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Bridging the IS Academic-Practitioner Relationship Divide: a Review, a Theoretical Framework, and an Example of Interaction

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Abstract

It is commonly postulated that a divide exists between the academic and the practitioner wings of the Information Systems (IS) discipline. In recent years, causes and appropriate remedial actions have been widely canvassed in the literature. The paper begins with an analysis of the literature relevant to the ongoing debate, and presents summaries of issues pertinent to the causes of the divide, and to the achievement of enhanced cooperation between the two wings. A theoretical framework is proposed which identifies the necessary actions that are required at the individual and the organisational level. It indicates that radical rethinking may be required with regard to the structure of the IS discipline, both within and outside academia. An illustrative Action Research (AR) project is described. It provides insights into what is achievable by planned cooperation between academics and practitioners. It arises, from an approach to one of the authors by an in-house group of Business Analysts (BAs). Some preliminary feed-back, from the practitioners is included. The paper concludes with some reflections on the need for reform, across the IS discipline, at both individual and organisational level.

Keywords

Academic-Practitioner Relationship, IS Crisis, IS Theory, Action Research, Research Relevance

Introduction

The prospect of a crisis within the Information Systems (IS) discipline is a recurrent theme, aspects of which have been raised by many prominent academics (Robey & Markus 1998). In their 2003 paper 'Crisis in the IS Field', Hirschheim and Klein (2003) conclude that, if the discipline is not yet in crisis, then it is in imminent danger of it; and the opportunity to take corrective action through proactive change is one way to avoid such a crisis. Markus (1999) warns that the problem is so serious that it threatens the very existence of the IS discipline as we know it. Amaravadi (2001) also warns that the stakes are high, since public perception can turn into public policy, with very negative consequences. It is an intractable problem that has beset the IS discipline almost from the time of its inception (Hirschheim & Klein 2003). The prolonged debate that has accompanied the unfolding description of the problem thus far has resulted in neither substantial remedying change, nor an agreed or focussed program of action. This may be due to the lack of agreement about the nature of and causes of the problem, as well as its complexity and pervasiveness. Nevertheless, it is clearly an issue of critical import to the IS discipline, and one that demands action.

The key facets of this problem which have persisted over the course of that debate include: the identity of the IS discipline (Amaravadi 2001) and what the core of it should be (Gray 2003); concerns about a lack of theory (Weber 2003); lack of a cumulative research tradition (Benbasat & Zmud 1999); declining student enrolments (Hirschheim & Klein 2003); a lack of research relevance (Robey & Markus 1998), and the parlous state of the academic-practitioner relationship (Hirschheim & Klein 2003).

The focus here is on the relationship between the academic and practitioner wings of the discipline. It is important to note however, that there is a close link between the academic-practitioner relationship and research relevance problems. This is because IS practitioners are one of the most important stakeholders of IS academic research, and an improved academic-practitioner relationship is a crucial element in resolving the research relevance problem. Much of the extensive body of literature pertaining to research relevance explicitly identifies the importance of the academic-practitioner relationship, and will therefore be drawn upon here. That academia tends to be narrowly defined, almost exclusively in terms of the research role, which Fitzgerald (2001) describes as a 'closed system', intensifies the link between the two aforementioned problems. While this research focuses on the academic and practitioner wings of the discipline as the main stakeholders, it acknowledges the existence of others including non-IS academics, students, businesses and non-governmental funding agencies, government, and society-at-large.

Due to its applied nature, the academic-practitioner relationship is fundamental to the IS discipline. The literature regarding the relationship tends to be opinion-based, and is lacking in empirical evidence. Despite the volume of published commentary about the damaging impact of the IS crisis and the poor academic-practitioner relationship on the discipline, there has been no comprehensive, structured review of this literature. This research contributes by addressing that omission. It further proposes a theoretical framework to facilitate improved academic-practitioner interaction, and provides some early, indicative data from an AR case study. Such measures will stimulate more focussed debate about possible solutions, and provide a base for further empirical research. Thus it will assist the discipline to move forward from debate to action. This research answers the call from Hirschheim and Klein (2003) for 'increasing the amount of research directed at understanding IS practitioners and engaging them in a discourse about a realistic set of expectations for what the IS academic research community can and cannot deliver'.

Hirschheim and Klein (2003) explicitly attribute the survival prospects of the academic wing to the existence of a thriving practitioner community. Thus, exploring the means of improving the relationship becomes an imperative for the academic wing. In characterising an ideal of the academic-practitioner relationship that may bridge the divide between the two wings of the discipline, this theoretical framework is inspired by the work of two prominent IS identities; one representing the interests of academia, the other representing the interests of practice. On the academic wing, Lee's (2004) characterization of the relationship as *Theoria* and *Praxis* provides some useful concepts. This is complemented by the perspective of Bob Glass, a long-term, highly-regarded spokesperson concerning the relationship from the practitioner perspective. Glass (1998) describes himself as having his *Head in Academia, and his Heart in Practice*.

Some of the concepts that inform this theoretical framework arise from the AR literature. While the research design that will test the framework is based on AR, it is coincidental rather than a necessity. A variety of other methods such as case or survey could also be used to test the efficacy of the framework. The intrinsic usefulness of concepts from AR to the academic-practitioner relationship framework may be obvious when considering the fundamental values of AR. The primary characteristic of AR is the dual focus of concern it has for both theory and practice, thus making the relationship between the two wings of a discipline a critical concern (McKay & Marshall 2001).

This paper is structured as follows: the research design and methodological issue are described, followed by a structured review of the literature. The proposed theoretical framework of academic-practitioner interaction is then presented. An AR case with some early findings is then briefly described. Finally, some concluding comments are provided.

Research Design and Methodology

The research questions that follow respond in part to the challenge from Hirschheim and Klein: (2003) 'As an applied discipline, we need to better understand what each community expects from the other'.

- Question 1 *What are the characteristics of an effective IS academic-practitioner relationship?*
- Question 2 *What are some example interaction approaches (incorporating those characteristics) that may bridge the IS academic-practitioner relationship divide?*
- Question 3 *To what extent is the 'Academic and Industry Workshop' approach effective in bridging the IS academic-practitioner relationship divide?*

This paper will seek to address the first question more comprehensively than the latter two, as they are the focus of the longer term research project. The first question will be answered through the formulation of a theoretical framework derived from a review of the literature. An AR case will be described which partly addresses the second question. Early, indicative data from that case will be used to briefly explore the third question.

The approach to the literature review and theoretical framework parts of this work are inspired by Watson's (2001) stated ideals for reviews which are to 'survey and synthesize prior research; identify the relationships between key concepts; identify gaps in MIS knowledge; and set directions and priorities in future research'. The initial step in this project was to review the IS literature where the focus was on the IS Crisis and the academic-practitioner relationship (and where appropriate, research relevance). Pertinent information from the literature review was recorded in a concept matrix (as proposed by Webster and Watson (2002)), and grouped under key themes. Webster and Watson (2002) promote the idea of conducting reviews that address an emerging issue which would be advantaged by the proffering of a suitable conceptual framework, wherein the contribution is the newly proposed theoretical base.

Articles were selected and reviewed from IS academic publications if they covered any aspect of the IS crisis, research relevance, or the academic-practitioner relationship. The review covered literature from the period 1990 – 2003. The search covered article titles, keywords and abstracts. A number of special issues of journals have

been published over the course of the debate about the range of IS crisis facets. The reference lists of those articles yielded further references.

The efficacy of the proposed academic-practitioner theoretical framework of interaction will be tested by two AR case studies, one of which is reported on in this paper. The AR research design was mainly influenced by the work of McKay and Marshall (2001), and is reported in-depth in another paper by the authors (Darroch & Toleman 2007). Some indicative data from an interview is reported, the methodological aspects of which were guided by the work of Kvale (1996), and Denzin and Lincoln (2005).

A Literature Review of the Academic-Practitioner Divide

In examining the literature regarding the academic-practitioner divide, two key themes emerge. The first is that much of it is concerned with describing reasons for the existence of the divide. Secondly, a significant component focuses on proposals put forward to bridge the divide. Not surprisingly many of the proposed solutions are counterpoints to the factors that contribute to the divide. Within the two broader themes, a number of sub-themes emerged from the above-mentioned concept matrix, around which the literature is presented below.

Factors that contribute to the divide

Following the concept matrix approach described earlier, the following themes were identified from the extensive debate in the literature as the main factors that cause or sustain the divide:

Communication: Hirschheim and Klein (2003) believe that fragmentation is the root cause of the IS Crisis, arising from 'insufficient, (insignificant)' communication within the field. They identify a range of disconnects, the salient one here being between IS practitioners and IS academics. Keen (1990) has warned for some time that IS research 'is in danger of talking mainly to itself about itself'. He poses the question 'Whom does Information Systems Research want to influence?' as the core consideration.

Trust and respect: There is a lack of trust and respect between academia and practice (Glass 1996). The practitioner perspective is that of academics living in ivory towers; while the academics feel that practitioners do not appreciate theory, but instead concentrate on vocational training. This results in unmet expectations on both sides, and sustains the divide (Hirschheim & Klein 2003). Such perceptions affect credibility, and may ultimately result in the withdrawal of financial support from the academic wing of the discipline (Robey & Markus 1998).

Academic promotion, reward and tenure mechanisms: Davenport and Markus (1999) argue that the basis of promotion and tenure processes, based on publication in academic journals and evaluation from academics (to the exclusion of practitioner journals and evaluations), results in institutional pressures that foster irrelevance. This mechanism has a similar impact on the academic-practitioner relationship, where rather than reward interaction, it actively sustains the divide. Paper (2001) believes the discipline is 'broken', and that the structure is inflexible and does not reward innovation or state-of-the-art thinking. The tenure mechanism has also been identified as having discouraged the PhD experience from making a greater contribution to industry (Applegate & King 1999).

Academic journal publication: Academics are most rewarded for publishing in highly-ranked academic journals, but are poorly rewarded for publishing in practitioner publications (which are ranked lowly for academic promotion) (Fitzgerald 2001). It is widely accepted that practitioners do not have access to, or do not avail themselves of the opportunity to read academic publications (Benbasat & Zmud 1999). This represents a significant, lost opportunity for engagement, and thus further erodes the relationship. Despite having a stated mission of appealing to MIS Managers, Management Information Systems Quarterly (MISQ) has seen a steep decline in the practitioner component of its readership (Benbasat & Zmud 1999). That the journal publication cycle extends to years, exacerbates the situation since research results which may be of current interest to practitioners will not be available within appropriate timeframes (Fitzgerald 2001).

Academic conferences: The nature and proliferation of conferences (and journals) has a tendency to diffuse research results and cause confusing overlaps (Amaravadi 2001). While many have proposed the value to the relationship of having practitioner keynote addresses at academic conferences, Fitzgerald (2001) believes that this may have superficial consequences. He relates a story about a practitioner keynote speaker at an academic conference, who upon being thanked and presented with a copy of the proceedings, purposely and publicly left it behind; ironically to the amusement of the academic audience, who did not comprehend the deeper credibility issue. In contrast, academics who attend practitioner conferences generally value the proceedings, and treat them as a resource to inform future research directions, or for incorporation into course materials.

Failure of academia to lead industry: It is widely perceived that academia follows practice and the consulting industry, and fails to demonstrate adequate leadership in guiding the discipline's agenda and direction, thus

missing the opportunity to exert more influence (Amaravadi 2001). Despite this, and perhaps somewhat ironically, many practitioners believe that it *is* the job of academia to lead practice, but as Paper (2001) states 'How can we lead if we don't know anything'. Saunders (1998) says the discipline is 'criticised for its inability to solve the day-to-day problems of managers'. Another aspect that undermines this relationship is that research is not located in the business world, which means academics lack exposure to contemporary professional practice (Rollier 2001). Hirschheim and Klein (2003) claim that practice does 'not look to academia for enlightenment through IS research, having given up on our research long ago'. Fitzgerald (2001) notes that few researchers are former practitioners, or attempt to establish close ties with practice, and that their professional expertise is poorly regarded.

Scholarship: Another factor that contributes to the divide is that little academic research finds its way into textbooks, or informs the scholarship of university courses. This means that an important link between academics (through their research) and future practitioners (students) is lost. Ironically, consultant research which is disparaged by many academics *is* widely used in these contexts (Robey & Markus 1998). Amaravadi (2001) claims that the marketability of IS graduates is hampered because 'we do not seem to have the knowledge valued by industry'.

IS discipline identity: The lack of a clearly understood and articulated IS discipline identity is a problem that undermines the academic-practitioner relationship. Once again, the concern seems to come mainly from the academic wing (Benbasat & Zmud 2003), where the topic has been the subject of several recent debates on ISWorld. The discipline identity issue is reflected in the lack of a clearly articulated research agenda. There is also criticism that the research agenda fails to identify topics appropriate to industry (Bhattacharjee 2001).

Falling student numbers and disappearing schools of IS: The prolonged decline in student numbers is finally taking its toll. Retrenchments of IS faculty have been a reality for some years now. More recently there have been moves to either merge IS schools with Computer Science schools, or draw them under the umbrella of other Business schools (Hirschheim & Klein 2003). The loss of academic organizational identity is a serious problem for the discipline. The irony is that an upturn in the job market has yet to be reflected in increased student enrolments. A closer, non-trivial relationship with practice could result in higher enrolments, especially in postgraduate courses, thus bolstering the survival of the academic wing.

Proposed Solutions to Bridge the Divide

Much literature has been devoted to proposals to bridge the academic-practitioner divide. Following the concept matrix approach described earlier, the following themes were identified:

Structural change and reward systems: Fitzgerald (2001) calls for fundamental, revolutionary change to the whole system, including the reward system. Amaravadi (2001) proposes that the reward system be coupled to the 'type and extent of the problem addressed'. This may reflect some of the intent of the Australian initiative for a Research Quality Framework, where research impact is a major focus. Amaravadi (2001) acknowledges that changing the reward mechanism would be very difficult to achieve, as it is entrenched into the culture and politics of the institutions. This is echoed by Saunders (1998) who cautions that change to the reward system is beyond the individual, and requires 'a concerted effort of the academy'. She goes on to state that 'now may be the time for change'. She also proposes significant changes to the PhD program, including the expectation of, and rewarding of business experience.

Interaction with practice and students: Fitzgerald (2001) proposes that academics spend more time in industry (such as on sabbatical), and become familiar with the problems being faced. This would engender greater respect for practice, and greater credibility for academia. Practitioner-commissioned research is another means of increasing interaction, while ensuring that it is of importance to the practitioner wing (Robey & Markus 1998). Moody (1999) urged that academic research agendas be sensitive to the interests of practice, and pushed to identify research areas appropriate to industry.

Watson and Huber (2000) propose a wide range of approaches to integrate the student experience into real-world industry settings, which has the side benefit of improving levels of academic-practitioner interaction. They also describe a range of projects and approaches where IS faculty deliver training to industry groups which similarly improves interaction. Some of these can be articulated into university programs. Lyytinen (1999) makes the point that we should maximize the opportunity to incorporate our research into textbooks and our teaching, as they are what shape the minds of our students (future practitioners). Keen (1990) also urges that more attention be paid to scholarship, stating 'I believe that the main problem in moving IS research forward is one of scholarship rather than research'.

Models of practice: There has been a wide range of models of practice proposed that may improve interaction. Chief among these is the *medical-model* wherein faculty also have clinical practices, and practitioners *do* read the academic literature (Davenport & Markus 1999). Another model with promise is the academic-consultant as

proposed by Davenport and Markus (1999). While opposed by others such as Benbasat and Zmud (1999), on the grounds of research quality, Davenport and Markus (1999) urge us to adopt and improve on consultants' methods. Borchers (2001) recommends the practitioner-scholar model whereby top career professionals are trained through special tailored doctoral programs (such as DBAs). Even if they do not move to academia, it is possible that such practitioners may undertake academically rigorous research of interest to both wings. Furthermore, as educators they may be more successful in developing students into better equipped IT professionals. Robey and Markus (1998) propose that the leadership of academic institutions be responsible for supporting the efforts of effective academics to produce *consumable* research.

Joint academic-industry research partnerships and alliances are another popular model proposed by many such as Robey and Markus (1998). Regional knowledge networks are a specific form of research alliance which due to geographic proximity and shared regional focus, facilitate frequent exposure and interaction between the academic and practitioner wings (Söderström & Nordström 2002). Söderström and Nordström also detail how such networks may spawn a variety of other opportunities such as education programs. However such partnerships are not without their problems, such as their tendency to be resource-intensive (Clear & McHaney 2004).

Publications: Robey and Markus (1998) urge researchers to produce reports suitable for both practitioner as well as academic audiences. This involves writing in an appropriate style. It also involves making the results available via a variety of accessible channels, including non-traditional ones such as high-quality practitioner journals, and popular books. Keen (1990) argues that the emphasis must move 'from who writes and who is cited, to who reads and where is the citation'. He also argues that the current pre-eminence of journals over books is problematic, not only for their impact on academic promotion. His statement that 'books help us find clearings in the forest' aptly describes a book's ability to provide an issue with a significant focus. Furthermore, books generally tend to have a longer currency than journal articles. Practitioners are more likely to read books than academic journals. Another aspect of publication is the use of the internet as a tool that may be used to both speed up the process of publication, as well as more efficiently disseminate findings (Saunders 1998).

Research methods, approaches and paradigms: A range of research approaches are proposed which are more concerned with practitioners needs, and/or have a high level of involvement of practitioners. Many of these are qualitative research methods, such as AR (Baskerville & Myers 2004). The epistemological research philosophy is another aspect which has attracted new directions. Lee (1990) proposes a move away from positivism, toward the critical-social theory paradigm, as a basis for IS research. This is argued on the basis of the importance of human meaning and values, which are paramount in the academic-practitioner relationship. Fitzgerald (2001) argues an equally anti-positivist line in favour of interpretivism. Pragmatism is yet another research paradigm recognized for its intrinsic qualities of knowledge being closely related to practice and its problems (Söderström & Nordström 2002). Davenport and Markus (1998) propose a range of alternate models of research including applied theory, evaluation and policy research which may better serve the interests of practice.

This leads to the drafting of a theoretical framework which may provide a basis for addressing the problem.

A Theoretical Framework for the IS Academic-Practitioner Relationship

Having surveyed the proposed causes of, and solutions to the problem, the next step is to form a theoretical framework for academic-practitioner interaction. The framework identifies the salient features to facilitate bridging the divide, with the intent of taking account of both the aforementioned problems and solutions. Furthermore, it incorporates ideas from other literature which describes how appropriate and highly functional relationships may be characterized. Thus the framework has evolved not only in response to explicit discussion of the problem of the academic-practitioner relationship divide, but also takes impetus from other areas of the IS literature which may contribute. Again, in the absence of a comprehensive published framework, such an analysis is a valuable contribution, and one that is necessary to systematically address the core problem. This framework has several components. The first is based on the *theoria-praxis* concept (as described earlier), and is a characterization of the nature, roles and responsibilities of the two main stakeholders, academia and practice. The second component characterizes the nature of interaction between academics and practitioners. The third component recognizes some influences that pervade the interaction environment. The fourth component examines issues of the management of the discipline.

The Roles of *Theoria* (academia) and *Praxis* (practice)

Theoria represents the world of science and the researcher. It implies the adoption of the scientific attitude, which refers to the body of knowledge, expertise and manner of scientific reasoning that characterize the thinking of PhD-trained social scientists (Mårtensson & Lee 2004). *Theoria* is the embodiment of how the researcher will consider and approach matters of an academic nature. The terminology and logic represents the vocabulary and grammar of the language of academia; while the shared scientific norms and conventions represent the culture of

academia (Mårtensson & Lee 2004). Responsibility rests with the academic researcher to be aware of, and adopt the practitioner's perspective and language, when trying to gain an in-depth understanding of the organizational problem and context. However, the practitioner does not have an equivalent responsibility (Mårtensson & Lee 2004).

Praxis represents the world of practice and practitioners (Mårtensson & Lee 2004). It implies the adoption of the natural attitude of everyday life, which refers to the body of knowledge and manner of commonsense reasoning, and tacit knowledge that characterizes a member of an organization. Practitioners in an organization have their own language, including context-specific colloquialisms, and a culture based on the organizational norms and their shared experiences. Their culture also incorporates their professional education and their shared socializing experiences (Mårtensson & Lee 2004).

Mutual respect and benefit: Knowledge heterogeneity is a concept which is focussed on respect for the different forms of knowledge arising from *theoria* and *praxis* (Mårtensson & Lee 2004). It is based on the notion of the academic researcher and the practitioner belonging to different *ethnic* groups, each with their own culture and language. There is no superiority of knowledge between the two groups, simply a respectful acceptance of their difference. Thus it represents peer recognition of the qualitatively different forms of knowledge and reasoning, each within their own context. The recognition of cultural differences between the two groups of *natives* is anthropological in nature (Mårtensson & Lee 2004).

This respectful difference extends to the impact of the research, wherein each group makes their own judgement. That is, practitioners should judge how appropriately or effectively results may solve or remedy their real-world problem; and the academic researcher should judge the implications of the empirical results for scientific theory (Mårtensson & Lee 2004).

Interaction between Academics (*Theoria*) and Practitioners (*Praxis*)

Communication is identified by Hirschheim and Klein (2003) as the central issue to be addressed in the relationship. The engagement between the two wings must be non-trivial, thus facilitating frequent and prolonged exposure (Söderström & Nordström 2002). The aforementioned respectful relationship is extended to the manner in which the parties conceptualize the situation and exchange ideas. Thus the researcher does not attempt to *educate* the practitioner into her way of thinking; rather she should enter their world and adopt their perspective (Mårtensson & Lee 2004).

In order to ensure effective verbal communication between the two wings, and address the cultural and language differences, special consideration is necessary. The approach proposed is via one-on-one reflective dialogues between the two parties, preferably outside the practitioners' organizational setting (Mårtensson & Lee 2004).

As far back as 1990, the issue of communicating research findings was described by Mumford (1990), as 'an increasingly urgent problem'. She articulated that the goal of research is to make things better for the community as a whole, and that the results must be communicated to those faced with similar problems across industries, and countries (Mumford 1990). Another important aspect is the dual approach to disseminating research findings: through practitioner channels, as well as academic journals (Mumford 2001).

Underpinning Influences on the Research Environment

The main influences to be taken into account are as follows:

Social and historical context: The importance of the social and historical context of the research environment must be recognized. For the researcher, this will mean a lengthy socializing process, or significant immersion in the practitioner world of the organization being researched. This will enable them to properly understand the organization and its problems, which are the focus of the research. Again, the responsibility rests with the researcher to gain that understanding of the practitioner worldview (Mårtensson & Lee 2004).

In recognizing the importance of context, researchers must acknowledge the implications of the transfer and application of the knowledge bases of *theoria* and *praxis*, outside of their respective settings. Results from the perspective of either wing may lose their meaning when detached from the contextual bases on which they depend. This matter is addressed by considering the meaningful application in the other's context (Mårtensson & Lee 2004).

Ethics: In her work on systems design, Mumford (1996) describes two ethical principles that have beneficial application to this framework. The first is 'quality of working life' which seeks to encompass opportunities for learning and personal development. The second is 'freedom in work' which provides enrichment of the work experience through opportunities to exert influence, make choices and operate in partnership. The research objective is the improvement of both the efficiency and work life quality through the democratic and active participation of those experiencing the research.

Knowledge creation and transformation networks: According to Hirschheim and Klein (2003), the major means of avoiding or addressing this crisis is to focus more on understanding the field's organizational stakeholders (practitioners). They advocate the development of social knowledge creation and transformation networks. These networks may include a variety of stakeholders, including practitioners and consultants, who through their involvement and feedback, contribute to the 'knowledge food chain'. On the academic side, knowledge transformation may be evidenced in many ways, such as a contribution to scholarship for teaching, course materials and textbooks. From an early stage, the renowned Tavistock Institute 'believed fervently that research must be a mix of theory and practice' (Mumford 1990).

Management

The management of the IS discipline is crucial to improvement of the academic-practitioner relationship, and is therefore central to this framework. As Saunders (1998) observes, change is needed now, and it must be enacted at the discipline level as it not achievable at the individual level. Many of the changes required will necessitate significant reforming actions, clearly only achievable by those so empowered. Three areas of management responsibility have been identified: academia, practice, and professional associations.

On the academic side, responsibility rests with professors, heads of schools and deans to reform mechanisms for academic progression, tenure and reward. They must provide a suitably encouraging and rewarding system of remuneration and career progression, as well as new organizational structures which accommodate career models that will foster the desirable activity. For example, Saunders recommends realigning faculty reward processes in favour of researchers who build industry links (Saunders 1998). The issue of publication reform must be led by and implemented by journal editors, conference chairs and discipline elders from bodies such as the AIS, IS World, and IFIP. Paper and Simon (2005) remind us that the publish or perish syndrome will always be with us. However if the underlying rules are changed whereby publication outlets and reward mechanisms are reformed, then instead of being problematic, it would actually serve both wings of the discipline well.

On the practitioner side, responsibility rests with senior managers, such as CIOs. They must ensure that opportunities to engage with academia in research activities are facilitated and encouraged. They also have a responsibility to support programs which integrate students into real-world business situations.

Discipline governing bodies such as governmental agencies (National ICT Australia, for example) and professional associations (Australian Computer Society, for example) also have an important role to play. They must develop policies and procedures that provide support for, and encourage interaction between the two wings. They must also be proactive in making grants available for projects that result in meaningful interaction.

This framework of interaction provides a standard set of default principles that should be explicitly considered for all interactions between academia and practice, where it is desirable to develop a strong, highly functional relationship. The final step in this process is to consider how to give substance to this framework, through implementing it in specific examples of academic-practitioner interaction. Clearly there are many possible configurations based on the framework, one such example being an AR case study termed an 'Academic-Industry Workshop Approach', a description of which follows. It will briefly address the second research question.

The Academic-Industry Workshop Approach: an Example of Interaction

The particular case described here, was initiated by practitioners who sought the support of an IS academic (from the same university) to lead a series of professional development workshops. This represents practitioners (Praxis) entering the world of academia (Theoria), and in the process, availing themselves of the academic knowledge base. The organizational setting is a medium-size, in-house ICT division where a restructure has resulted in a newly established team of Business Analysts (BAs). The agreement was for a series of approximately 20 workshops run in 10 paired, half-day sessions a fortnight apart, extending over a one-year period. The workshop topics, and the order of priority, were practitioner driven. Each of the first sessions addressed the theoretical/technical aspects of a topic of interest, such as UML (Unified Modelling Language) Activity diagrams. These sessions were based on material developed and delivered by the academic. The secondary sessions addressed the implementation aspects of the theoretical element, into one of the real-world projects nominated and worked on by one of the BAs. These sessions while coordinated by the academic, were highly interactive, with the practitioners being the sole arbiters of a satisfactory outcome.

Some early indicative data from this case will be considered in the next section, which briefly addresses the third research question.

Some Early Findings

While space constraints preclude a full analysis of the data as it relates to the complete framework, it is considered useful to review some of the empirical evidence from a group interview of the workshop participants,

conducted at the end of the first AR cycle. The evidence presented here represents an excerpt from each participant, displayed alongside the relevant element of the framework.

Communication: The respectful relationship incorporates the manner in which the parties conceptualize the situation and exchange ideas. Thus the researcher should take on the practitioner worldview, and not attempt to educate the practitioner into her way of thinking (Mårtensson & Lee 2004).

Interviewee 1: *"...in this engagement our facilitator has actually spoken with us, not to us, which is fairly important, because sometimes academic rigour and experience tends to be expounded in one direction, and not receiving any feedback, and not allowing any tailoring."*

Mutual respect: There must be mutual respect for the different forms of knowledge arising from each of the two wings; as well as individual judgment of the beneficial impact of research results. (Mårtensson & Lee 2004).

Interviewee 2: *"...actually looking at the theory and how you apply it - it's been really good. Because when you are actually doing the stuff you don't really think about the theory, and vice versa. So it was really good to have them both in the same context, to be able to see how theories are actually applied with the techniques that you are using. I found that reaffirming, that what we are doing is sound professionally, and it can stand up to critique, and that we do have a theoretical background that we can go back to and say: this is what we're doing and why we are doing it."*

Knowledge creation and transformation networks: Many stakeholders, including practitioners and consultants, who through their involvement and feedback, contribute to the knowledge base (Hirschheim & Klein 2003).

Interviewee 3: *"...I think the workshops have exceeded my expectations. One of the things that I got out of them that I probably didn't expect, was the repeatability of some of the tools that we developed. I have already used a few of them a number of times, and they get easier to use. They save me real time. I have also found that what we have learned has allowed me to conceptualise my analysis better, and certainly to break down the requirements better. And aside from that, it has just been very inspiring to discuss viewpoints with everybody and to feel that we have covered all the theory that is available there. We are not just doing this from our own viewpoint, that it is an industry-accepted standard that we are looking at."*

Ethics: Two principles: the quality of working life and freedom in work (described earlier) provides provide an ethical basis to the relationship (Mumford 1996).

Interviewee 4: *"...There is a lot of professional satisfaction knowing that you are looking at best practice based on current thinking...Having an academic who has access to a huge body of knowledge - that's even better than going out on your own, and heading down Google and doing some research... here's a good article but you don't know what the overall basis of that thinking is... But if you come back to an academic who can back that up with: here's a review of all the current thinking, professionally, that's such a great base to work from. ...add to that the sort of pragmatism that we have in the work environment. We are actually looking at something which is a professionally high standard, but which is applicable in our current work environment in our current projects, to me that's very professionally satisfying. ... giving that confidence to tackle things and be able to defend work and present it in a professional way, I think that is great. Personally, I think to work with peers has just been fantastic, and I certainly have developed an ultimate amount of respect for this group of people..... being able to tackle the really frustrating aspects of work ... and turn it around into something positive, and quite inspirational. I think that's fantastic."*

These data evidence the positive experiences from the practitioner side. There are also many positives that arise from it on the academic side, including: enhanced scholarship, improved understanding of practitioners and their world view, a clearer picture of a meaningful research agenda, fruitful and continuing research opportunities, and a great sense of personal achievement. It is intellectually challenging and greatly rewarding. It is hoped that these positive remarks will ignite interest among other academics, and encourage them to consider and pursue this option. However it is recognized that it will suit only a subset of them. It is also hoped that the key management players in academia and practice will recognize the win-win nature, and synergistic potential of this model of interaction, and take concrete steps to encourage and facilitate it. The researcher's own experience in setting up this arrangement was one of significant organizational barriers, especially on the academic side.

Concluding Comments

A brief but comprehensive review of the relevant literature has been presented. The severity of the problems identified therein, has prompted many such as Fitzgerald (2001) and Keen (1990) to argue for radical reform in key aspects of the IS discipline. The significant level of change required represents a paradigm shift for the discipline. Until the relationship divide between IS academics and practitioners is bridged, this discipline will not only fail to achieve its full natural potential, but faces the very real risk of its academic wing withering. A

healthy relationship will only emerge with a concerted effort by both parties. It seems to be a matter of fate (or inevitability), that responsibility for initiating it will fall to the academic wing.

The early feedback from the BA workshop project is most encouraging. The authors note that the feedback refers to such matters as 'professional satisfaction', 'rigour', 'actually doing the stuff', and confirms their intuitive assessment that the project is providing genuine, in-depth opportunities for productive cooperation.

It bears emphasis that the need for reform is unavoidable. Those reforms must occur at management levels across the IS discipline, no less in the practitioner areas than in academia. Without organisational and procedural reform, there will continue to be minimal incentive, at the individual level, to embrace new, and sometimes radical, initiatives that will be the catalyst for productive and innovative outcomes.

The IS discipline possesses a unique opportunity to re-establish itself as a relevant and vital contributor to the modern world, as well as providing an environment that is attractive to motivated members of both wings of the discipline. This will be achieved through the recognition that academics and practitioners, working and researching together, possess skills that are mutually advantageous, and bring invaluable insights into the timely resolution of real-world problems.

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