices?
- Has the new Danish regulation on university patenting (granting the university ownership of inventions) influenced the propensity to collaborate with business.