Interorganizational Dynamics in Collaborative University-Industry Research Projects: Context, Politics and Social Construction

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Abstract

University-industry partnerships (UIPs) are widely viewed as essential in leveraging research capability and economic performance in organizations and the nation as a whole. In Australia, as in many other countries, the national government commits significant funds to such 'strategic' collaborations. Despite this interest, there is still a relatively poor understanding of the interorganizational dynamics of these industry and university partnerships and their projects. This paper examines such dynamics by focusing on a management-related research project we were involved in negotiating and undertaking with industry partner managers over a four-year period. Of particular relevance was the complex interplay between UIP politics, social constructions of the project and the pervasive interorganizational context that allowed the industry partner to hold the university at arm's length rather than in arms' embrace.

Keywords

Collaboration, university-industry, politics, context, social construction

Introduction

The strong research interest in interorganizational relations (IOR) is testimony to the appreciation of organization-environment interdependence as a major factor in determining and explaining organizational behaviour. Over the last 30 years or so, significant strides have been made in IOR research in terms of conceptual developments such as the identification of embeddedness and involvement as collaboration dimensions that produce strategic, learning and political effects (Hardy, Lawrence and Phillips, 2003), a typology of IOR determinants (Oliver, 1990), various forms of resource dependence between organizations (Pfeffer and Salancik, 1978), and interorganizational cooperation processes (Ring and Van de Ven, 1994). The range of settings in which IOR studies have been conducted has also grown apace. There has been a broadening from a predominant focus in the formative stages on public sector, human services-type and community IOR studies (Rogers and Whetten, 1982) to embrace the private sector (Fulop, 2004), the not-for-profit sector (Hardy et al, 2003), and intersectoral domains (Fulop and Couchman, 2004). This paper is concerned with IOR in an

intersectoral setting: one concerned with university-industry research collaboration.

University-industry research partnerships (UIPs) are widely viewed as essential in leveraging research capability and economic performance in organizations and the nation as a whole (Barnes, Pashby, and Gibbons, 2002). In Australia, as in many other developed countries, the national government commits significant funds to such 'strategic' collaborations as a means of accessing and mobilizing requisite expertise and resources (Harman, 2001; Santoro and Chakrabarti, 1999). Fulop and Couchman (2004,3) use the term university-industry research partnership ' to cover a wide range of cooperative arrangements between companies, universities and sometimes also other public sector agencies. Such arrangements may be either formalized, e.g. as equity or non-equity joint ventures, or they may be informal relationships, such as participation in innovation networks.' However, it should be noted that even where formal arrangements exist for UIPs, there will also be informal dealings and ties between the parties that combine and interact with the formal arrangements to shape the collaboration. While noting that UIPs appear to be working well for science and technology academics in major Australian universities, Harman (2001) points to the need for a deeper understanding of UIP pressures and tensions through detailed case studies. This points to a gap in knowledge about interorganizational collaboration processes in UIPs and echoes Hardy et al's (2003) call for detailed, in-depth, intensive qualitative research examining more localized dynamics.

This paper aims to address the above gaps by examining the interorganizational dynamics in a management-related UIP research project we were involved in defining, negotiating and undertaking (similar to Gray's (1989) collaborative process of problem setting, direction setting and implementation but less linear) with industry partner managers and specialists over a four-year period. This project was one of several undertaken by the Management Research program that formed part of a jointly funded industry-university research centre over eight years. This particular project presented a number of sense-making, intellectual, interpersonal, interorganizational challenges not found in others and highlighted the intertwined, highly political, multiple actor, multi-level nature of UIP collaboration.

The paper is structured is follows. First, we briefly discuss our methodology. Second, we describe and analyse salient features and processes of the collaborative context: the university, the industry partner,

the research centre and its programs. Next, we examine and discuss key aspects of the collaboration involved in the conception and emergence of the research project (which we shall call Leading Stories) and its implementation within the above context: consultants, researchers, managers, specialists. Finally, we discuss implications of our analysis for research.

Methodology

This study is qualitative and reflexive in nature (Alvesson and Sköldberg, 2000) and, as noted above, focuses on a single case. This is considered appropriate, given our aim of acquiring a deeper, contextualised understanding of interorganizational collaboration in UIPs (Yin, 1989). We were participant observers in this case study and the following analysis is based on data collected from: reflections on our lived experience of actions and circumstances leading to the research project and its subsequent implementation; key interactions with the industry partner, diaries, email correspondence, minutes of meetings, notes of interviews with managers relating to the project, and research institute, Management Research Program and project documents.

As researchers we had more than 20 years' combined and continuous involvement with the industry organization in projects and research student supervision, predominantly through the university-industry research institute(see below). We had privileged access to research material. The first author was involved in supervision of an industry partner supported ARC PhD Scholarship and as a joint chief investigator in the research project discussed below. The second author was the Director of the Management Research Program in the institute and was an active leader in all the research projects, which were mainly longitudinal and action research-oriented in nature. He was a chief investigator in the Leading Stories research project under discussion in this paper. The third author was initially engaged as a non-participant observer in the Program and on projects, so as to facilitate reflection on the research being done. However, she was a research fellow in the Leading Stories project once it was commissioned.

Reflection on the research process was a requirement for the university Management Research Program members. Regular 'systems' meetings held on Monday mornings over a number of years included time specifically for reflection on work being done as well as relations and interactions with the industry

partner. Minutes were kept.

The Leading Stories project was one of the last undertaken by the Management Program with the industry partner and ran for approximately four years from genesis to completion. This project was selected for scrutiny because it brought out clearly the emergent nature of the collaborative process (Gray, 1989) between the industry and the university, and the individuals involved. The collaborative project is the primary unit of analysis.

Leading Stories Case Study

Collaborative Context

The collaborative interorganizational context for the Leading Stories project is made up of the university, the industry partner, the UIP research institute and its constituents.

University

This regional university is situated 75km south of Sydney. Its student population has grown significantly from the mid 1990s (when the UIP research institute was formed) with a little over 12,000 students to 2004 figures in excess of 20,000. Total staff numbers have remained relatively stable over the same period: approximately 1450-1500 staff (about 650 are academics). The university is ambitious and has been considered a leader in Australia in research and development partnerships, and in educational experience and graduate outcomes. It is seen to punch above its weight in terms of won competitive research grants in Australia. Its research strengths lie more in science and technology than in the social sciences. This is reflected in their relatively higher perceived status within the institution.

Industry Partner

The industry partner (which we shall refer to as Sprogwheels) is a major and leading established Australian firm that for many years enjoyed government import protection, captive domestic markets

and healthy profits. Badham, Garrety, Morrigan, Zanko and Dawson (2003, 710) have noted that Sprogwheels 'has often been described as exhibiting the characteristics of a large-scale public bureaucracy. In recent years, however, international competition has increased, the company has gone through traumatic periods of labour reduction and the parent company has divided, establishing Sprogwheels as a more narrowly focused independent company in a difficult international marketplace. In an attempt to improve its overall efficiency and competitiveness, the company …initiated a number of interventions to transform its traditional bureaucratic structure and culture.' A culture that in the mid 1990s was classified by an external consultant, using the Myers-Briggs Type Indicator, as an ISTJ culture – Introverted, Sensing, Thinking and Judging – technically competent, but less emotionally intelligent (Garrety, Badham, Morrigan, Rifkin and Zanko, 2003).

The significant number of changes in structures and strategy in Sprogwheels from the inception of the UIP research institute was complemented by a revolving door of departing managers and technical specialists, with some of whom we had close, direct researcher-client involvement. This necessitated the formation and nurturing of new industry partner individual contacts for ongoing project work.

UIP Research Institute

A university-industry research institute was established in the mid 1990s following lengthy discussions between university and Sprogwheels senior management. The espoused shared intent of the institute was to assist Sprogwheels enhance its business and performance through academic staff research involvement and to provide industry staff with the opportunity to contribute to fundamental research. A key driver in the institute's establishment was a primary focus on applied science and technology research. The institute received significant funding from Sprogwheels to recruit and retain leading academic researchers, and to equip and set up its principal operations at the science and technology end of the main university campus. The institute and its research, particularly the science and technology based work, were clearly of strategic importance to the university. It brought in government grants (plus associated multipliers) and enhanced the university's reputation academically through publications and the quality of its staff, institutionally in higher education as a key technology partner with industry, and in the community though close economic and socially desirable ties with a major local employer. However, it is not clear how the institute was of strategic significance to the industry partner. Rather, it

seemed as an adjunct to its own local and extensive research laboratories, and a socially responsible active engagement with its local community.

The institute was initially structured around two main categories of research: the Technology Research Program and the Management Research Program, and this arrangement existed until end 2001. An institute director was appointed; he has held the position since the establishment of the institute. He is also leader in the Technology Research Program. A technical advisory committee comprising representatives from Sprogwheels (predominantly science and technology-focused) and the university (predominantly science and technology-focused) coordinated the institute and its programs. This committee reported to a board of university and industry executives.

The university and industry partners considered the Technical Research program far more important than the Management Program. It received far more attention from the technical and advisory committee, representing the professional and academic interests of the majority of its constituents and the institute's primary thrust. The program, in conjunction with the industry partner, was highly successful in winning significant and sizeable competitive 'partnering' research grants from the government. The Technical Research program was substantially larger than its Management counterpart in terms of the allocation of academic and support staff, space and equipment.

The Management Research Program was of secondary importance in the institute. This is evidenced in part by the distribution of resources that appeared to favour the Technical program. Management research staff and research students could not be collocated within the institute. Consequently, the director of the Management research program was situated both in the institute offices and at the social science end of the university campus. In a sense, the Management program was at the periphery of the institute's Technology program core.

The Management program was engaged in a number of research projects, four of which were received competitive government research grants, and some that were not. They all received industry partner support. All of these projects involved qualitative research (some contained quantitative data collection and analysis), with researchers often spending significant amounts of time at Sprogwheel's dynamic

and fast changing sites on tasks such as gathering observational, interview and documentary data, building and maintaining relationships, gaining and regaining local entry to sites, feeding back results, and running workshops. An issue associated with this type of social science research from an industry perspective, is that outcomes are often more difficult to measure as directly as those in the applied science and technology domain, where much research is more amenable to control than a fast and regularly changing management research field site. The technical and advisory committee appeared to be less interested in and knowledgeable about the Management Research program, and therefore was less supportive. This can be ascribed largely to the science and technology research and development backgrounds, orientation and priorities of most of the committee. Eventually, this led to uncertainty about the demonstrable contribution by the Management Research program to the industry partner (often difficult with social science research), which in turn brought about the commissioning of the Leading Stories project, which is discussed in the next section.

To summarise, there was explicit interorganizational collaboration between university and industry partners at the institute, program and research project levels, where such collaboration is defined as ‘a cooperative, interorganizational relationship that is negotiated as an ongoing communicative process, and which relies on neither market nor hierarchical mechanisms of control’ (Hardy et al, 2003, 323). However, the collaborative interorganizational context was characterised by an assymetrical power relationship between the university and Sprogwheels. The university was more dependent on the industry partner in research collaboration in terms of its strategic value, and therefore more likely to be responsive to and guided by industry concerns. There was a further relational asymmetry between the two research programs in the UIP research institute, where the Technical Research program was dominant and drove the research agenda. Thus, the Management program faced a power imbalance within the collaborative institute and with the industry partner. This raised issues of the program’s fit within the institute.

The Leading Stories Project

As indicated in the preceding section, the technical and advisory committee was concerned to ensure that the Management Research program made a more demonstrable and focused contribution to

Sprogwheels. The committee suggested that an evaluation of a leadership program that had been rolled out over the previous 6 years to more than 1,000 managers across the organization at a cost of over A $10 million would be a valuable and worthwhile exercise. A number of Sprogwheels' representatives on the technical and advisory committee had participated in the leadership program with strong, wide-ranging and challenging experiences and, through their personal involvement, identified with and were interested in its objective assessment according to 'hard' scientistic effectiveness and efficiency criteria. The courses had been supported by a long-term group of 3 to 4 main external consultants and approximately 10 human resources specialists working fulltime on the program. A senior HRM representative on the committee was charged with bringing Management Research program (academics) together with the Sprogwheels custodians of the leadership program to formulate and design a research proposal for government funding. The Management Research program director responded to this initiative and met with the HRD manager who was conscripted into the project in order to shape and secure a commitment to the evaluation. A series of meetings took place in the following weeks between Sprogwheels leadership program custodians, including an external consultant who was an architect of the program, and Management Research program members. This consultant, a strong and forceful personality, acting with tacit approval of Sprogwheels program custodians, confronted the meeting by affirming that the leadership program senior management sought was in fact a disguised, major attempt at planned, sustainable cultural change. With this in mind, he wanted the research project to shift from objective evaluation to one that reinforced and embedded the change program through a team of independent outside researchers (the Management Research team) gathering representative stories of employees' experiences following the leadership course, for insertion into 'cultural distribution systems' inside Sprogwheels.

The Management Research team accommodated the custodians' needs. It crafted a research proposal that went through numerous drafts and sensitive meetings and finally secured agreement from Sprogwheels hr management and specialists and the technical advisory committee. However, the original idea of an objective evaluation was transfigured into one that focused on an 'evaluation for learning'. This new approach was based on Guba and Lincoln's (1989) fourth generation evaluation methodology, that used a Delphi-style, stakeholder-focused information (story) gathering and refining approach as a no blame basis for assessing organizational development initiatives and using these as a learning tool. The approach was a clever compromise between the objective evaluation aspirations of

the advisory committee, the stories for embedding cultural change desired by the Leadership program custodians, and the Management Research team's need to undertake academically, meaningful and independent research. Ironically, this methodology was qualitative. The Leading Stories project was submitted for a competitive government–funded, Sprogwheels endorsed and supported strategic partnership grant, which it won.

The compromise was not long lived. In the early stages of project implementation, which included recruitment of research fellows, it became clear there would be no evaluation for learning of the leadership program. One of the fellows left after several months through frustration at not being able to make headway with the project. The leadership program custodians wanted the Management Research team assigned to the Leading Stories project only to gather employee leadership program stories, designated as the first stage of the project. This in itself proved problematic. It took the Management Research team a number of often difficult to arrange meetings spread out over several months to secure access to informants. In some instances, requests for access were acknowledged but not followed. The evaluation for learning exercise did not even get onto the agenda for discussion. Furthermore, there were palpable interpersonal tensions between some of the industry leadership custodians and some of the Management Research team possibly due to a perceived threat by the former that the university team was coming in to measure, evaluate and report on their key work activity. Over time, meetings became even more difficult to convene. Ties between the two groups, never close, became weaker. There was no overt or confrontational conflict. It was more limited cooperation. The Management Research team, as the weaker partner (for reasons giving in discussion of the collaborative context), was not able to fully implement the project in line with original aims. In addition, another confounding factor was that part way through the project, Sprogwheels was in the throes of massive restructuring, such that the manufacturing division (in which the Leading Stories project was being conducted) was to be calved from the parent and to operate on its own as an independently listed company. Inevitably, preparation for a new identity and public listing diverted the hrd group's gaze away from the now and past practices to radically different futures. This was reflected in Sprogwheels focus on rolling out a completely new cultural change program for the new organization in place of the leadership program. The Leading Stories project had become less germane to Sprogwheels. For that matter, members of the Management Research team were engaged in other research projects both with and without

Sprogwheels.

However, as before, the team accommodated the reconstructed version of the project. In fact, the weak ties between the leadership custodians and the Management Research team gave the team the space and time to use the data acquired for critically reflective research and publications (eg Badham et al, 2003; Garrety et al, 2003).

To summarise, the interorganizational collaboration in the project was an uneven, assymetrical one. The political dominance of Sprogwheels and the strategic dependence of the university on the industry partner found in the collaborative context were also played out in the project. There was no power sharing in project design or implementation (Gray, 1989). In an attempt to meet the needs of the dominant industry partner, the Management Research program responded by seeking to reconcile conflicting demands internal to the industry partner for the scrutiny of the leadership program: evaluation (hard, science) versus stories (soft, culture). In doing this, the project collaboration involved a series of social constructions and reconstructions of what was considered to be worthwhile at the definitional, problem setting and implementation stages. Even then, changing organizational circumstances influenced industry attention directed to the project.

Implications for Research

This case shows interorganizational collaboration in a university-industry partnership to be a highly politicized, contextually dependent and socially constructed process. It also highlights the nonlinear and multiple level nature of such collaboration, and the dependency of the university on the industry partner. However, this UIP management research project is a single case, which clearly makes generalization problematic. A multi-case comparative study of UIP interorganizational collaboration dynamics would strengthen the robustness of the findings. The question of whether UIP social science projects, such as management research, are more likely than science and technology projects to be contested and display the above characteristics, and if so how they vary, warrants examination. This may lead to useful prescriptions for structuring and carrying out such research.

From a methodological viewpoint, this paper demonstrates the value of digging deeper into organizational phenomena such as interorganizational collaboration, so that ostensibly simple characterizations can be shown for what they are. In addition, there is a valuable opportunity when undertaking longer term projects with industry to reflect on, and research the nature of that relationship.

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