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The challenge of managing boundary-spanning research activities: Experiences from the Swedish context

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ABSTRACT

Contemporary and future challenges when managing research involve coping with emerging prerequisites which include, among other things, a new knowledge production discourse, new research funding methods and new ways for international collaboration. Managers for boundary-spanning research activities need to combine the sometimes opposing logics and perspectives of the multiple stakeholders—the individual researchers searching for independence, sustainability and freedom and others searching for integration, relevance and predictability. Based on a collaborative research set-up including interviews, discussions and workshops with major Swedish research funding agencies, research program managers, experienced industry partners and key stakeholders, the paper identifies six main managerial challenges: (i) lack of focus on research management and unsatisfying prerequisites, (ii) weak identity and low status of the role of the research managers, (iii) few incentives for research management, (iv) lack of leadership development opportunities for researchers, (v) multiple (and sometimes contradictory) expectations from different stakeholders, and (vi) sustained funding. Finally, the managerial implications of these challenges for universities and funding agencies are discussed.

1. Introduction

Since the 1990s, the prerequisites for academic research have undergone important changes. To an increasing extent, research activities are organized as large projects and programs, with an increasingly diverse base of financing and participants. Research programs are long-term endeavors with a strong academic base but they are also more and more boundary-spanning in that they are heavily dependent also on industrial, governmental and international partnerships. This development has been accelerated by the strong adherence of important funding agencies to the paradigm of mode 2 knowledge production (Gibbons et al., 1994) and to multi-stakeholder models for research and economic development such as the triple helix model (Etzkowitz and Leydesdorff, 1997) with an emphasis on problem-focused, interdisciplinary and collaborative research.

The researchers that take on the task of managing such research programs find themselves in a challenging situation. Their role is to lead researchers from multiple disciplines, often from different universities and different countries, often dedicating only part of their time to the specific research program. They also have to manage multiple stakeholders, all with different expectations and driven by different logics. The financial structure is also complex, since the funding most often is shorter than the initiated research activities, which often necessitates additional funding to be brought in, and is also expected to draw upon already existing university resources that are outside the control of the research program. Finally, the research programs are part of academic structures that are still not adapted to matrix structures. Despite the growing size of research activities and despite these major and recent changes in the prerequisites for managing research, the management of research and research leadership is still an unprioritized area. Significant efforts have been put into developing ways to select important research areas and productive research groups. However, the actual support of the selected research groups in terms of management and leadership approaches has not yet received the same attention.

1.1. Boundary-spanning research programs based on mode 2 knowledge production and models such as triple helix

We use the term *boundary-spanning* to illustrate the complex character of research programs whose set-up is governed by the logics of mode 2 knowledge production and models such as the triple helix. Boundary-spanning research cuts across traditional scientific disciplines, societal sectors and university assignments as well as national and university borders. The term mirrors the increased

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expectations and number of interfaces that mode 2 knowledge production implies. For research program managers, the context of boundary-spanning research is different from managing more traditional academic research activities, also called mode 1 knowledge production (Gibbons et al., 1994), and entails a different set of challenges. Yet, despite the espoused strategic value of boundary-spanning research activities by politicians and policy makers, very little research has focused on understanding what managerial challenges emerge from the application of mode 2 knowledge production on how to actually manage boundary-spanning research activities.

Among research funders, there is an established tradition and structure to evaluate and select research focus areas and research groups but a lack of tradition in working with the development of the managers of the initiated research programs. There is also a lack of established models and practices for managing research and research leadership that can be used. Academic research has mainly focused on strategy and policy making on a macro-level and very few studies have been made on the level of managing research programs, projects or groups (Ernö-Kjölhede, 2001). Only a few studies cover issues such as leadership, organization and work methods for such programs. Even less research focus on managing research from the perspective of balancing the multiple stakeholders or on the organization forms of research programs that exist today. Although available knowledge on managing research dates from the 1960s and 1970s (e.g. Peltz and Andrews, 1976), it is still often cited while conditions for research and research management have changed significantly during the last 30 years. There is an apparent lack of empirical studies of the challenges of managing boundary-spanning research programs.

Although it is argued that mode 2 and triple helix research are not to be seen as new forms of research (Fuller, 1999), research funders have promoted and implemented them in a much broader sense in the last decade. However, and particularly in the last few years, the contexts for many academic researchers have fundamentally changed as national and international funding agencies have been launching strategic research initiatives requiring the management of large programs with multi-stakeholder involvement and cross-disciplinary, cross-country programs.

We agree with Pettigrew et al. (2001) that it is important to consider the impact of spatial and temporal contexts when researching change in organizations. The dearth of literature raises concerns regarding the collection of valid information and the production of both scientific and practically relevant knowledge which we address by applying an action science approach (Argyris, 1968; Argyris et al., 1985) and more specifically a collaborative research approach (Adler et al., 2004; Shani et al., 2007). By engaging both scholars and practitioners in the research process we aim at capturing not only knowledge about the individual research managers but also to identify collective issues such as the role of communication, networking and negotiation (Pettigrew et al., 2001).

1.2. The purpose of the research

This paper is based on a collaborative research project (Adler et al., 2004; Shani et al., 2007) designed to address the need for empirical studies of managing research and research leadership and to contribute to the formation of models and practices for research management. It aims at exploring the contemporary and future challenges when managing boundary-spanning research activities, including coping with the altered discourse for knowledge production, new prerequisites for research funding and new needs for international collaboration. Data was collected through an extensive study of managers of boundary-spanning research programs in Sweden over a time period of 5 years (2002–2006). The researchers organized three 7-day-long workshops engaging the research program managers in an extended discussion with research funding agencies, experienced industry partners and other key stakeholders. In total, 49 research program managers participated in the workshops. The data collected during these workshops were complemented through 21 interviews with 33 of the research program managers and extensive collection of documentation on the participating research programs. The data collection focused both on the managerial challenges as perceived by the research program managers and on identifying successful ways of coping with these challenges.

The aim of this first paper is threefold: *Firstly*, it elaborates on the main managerial challenges for individuals managing boundary-spanning research activities. *Secondly*, it presents early evidence of successful approaches for coping with these managerial challenges. *Thirdly,* it bridges the dominant discourse on managing research on a macro and policy level with actual and operative approaches and experiences from actors engaged in managing research and related leadership issues.

2. The neglected management of research and research leadership

Previous research as well as major policy efforts and initiatives have mainly focused on developing and finding structures to promote and prioritize certain research areas and certain groups. However, the actual support of the selected areas and research groups in terms of management and leadership approaches has not yet received the same attention. The successful depiction of emerging models for research such as mode 2 knowledge production (Gibbons et al., 1994) and triple helix research (Etzkowitz and Leydesdorff, 1997, 2000) do not seem to have attracted an equal amount of interest when it comes to studying the implementation of these models. In this section it is argued that the strong influence that this discourse has had on research funders has accelerated the need for more research on how to cope with the managerial consequences of this kind of knowledge co-production from the perspective of the research program managers.

2.1. Mode 2 knowledge production

A recently published book titled "Collaborative Research in Organizations: Foundations for Learning, Change and Theoretical Development" argues in the foreword that "Contemporary writings in the natural, social, and management sciences indicate some fundamental changes in the social production of knowledge" (Pettigrew, 2004). The changes centre around who is involved in the knowledge production process, the actual process of knowledge production and types of available knowledge, new settings and opportunities for knowledge production, dissemination and use. The emerging changes in the nature of knowledge production rest on broad theoretical and empirical arguments that seem to be anchored in the co-evolutionary process between science and society (Gibbons et al., 1994; Etzkowitz and Leydesdorff, 2000; Nowotny et al., 2001; Hatchuel and Glise, 2004), where the continuous interplay between different groups of actors will be vital to the enhancement of science and its frontiers.

Previous research has mainly focused on research management from a macro perspective, such as the funding of university research (Geuna, 1999), industry-university collaborations (Gray et al., 2001; Lee, 2000; Starbuck, 2001) and policy making. Notions such as mode 2 production of knowledge (Gibbons et al., 1994; Nowotny et al., 2001) and triple helix (Etzkowitz and Leydesdorff, 1997, 2000) have put focus on the trans-disciplinarity of knowledge production and the need for closer relations between universities and industry. This logic is also used in the research proposals