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# THE IS ACADEMIC-PRACTITIONER DISCONNECT: EXPLORING THE PRACTITIONER PERSPECTIVE THROUGH ACTION RESEARCH

By

Fiona Deborah Darroch BIT (USQ), PDBR (USQ)

Submitted in fulfilment of the requirements for the degree of

Doctor of Philosophy

University of Tasmania

May 2010

# STATEMENT OF ORIGINALITY

I certify that this thesis contains no material which has been accepted for a degree or diploma by the University or any other institution, except by way of background information and duly acknowledged in the thesis. To the best of my knowledge and belief this thesis contains no material previously published or written by another person except where due acknowledgement is made in the text of the thesis, nor does it contain any material that infringes copyright.

As part of the evolution of this research project, I published a number of papers. These papers were co-authored by my then supervisor, Mark Toleman. My role in all of these papers was that of primary author. I was fully responsible for the initiation, design and conduct of all aspects of the research.

- 2004 'Crossing the Great Divide: a first step toward bridging the gap between Academia and Industry', in *Proceedings of 15th Australasian Conference on Information Systems (ACIS)*, Hobart, Australia.
- 2005 'Building the bridge between academia and practice', in Proceedings of 16th Australasian Conference on Information Systems (ACIS), Sydney, Australia.
- 2005 'Bridging the Academia-Industry divide: Academics reach out!' *The Software Practitioner*, vol. 15 and 16, no. 6 and 1, pp. 3-7.
- 2005 'Is Evidence-Based Practice a plank in the bridge between academia and practice?' paper presented to 4th International Symposium on Empirical Software Engineering, Noosa Heads, Australia.
- 2006 'The Long March: a Novice Researcher's Journey of Discovery Through the Research Methodological Maze and Haze', paper presented to 5th European Conference on Research Methodology for Business and Management Studies (ECRM), Dublin.
- 2007 'Action Research: A New Exploration of its Two Masters', paper presented to 4th QualIT, Wellington.
- 2007 'Bridging the IS Academic-Practitioner Relationship Divide: a Review, a Theoretical Framework and an Example of Interaction', in Proceedings of 18th Australasian Conference on Information Systems (ACIS), Toowoomba, Australia.

Two other papers less closely related to the topic were co-authored with other researchers. My role in these was that of co-author.

- 2006 Young, R, Darroch, F & Toleman, 'Development of an IS Relevance Index', in Proceedings of 17th Australasian Conference on Information Systems (ACIS), Adelaide, Australia.
- 2009 Recker, J, Young, R, Darroch, F, Marshall, P & McKay, J, 'ACIS 2007 Panel Report: Lack of Relevance in IS Research', *Communications of the Association for Information Systems*, vol. 24, no. 18.

Fiona Deborah Darroch

30 May 2010

Date

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The Information Systems (IS) field has struggled to achieve a functional relationship between academia and practice. Debate has persisted among academics, but without apparent progress. The relationship is characterised as suffering a 'disconnect', largely resulting from a 'communication deficit'. The problem is complex and interrelated with other major academic debates regarding the field's identity.

The applied nature of the field and the importance of practitioners as stakeholders in academic research underline the significance of the academic-practitioner relationship. Prominent academics question the future viability of an IS academic discipline, and warn of an impending crisis. They advocate 'proactive change' by engaging with practitioners, and call for empirical research into the practitioner perspective of the relationship.

There are two primary objectives of this research.

The first is to explore the practitioner perspective on the relationship with IS academia and the role played by academia. The second is to trial, via Action Research (AR), an engagement approach that can be shown effectively to address the disconnect.

The research objectives are achieved via two complementary AR cases.

The first, the 'BA Workshop case', is 'problem-driven', and the research context is heavily influenced by academia. The second, the 'PM Alliance case', is 'researcher-driven', and the research setting is predominantly influenced by its industry location.

For the purposes of this thesis, the theoretical framework is referred to as the Academic-Practitioner Interaction Theoretical Framework (APITF). This framework, which underpins the interaction approaches, is primarily based on Boundary Spanning Theory. It adopts the Dialogical Action Research (Dialogical AR) approach. It also draws on the conception of IS as a 'design science' and the principles of Mode 2 Knowledge.

These cases yielded a variety of qualitative data in the form of transcribed interviews, emails and personal communications, observations, and corporate documentation. The cases were conducted under an interpretivist-pragmatist paradigm, which acknowledges the subjective nature of the research. The data are analysed using thematic analysis methods.

The research provides an in-depth understanding of the practitioners' perspective of academia and the academic role. It also yields insights into the current state of the

relationship, and the causes of the disconnect. Seeking the practitioners' viewpoint in a context of deeply engaged action facilitated a more meaningful response from the practitioners. It also enabled the Author to make more informed observations.

Both cases provide evidence to support the efficacy of the APITF as a basis for conducting academic-practitioner interactions that can overcome the relationship disconnect. While the success of the boundary spanning role may seem intuitively obvious, the emphatically positive response from practitioners is noteworthy.

The key features of Dialogical AR are also confirmed as prescribing appropriate roles for both academics and practitioners to interact productively. Overall, the evidence suggests that the boundary spanning role may be the crux of a potential solution. While the concept of academic-practitioner engagement is inherently appealing, such interactions are operationally challenging.

This research makes two main contributions.

Firstly, it provides an in-depth understanding of the practitioner perspective. Secondly it answers the call for pragmatic, action-based responses to the academic-practitioner disconnect, and demonstrates how highly functional relationships between academics and practitioners can be achieved.

# **ACKNOWLEDGEMENTS**

Doing a PhD is a privilege accorded to relatively few people. Acknowledging those who have made this possible for me is without doubt the most pleasurable of the tasks I have faced. I marvel at the array of wonderful people who have been there to cheer me on and take care of me. Chief among them is my husband Rick who by any measure has provided extraordinary encouragement and support throughout the many years of this endeavour, never letting me lose sight of the goal.

This thesis has been a journey that has tested me in every sense. The following words serve as a warning to those of us who pursue these goals: 'I 'ope you won' do too much figurin', 'cos figurin' 'urts yer 'ead....' Bert Swannell (Metropolitan Water Board Greaser, Hampton, Middlesex UK, June 1950), on learning that his Grandsons had passed the 11+ examination.

One of those Grandsons, Peter Swannell, went on to be an exemplary academic. It has been my great fortune to have had Peter supervise me throughout my candidature. His intellect, drive and wit are truly inspirational. For his outstanding and unrelenting support I owe him an enormous debt of gratitude.

I would also like to acknowledge some wonderful friends for their support of and belief in me. Special thanks go to Edwina, Janice, Melissa, Gitie, Frank, and Kevin.

It is also a special moment for me to acknowledge other family. Over this period our sons Oliver and Andrew have grown up and played a wonderful role filling my life with happiness. Their love and patience has sustained me throughout tough times. It has been a particular delight in this last year when all three of us have shared the experience of being university students. Appreciation also to our cat Tales, who has been my faithful companion. Thanks also to my Mother for instilling in me her belief in education, and making this possible for me. I also acknowledge my sisters Sandra and Bonnie for their great affection.

Finally, I offer my great appreciation to my Information Systems supervisor, Peter Marshall who has provided me with excellent guidance and great encouragement. Through Peter it has been an honour to have been associated with the University of Tasmania. I would also like to acknowledge Mark Toleman who introduced me to academic research and enthusiastically encouraged me in my early research forays at the University of Southern Queensland.

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### CHAPTER 1 INTRODUCTION

# 1.1 Background to the Research Topic

In its short history since emerging in the 1960s, the IS academic field has faced many challenges regarding its form, function and focus (Ayanso, Lertwachara & Vachon 2007). Apart from its relative youth, the applied and interdisciplinary nature of the field is a characteristic that has posed significant challenges throughout its establishment and evolution.

Debate has persisted on a range of key issues. Significant among these are:

- The identity of the IS field (Amaravadi 2001; Lyytinen 2004),
- What the 'core' of the field should be (Gray 2003),
- Concerns about a dearth of theory (Weber 2003d),
- Absence of a cumulative research tradition (Benbasat & Zmud 1999),
- Failure of academia to lead practice (Amaravadi 2001),
- Declining student enrolments (Hirschheim & Klein 2003),
- A lack of research relevance (Robey & Markus 1998), and,
- A 'disconnect' between IS academics and practitioners (Hirschheim 2008; Hirschheim & Klein 2003).

Each of these issues significantly influences the direction, shape and future well-being of the IS academic field. A common underlying thread is the academic-practitioner relationship. These important issues have been widely debated, and tend to generate strongly-held, often opposing, positions. While such debates are appropriate and helpful, and are a positive hallmark of academia, little has been resolved in any of these issues.

The intractable, long-term nature and accumulated impact of these problems has prompted several prominent academics to raise the prospect of a crisis within IS academia (Hirschheim & Klein 2003; Markus 1999). Academics have long lamented that practitioners do not read academic literature. The consequence of this is that academia forgoes its opportunity to influence and lead practice. However, indications of a decline in the fortunes of IS academia are most clearly seen in the academic work-force and student enrolments, both of which had experienced significant growth in the period up to 2000, but since then

appear to have faltered. The downturn in student enrolments is severe, (sometimes reported in excess of 70 percent), which in turn has resulted in academic staff reductions (Granger et al. 2007).

In their 2003 paper "Crisis in the IS Field", Hirschheim and Klein (2003) conclude that, 'If the field is not in crisis, then our paper should be interpreted as advocating 'proactive change' as a way of avoiding a crisis... We feel such corrective action is necessary regardless of whether the field is actually in a state of crisis at this very moment.'

A similar warning was issued a decade ago by Markus (1999) who, even then, considered the situation to be sufficiently serious as to threaten the existence of the academic IS field. Amaravadi (2001) also warns that the stakes are high, since public perception can quickly turn into public policy, with very negative consequences. Hirschheim and Klein (2003) advocate engagement with practitioners as one of the most prospective courses of action to assure the future of IS academia.

The focus of this study is on what Hirschheim and Klein (2003) term the 'disconnect' between academia and practice. They characterise it as a 'communication deficit' resulting from 'insufficient, insignificant' communication. Similarly, Fitzgerald (2001) sees academia as being narrowly defined, almost exclusively in terms of the research role which he describes as a 'closed system'. Consequently, practice is disconnected from academic research, and academia. The interrelatedness of this and the other major challenges confronting the IS field, means that addressing the academic-practitioner relationship is a precursor to resolving other related issues. This is especially the case with the research relevance problem, which has been linked by many to the troubled academic-practitioner relationship (Benbasat & Zmud 1999; Hirschheim & Klein 2003). The linkages among these problems arises principally because of the applied nature of the field and an emerging recognition of the importance of IS practitioners as key stakeholders in IS academic research outcomes.

Historically, the analysis of the academic-practitioner relationship has been overwhelmingly from the academic perspective, leaving a serious gap regarding the practitioner perspective (Benbasat & Zmud 1999; Hirschheim & Klein 2003). The significant body of literature on the academic perspective has been generated as a result of the ongoing debates referred to above. However, understanding of the practitioner perspective is limited by the fact that the issue does not appear to have been debated as widely by practitioners. Further, the academic literature has relied mostly on anecdotal evidence and the assumptions and opinions of the academic authors (Benbasat & Zmud 1999; Gill &

Bhattacherjee 2009; Hirschheim 2008; Hirschheim & Klein 2003; Klein, Heinz K. & Hirschheim 2006; Lang 2003; Moody 1999).

Glass (1989, 1990, 2006, p. 204) is one of few commentators in the academic press on the practitioner perspective of the academic-practitioner relationship. He has often lamented the lost opportunities for both the academic and practitioner sides of the field over what he describes as a 'Communication Chasm' (1998). He states 'Research in the computing field is all too often focused on theory to the exclusion of practice', and goes on to point out that 'there is a great deal that theory can learn by studying practice, and computing theorists are not taking advantage of that. His respect for both parties, and their potential to contribute synergistically, motivated him to describe himself as having his "Head in Academia and his Heart in Practice" (1998).

It might be expected that the academic side of an applied field such as IS would be attractive to certain practitioners, and that their participation in academia would be encouraged. However, Fitzgerald (2001) notes that few researchers are former practitioners, and those who are find that their professional expertise is poorly regarded. There is little motivation among IS researchers to establish close ties with practice (Fitzgerald 2001) which means that little research is located in the business world, resulting in academics lacking exposure to contemporary professional practice (Rollier 2001).

In response to the problems, many academics advocate greater academic-practitioner interaction. Robey and Markus (1998) urge closer research collaboration between academics and practitioners to address the problem. In considering the long-term wellbeing of the field they state: 'It is time to forge research partnerships and alliances in which academics and practitioners work together to realize collective aims'. Similarly, Rosemann and Vessey (2005) claim that the focus on rigour at the expense of relevance, has led to the disenchantment of the practitioner community. Davenport and Markus (1999) strongly encourage IS academics to do 'excellent practical research that differs from excellent traditional academic research...'. They define the future of the field as being linked less to the regard other academics give research, but more to academics' demonstrated service to external customers (practitioners). Fitzgerald (2001) proposes that academics spend more time in industry (such as on sabbatical or 'professional development' leave), and become familiar with the problems being faced outside academia. This would engender greater respect for practice, and greater credibility for academia.

However, the lack of incentives in the academic reward systems means there is little motivation for academics to follow these recommendations. Davenport and Markus (1999) argue that the 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 rewarding interaction, it actively sustains the disconnect. The tenure mechanism has also been identified as having discouraged the PhD experience from making a greater contribution to industry (Applegate & King 1999). Similarly, Ross (2006) directly identifies the academic reward system as a significant cause of the lack of papers submitted to Management Information Systems Quarterly Executive (MISQE).

It seems that the poor state of the relationship negatively impacts academia more so than practice, where academia appears to be the more dependent partner in the relationship. This is evidenced by Hirschheim and Klein (2003) who explicitly attribute the survival prospects of the academic side of the discipline to the existence of a thriving practitioner community. Lang (2003) concurs: 'practitioners are quite capable of devising their own solutions without recourse to academia. The inverse is not true. Academia does not and cannot exist within a void.' Furthermore, Klein and Rowe (2008) state that 'we need them more than they need us', when proposing a specially designed PhD program to attract IS professionals. Importantly, representatives from both academia and practice agree that responsibility for the poor state of the relationship is shared by both parties (Fitzgerald 2001; Glass 2006).

Nonetheless, many business leaders do see value in a closer relationship between practitioners and academia. They have a vision for stronger university-business relationships that emphasise the importance of collaboration and explore new territory. In an address by the CEO of the Australian Business Foundation (2007), Kennedy commented that 'university-business relationships should serve to take both parties outside their comfort zones'. Heather Ridout (CEO, Australian Industry Group) also calls for closer collaboration between universities and industries, citing the need to honour the billion-dollar societal investment in research (Macnamara & Armitage 2006).

Many of these problems have been evident almost since the inception of the IS field. Simon (2004) describes the rigour-relevance debate as being 'as old as academe itself'. Hirschheim and Klein (1987) started to air their concerns about the academic-practitioner relationship more than two decades ago. However change has not been forthcoming, and Klein and Hirschheim (2006) have reiterated their concerns about the disconnect. The continued currency and profile of the issue is evidenced in the 2009 Australian Conference on Information Systems (ACIS) program wherein a panel was convened to debate 'IS Research and Industry: Making the Connection', and Peter Weill delivered a keynote speech entitled: 'Research to impact managers: the MIT CISR Experience'.

The seriousness of the academic-practitioner disconnect and the lack of the practitioner perspective led Hirschheim and Klein (2003) to call for 'increasing the amount of research directed at understanding IS practitioners'. They recognised and emphasised the intrinsic value of exploring the relationship with practitioners and seeking their world view. Their call is reminiscent of Lee's (1999) earlier call for empirical evidence of the relevance of IS research. Similarly, Benbasat and Zmud (1999) call for empirical evidence of the diffusion of academic research into practice.

The situation has reached an impasse. The prolonged debate that has accompanied the unfolding description and understanding of the problem has so far resulted in neither substantial remedying change, nor an agreed or focussed program of action. Despite periodic intense debate, and appeals from prominent IS academics representing a range of ideological viewpoints, there has been very little identifiable progress. While many academics recognise the seriousness of the impact of the academic-practitioner disconnect, the necessary incentives are not in place to trigger the most beneficial response which might propel academia toward decisive and meaningful change. Robey, Markus, and Saunders (1998; 1998) all note that the requisite changes require leadership and the committed actions of senior academics.

The current challenge facing the academic field is, therefore, how to transition from debate into action that will effect meaningful change and address the academic-practitioner disconnect. The ideas expressed by prominent academics in top journals have not been successfully translated into remedial action. These persistent debates on unresolved issues prompted a prominent academic (Galliers 2007) to comment that IS 'may go down in history as a field that has done more navel-gazing than any other'.

The messages that emerge from the current situation and shape this study are that it must be action-oriented and provide deep empirical evidence of the practitioner perspective. The AR projects are based upon the Author's professional interactions both with academia and practice. This study draws on particular elements of the literature in order to focus attention on the seriousness of the situation. It seeks prospective means that can be demonstrated to result in greatly improved levels of productive academic-practitioner interaction.

While it is recognised that there might be other possible interpretations of the situation, this research is conducted on the assumption that remedial action is long overdue, requiring decisive action and proactive change, hence following quite closely the call from Hirschheim and Klein (2003), namely, '...... there exist significant communication gaps in the field - both internally and externally – and that these gaps are a serious concern for the future

of the field. More pointedly, if we do not address these gaps – and address them soon - we may not have any field to worry about in the future'.

Nonetheless, it is not assumed that the results of this study will be a panacea. Due to the entrenched and complex nature of the problems, resolution is more likely to be in the form of an integrated package of measures, rather than in any one particular approach. Therefore the study's findings do not in any way reduce the imperative for change in other areas.

# 1.2 Research Objectives and Research Questions

The research problem identified above as the academic-practitioner relationship disconnect has been established as a serious challenge for IS academia, and one with potentially significant consequences. The need for empirical evidence of the practitioner perspective on the relationship has been identified in the academic literature as an important topic requiring further research. This gives rise to two primary research objectives.

The first research objective is to explore the practitioner perspective on both the relationship with and the role of IS academia. This objective is achieved via exploration of the following three research questions:

- 1. What is the practitioner perspective on the IS academic-practitioner relationship?
- 2. What is the practitioner perspective on IS academia and the academic role?
- 3. What are IS practitioners' main work and knowledge concerns (as they relate to the relationship with academia)?

The principle inspiration for these research questions is the IS literature. It contains explicit calls for such research, most especially in the key-direction setting papers (Section 2.4). These research questions are investigated via qualitative interview research.

The second research objective is to trial the effectiveness of the APITF as a means of addressing the relationship disconnect. This is done via two AR cases. This objective is achieved via the following research question:

4. Are the interaction approaches (namely the Academic-Practitioner Workshop and Academic-Practitioner Alliance) based on the APITF effective for addressing the IS academic-practitioner relationship disconnect?

If so, in what ways?

This research question is also partly inspired by the literature that proposes many means to improve the relationship and advocates proactive change. However, the researcher's dual

academic-practitioner background, coupled with a personal desire to effect positive change, also provide a significant influence.

All four research questions are answered with data from two AR cases. However, only the last research question is specifically concerned with the 'impact/change' orientation inherent in the AR method. Nevertheless, the first three questions are advantaged by the intensive nature of the AR engagements that provided richer data than might have been forthcoming using other less in-depth research methods.

# 1.3 Thesis Outline

This chapter introduces the research problem and cites it as a common theme within the broader context of the major challenges faced by IS academia.

Chapter 2 provides a broad review of the IS literature that forms the contextual background to the research problem. It also reviews the literature from other newly established applied fields showing that elements of the academic-practitioner disconnect are commonly found in other relatively young, applied fields. Finally, there is a review of in-depth examination of the key papers that have inspired this research. The seriousness of the academic-practitioner disconnect regarding the future of the IS academic field is also established.

Chapter 3 starts with an outline of the overall research approach. Thereafter, the APITF that underpins the interaction approaches trialled in the AR cases is detailed. 'Boundary Spanning' is a key element of this framework. The interpretive-pragmatic research paradigm is discussed and justified. The AR method is explained and justified, as well as data sources and their associated data analysis methods. Finally a research quality and rigour framework is outlined.

Chapters 4 and 5 contain specific research designs for each of the BA Workshop and PM Alliance cases. Research findings for each of the cases are also presented.

Chapter 6 discusses the main findings of the two AR cases within the context of the academic literature. The implications of the findings are also considered.

Chapter 7 provides a conclusion to the thesis. The thesis is summarised and the main conclusions are stated. The limitations of the study are outlined, and the contributions of the research are detailed. Finally some future research directions are considered prior to a concluding reflection.

# 1.4 A Closing Comment

This chapter has introduced the research topic and the research questions that are addressed in this study, as well as providing an outline of the thesis. The next chapter provides an in-depth review of the literature, covering the broad range of issues that have implications for the IS academic-practitioner relationship disconnect.

# CHAPTER 2 LITERATURE REVIEW

The literature relevant to this topic is eclectic. The research problem is not the focus of a specific, traditional, IS knowledge area. Instead, it focuses on the troubled academic-practitioner relationship referred to here as the academic-practitioner disconnect. This review places the academic-practitioner relationship as a common theme among a wide array of interrelated, developmental challenges facing the relatively young IS academic field. These have been the subject of recurrent debates since the field emerged in the 1960s. Further, since this situation is common to several other more recently-established, applied fields, relevant literature from these fields is also reviewed.

The adopted approach and inspirations for the review are first outlined. The main literature relevant to the IS field is then addressed, followed by a brief review from other fields. Finally a more in-depth analysis of key papers is presented. It is these papers that have set the direction and shape of this author's reported research and the research questions.

# 2.1 Approach to the Literature Review

The approach to the literature review and theoretical framework in this study has several key influences. Neuman (1997, p. 89) articulates the rationale of literature reviews, stating 'Scientific research is not an activity of isolated hermits who ignore others' findings'. He details the goals of a literature review, namely demonstrating a familiarity with a body of knowledge, showing the link between a current project and a path of prior research, integrating and summarizing what is known in an area, learning from others and proffering new ideas (Neuman 1997, p. 89).

When introducing Management Information Systems Quarterly Review (MISQR), Watson (2001) states that reviews 'survey and synthesize prior research; identify the relationships between key concepts; identify gaps in MIS knowledge; and set directions and priorities in future research'. MISQR was an important initiative aimed at encouraging the publication of review articles, the lack of which was perceived to be impeding the progress of the field (Webster & Watson 2002).

This review follows the advice of Webster and Watson (2002), the founding senior editors of MISQR, who then recognised the need for providing practical guidance on appropriate methods and structuring of reviews. They advocate conducting reviews with a more conceptual structure, using a concept matrix to group the literature under key themes. Other applicable guidelines for this review include the approach to paper searches, and concept saturation (Webster & Watson 2002). Consideration is also given to the quality

criteria for a review, namely contribution ('what's new'), impact ('so what'), logic ('why so'), and thoroughness ('well done') (Webster & Watson 2002).

The IS literature is reviewed where the focus is on key challenges within IS academia, and in particular the academic-practitioner relationship. The search for papers follows advice from Hansen et al. (2004) to target top IS journals, special issues and quality IS conference papers. Other influences include the Australian Council of Professors and Heads of Information Systems (ACPHIS) journal rankings, Clark and Warren's (2006) review of influential IS academic publishers, and Sellitto's (2007) review of Australian IS publications.

A further influence is Kitchenham's work on 'systematic reviews' (2004, 2005a, 2005b) which are proposed to improve the rigour of literature reviews. Kitchenham (2004) states that they 'provide a framework/background in order to appropriately position new research activities' and 'assist the generation of new hypotheses'.

#### 2.2 IS Academic Literature: A General Review

This review positions the academic-practitioner disconnect as a common, underlying thread among the wide-ranging debates about major challenges confronting the IS academic field. Commentary about the troubled state of the academic-practitioner relationship is often in the context of other major debates such as research relevance, the nature and identity of the IS field, and its research traditions. This results in a broad literature where the issues are interrelated, and where the impacts of each tend to intensify others.

Using the concept-centric approach outlined above yields a number of themes, around which the main part of the literature review is structured. These themes tend to reflect the major debates within IS academia. Together, these major debates provide an integrated picture of how the academic-practitioner relationship may impact and influence the shape and future prospects of the IS academic field.

These issues are complex and open to widely varied interpretations. It is therefore inevitable that any attempt to synthesise and link them will be particular in perspective, and subjective. It is accepted that this is true of this review. While the interrelated nature of these themes means that much of the literature may apply to more than one, the need to limit repetition is understood.

When discussing the causes and impact of the academic-practitioner disconnect, this is not done in the sense of a positivist casual model. Rather, it is in the form of an interpretivist synthesis of the issues where relationships are identified based on logical connections drawn from the literature.

The linkages between the academic-practitioner disconnect and the other debates reviewed here are underpinned by the central importance of the academic-practitioner relationship in an applied field. A key driver for this research is that the academic-practitioner disconnect is fundamentally important. Exploring and understanding it will aid in successfully addressing other of the major challenges. Hence, it is viewed as an appropriate starting point and a necessary precursor to addressing these other challenges.

Many of these debates have been recurrent throughout the period since the IS academic field emerged in the 1960s. This review demonstrates that, despite the extensive debates and in-depth analyses of perceived causes and proposed solutions, there has been relatively little action taken so far. Furthermore, it is shown that while the academic perspective has been widely considered and reported in the academic press, there is a relative lack of understanding of the practitioner perspective.

The literature concerning the academic-practitioner disconnect tends to be inherently subjective, being largely based on perceptions. It is dominated by opinion pieces from leading IS academics, who air their views in editorials, conference panels, keynote addresses, journal articles (often by invitation), and ISWorld online discussions. Perhaps not surprisingly, such literature generates a variety of strongly-held, often opposing viewpoints.

That many prominent academics choose to express their views in colourful, emotive language is an important characteristic of this body of literature. Consequently, this review makes extensive use of quotations, reflecting Keen's (1990) sentiment 'I view words that people choose when they talk... as revealing and to be respected'.

In dealing with a research topic dominated by opinion, it is useful to heed the words of Hirschheim (2008) when he states 'But aren't all papers "opinions" in one form or another? One cannot categorically state that papers based on opinions are unscholarly. It is what these opinions are based on, how they are supported, and how they are formulated that makes them more or less believable; and ultimately, whether we ascribe to them the label "contribution to knowledge" that is important.'

The review begins with consideration of the possibility of a state of crisis within IS academia.

# 2.2.1 Is there a crisis in the field of Information Systems?

'Crisis' is an emotive and extreme term, and one which is recurrent throughout debates on the major issues confronting the IS field. While there is no unanimity regarding a state of crisis in IS academia, the nature of the debates does indicate the seriousness with which many prominent academics view the broad state of the field. Weber (2003a) poses the question 'Is there a crisis in the Information Systems discipline?', when discussing the IS identity issue, as do Benbasat and Zmud (2003) in their paper entitled 'The Identity Crisis Within the IS Discipline: Defining and Communicating the Discipline's Core Properties'. Hirschheim and Klein (2003) also pose the question when discussing the overall state of the field in their paper 'Crisis in the IS Field?'. Straub's (2004) ISOneWorld keynote presentation poses the question: 'Just Another IS Crisis?'. Robey and Markus (1998) refer to 'The Relevance Crisis in IS Research'. In fact all these excerpts may be seen to relate to what Lyytinen and King (2004) refer to as an 'anxiety discourse' about the legitimacy of the IS academic field.

The crucial importance of resolving these issues is made clear in 'Thinking the Unthinkable: What Happens if the IS Field as we Know it Goes Away?' (Markus 1999). Markus makes explicit her concerns for the future viability of the IS academic field, and that the field has reached a crossroads. She asserts that the field will blossom through realising its potential as an important field within business. If not, it will break up and be subsumed by other more powerful, successful fields within business (Markus 1999).

Robey and Markus (1998) perceive the consequences of the disconnect to be serious: If academics and practitioners go their separate ways, we anticipate an impoverished future for both parties.' They also warn that 'if we simply pay lip service to an interest in professional practice... practitioners will see us for the hypocrites we'll be'. Lang's (2003) response is that 'the reality is that practitioners are quite capable of devising their own solutions without recourse to academia. The inverse is not true. Academia does not and cannot exist within a void; however in many ways it has shut itself away.'

The pressing nature of the problems is apparent. It is now a decade since Applegate (1999) signalled the imperative of resolving the research relevance dilemma with the statements: 'As the debates rage on, careers hang in the balance' and 'We hope you find this Issues and Opinions piece helpful as you address this timely and important issue in your own institutions'. Similarly Davenport and Markus (1999) challenge IS academia in the section of a paper headed 'We Have Met the Enemy'. They state: 'What will it really take to make IS research more relevant? For good or ill, we have only ourselves to change... we are our own worst enemies'.

In an opinion piece entitled 'An IS Research Relevance Manifesto', Westfall (1999) proposes three possible scenarios for the state of the IS academic field 10 years on, dependent upon the response to the research relevance issue. They are as follows. Scenario 1: minimal

adaption (worst case); scenario 2: moderate adaption (academic journal reforms); and scenario 3: high adaptation (changes at the university level).

The 10 year period has now elapsed, and the description of IS as Scenario 1 is worryingly accurate: 'The IS field is noticeably smaller than just 10 years before. Some prominent universities discontinued the IS programs in their business schools... some universities downgraded IS programs by consolidating them into other departments in their business schools... the three leading journals ... retain their status because they continue to weigh most heavily in promotion and tenure decisions...these journals took a surprisingly long time to completely embrace the new publishing technology... Negative practitioner perceptions. Organisational IS managers and IT professionals disrespect academics because of the obvious limitations in their knowledge of information technology and practice, and the irrelevance of much of their research... some of the more technically competent leave academia for industry positions that offer more meaningful challenges and better pay... Others hang on until they can retire'. Westfall (1999) concludes with: 'Will we seize the moment, or yield our place to others?'

While this review indicates the seriousness of the situation, it is not intended to paint a picture of doom. Rather, it is intended to heighten awareness of the importance of tackling these problems, and demonstrate the positive (potential) prospects for the IS academic field.

### 2.2.2 The academic-practitioner disconnect

The parlous state of the IS academic-practitioner relationship has been posited by numerous prominent academics, including Hirschheim and Klein (2003) who attribute the problem to 'insufficient, insignificant' (poor) communication. They cast their argument in terms of an 'external communication deficit' which has resulted in a 'disconnect' between academics and practitioners. They warn that the 'communication deficits' and 'disconnects' are so serious that they are causing fragmentation within the field. Left unaddressed, they predict that the situation will be the direct cause of an IS crisis. Klein and Hirschheim (2006) later reiterated their concerns for the future of IS academia: 'It reinforces our notion that IS suffers or will suffer substantially unless it finds ways to overcome its internal and eternal communication deficits... By not connecting to the outside and without outside validation, IS as an academic discipline in the longer term is at risk of losing its legitimacy'. Even more recently, Hirschheim (2008) re-raised the issue of 'communication deficits'.

Glass (2006), who has experience in both academia (a decade) and practice (three decades), also considers the situation to be a challenging one and principally a result of poor

communication: '... academics, I believe after sampling both worlds, have decidedly atrophied listening skills. And that, of course, doesn't bode well for overcoming the chasm'.

Communication problems, lack of interaction, and disconnects are recurrent themes in the literature. Moody (1999) is another who describes the relationship in terms of a communication disconnect: 'There is a major disconnect between research and practice in Information Systems' (1999), where the 'knowledge flows take place almost entirely within each community' (2002). Moody and Buist (1999) describe IS research and practice as operating in 'parallel universes', where the 'basic reason for the disconnect between research and practice is the simple lack of communication between the communities... ostensibly deal with the same subject matter, ...mix in their own circles ... little or no interaction with each other'. Lang (2003) similarly defines the relationship problems in terms of communication, stating that there 'appears to be a major disconnect between academia and industry'.

Gill and Bhattacherjee (2009) perceive the disconnect in terms of IS research 'informing' practitioners, students and others. They gauge 'informing practice' by the level of academic-practitioner collaboration. Furthermore, they directly link this to the future prospects and well-being of IS academia.

Benbasat and Zmud (1999) attribute the poor state of the relationship to a lack of interaction and academics' lack of exposure to industry contexts. They see the relationship gap between academics and practitioners as being one of the main causes of the research relevance problem. Söderström and Nordström (2002) consider that engagements between academics and practitioners lack frequent and prolonged exposure, resulting in trivial interactions, hence reinforcing the relationship problem. Furthermore, industry partners report that 'Universities are too slow and insensitive to commercial realities...' (Kennedy 2007).

The need for significant change is acknowledged by both academia and practice. Heather Ridout, CEO of the Australian Industry Group is quoted as stating that 'universities and industry needed to collaborate better so that the full value of Australia's multibillion-dollar investment in research was realised... The lack of collaboration remains an impediment to enhancing the value of research'. She calls for serious reform in the academic-practitioner relationship: 'Some progress has been made but we still need wholesale structural reform, not just a bit of movement around the edges' (Macnamara & Armitage 2006). From the IS academic side, Moody (1999) describes 'the parlous state of affairs... of the relationship between IS research and practice', which he says 'suggest the need for radical change rather than just fine tuning'.

The relationship has been characterized as divided and lacking in trust and respect (Glass 1996). Practitioners perceive academics as living in ivory towers while academics perceive practitioners as being unappreciative of theory, and focussed on vocational training (Hirschheim & Klein 2003). In an ISWorld listserv discussion, an academic commented that 'Practice doesn't respect us because we don't respect them' (Glass 2001). A comment from an industry body executive underlines the need for non-trivial interactions when building trust: 'Trust is built an inch at a time' (Kennedy 2007). When asked to comment on the divide a CIO responded: 'it's a common perception, and they accept it as being reasonable. While people may wish that it was different, that's the way it is. It's a bit of a concern, the fact is that it is just the way things are' (Darroch & Toleman 2004). The apparently complacent acceptance of the situation from this particular practitioner manager is noteworthy.

Inadequate levels of researcher exposure to industry contexts is a great impediment to research relevance (Benbasat & Zmud 1999). Such involvement tends to be either infrequent or superficial, hence reinforcing the academic-practitioner disconnect. Opinion varies as to the reasons for this. Benbasat and Zmud (1999) cite busy academic schedules lacking time to spend in practitioner environments, lack of rich, wide-ranging dialogues between academics and practitioners, and academics' lack of currency in technologies due to financial and human resource constraints. However, Glass' (2006) comments on his own experiences clearly demonstrates the insufficiency of interaction without effective communication and respect 'I spent a year at the Software Engineering Institute... a strange and somewhat unsuccessful mix of the worlds of industry and academe. ... industry people struggle to be heard at the SEI... Because academic people display so much disdain of industry people that it is difficult for an industry person to gain sufficient respect to help steer what the SEI does.'

El Sawy (2006) observes that only a small percentage of academics and/or practitioners feel comfortable or know how to interact usefully with the other. Furthermore, to produce research that 'reverberates' typically requires a 'deep engagement ... [where] the researchers are passionate'. This is backed up by the industry perspective where it is considered crucial to have 'people who understand and can bridge both sides' (Kennedy 2007).

The disconnect is evidenced by industry receiving too little attention in IS research and theory building (Chiasson & Davidson 2005). Chiasson and Davidson's (2005) content analysis of two top-tier journals found that only 11 percent had any industry-related influence. Having a closer association with industry and its concerns, 'would help IS researchers "speak the language" of practitioners in theories, constructs, and frameworks.' Paper (2001) similarly concludes that the IS research relevance problem arises from the

lack of an industry evidence base. Watson, president of the Association for Information Systems (AIS), states that 'if there is a gap, it is the gap between the theory applied and the right theory to apply. Academics need to help practitioners to close this gap' (Lytras 2005a).

Researchers need to structure and shape more effectively the way that practitioners participate in IS research, while leading rather than following industry practice (Desouza et al. 2006). El Sawy in (Desouza et al. 2006) believes that we need to seek more creative ways to use practice to inform theory creatively in the IS area, and proposes different ways of mixing academics and practitioners in structured discussions. It is his belief that, through structuring these interactions more judiciously, it is much more likely we will craft research that is not only theory-driven but also practice-focused.

Lyytinen (1999) claims that research cultures vary somewhat between different geographical regions. From his European background he observes that North American researchers tend to work with very narrow theoretical bases dominated by survey and experimental methods which result in them having a 'solution seeking a problem' approach. This approach means that they do not routinely engage in systematic attempts to search for problems within industry contexts. Opportunities to understand practice and its problems, are reduced and, consequently, these researchers are not esteemed by practice, hence exacerbating the disconnect.

Glass (2006), one of few commentators from the practitioner perspective widely published in academia, describes the relationship between theory (academia) and practice as having a 'massive communication chasm', giving rise to 'profound misunderstandings'. He goes on to say 'I see severe problems in the products of theory and the products of practice resulting from that chasm and those misunderstandings... my own job performance has been severely impacted by the chasm' (Glass 2006). The need for theory to be informed by practice is demonstrated in the analysis of a paper on software maintenance, where the academic authors produced a 'theory' and conclusions based on a review of academic literature. Glass reports that 'Some of these conclusions are amazingly counterintuitive and counter-experiential. Could the researchers really have believed that, with findings like these, their analysis was correct?' In topics such as this, where research lags behind practice, researchers should 'rely on practice to help build theory. Not only do most researchers not do that, they do not even seem to be aware that they could or should.'... result is weak theory that gets laughed out of the halls of practice... stuck practice that does not upgrade to match the legitimate findings of theory. Neither theory nor practice is well served by what is happening.'

Many academics believe that responsibility for the relationship disconnect should be shared by both parties. Saunders (1998) states 'According to Tom Davenport, the chasm between

town and gown can't be blamed entirely on academicians. The business community has not worked well with academicians to communicate their companies' needs or build long-term, collaborative relationships'. Fitzgerald (2001) similarly comments: 'It should be noted, however, that the fault is not entirely with the academic community', and goes on to quote Davenport. Glass (2006) concurs: 'Practitioners who don't read the literature and who ignore powerful new ideas must carry their share of the blame, too'. Some senior Australian politicians also note the poor collaboration between academia and industry, citing a 2004 ranking at the bottom of 26 OECD countries (Healy & Trounson 2009).

The seriousness of the problem and its impact has resulted in many calls for change. It is also accepted that a better understanding of the practitioner perspective is crucial to improving the relationship. Benbasat and Zmud (1999) call for an investigation into how academic research has diffused into the world of practice and influenced practitioners. They also call for greater research concern for the field's stakeholders, closer connections with practitioners, a research focus skewed more toward outcomes, and context-rich research. This is complemented by a call from Hirschheim and Klein (2003) for research to better understand IS practitioners.

Kavan (1998) identifies opportunities for greater interaction between academics and practitioners that would lead to the mutually beneficial research outcomes that he believes are the appropriate output of academic research. The emphasis is on academics becoming deeply aware of practitioner knowledge interests and needs, and the world in which they work, beyond merely the topic level. He claims that much academic research in the form of descriptive, grounded (quantitative, positivistic) models is viewed by practitioners as 'intuitively obvious and therefore of little value'. He urges academics to seek interaction with practitioners for their research: 'First and foremost, academic researchers have to create "win-win" situations with the practitioner'.

In summing up his recommendations Kavan (1998) states: 'Successful experiences with academic research by practitioners will stimulate greater usage of, and more demand for, such research. Success breeds success'. While arguing for change, he recites well-known whimsical definition of insanity 'repeating the same behaviour and expecting the results to change', at the same time as commenting that 'we should not be too hard on ourselves … It is still very early in our profession'.

Zmud in (Lytras 2005b) makes some useful observations about the differing roles and cultures of academia and practice: 'There is, and should be, such a gap. Business professionals work in a world that differs dramatically from that of a scholar along many dimensions – timeframe, nature of contributions and inducements, language, time spent thinking versus

acting, etc. ... Few individuals ... can easily manoeuvre across these two thought worlds. The question, then, is not how to eliminate the gap but rather how best to invest in efforts to span the gap. Research must be informed by practice and must inform practice.'

Conference panels often reflect aspects of the disconnect. For example, a panel was convened at ACIS 2000 (Moody et al. 2000) with the title: 'Research Collaboration between IS Research and Industry: Can it work?' Its focus was on the benefits and barriers associated with collaborative research, with particular emphasis upon overcoming the disconnect between research and practice.

An earlier panel at the International Federation for Information Processing (IFIP) (Glasson 1990) considered ways to encourage practitioner participation in IFIP Working Group 8.2 conferences, where practitioner delegates represented only a couple of percent. IFIP is financially supported by predominantly practitioner member societies. It was stated that 'We do our research to influence practice. … the fact that practically no practitioners are participating is an important, worrying, signal… the WG needs to ask "Why would any rational practitioner attend?" The aspects of IFIP's research work… demand that we involve business and industry in our research work'.

The prominence of the academic-practitioner disconnect is evidenced by an editorial introducing a new, special section 'IS Research Perspectives' in the Journal of the Association for Information Systems (Straub 2003). Straub (2003) described its goal as a space 'to debate issues that are critical in determining future research directions...'. In his appeal for appropriate articles, Straub stated that 'Strong cases for how our research can relate better to practice can be valuable, specifically when they offer pragmatic ideas for how to strengthen these connections and promote shared understanding... The overriding objective for the section is to stimulate thinking in the IS field on "things that matter to us" as a scientific community'. The inaugural article was 'Crisis in the IS Field? A Critical Reflection on the State of the Discipline' authored by Hirschheim and Klein (2003).

Some of the matters raised in this section are explored in greater depth in Section 2.4 Proposals, from the literature, addressing the academic-practitioner disconnect are described in the discussion of possible solutions presented in Section 2.2.15.

# 2.2.3 The applied nature of the IS field

The applied nature of the IS field is an inherent characteristic that provides a compelling reason for concern about the academic-practitioner disconnect. Moody (1999) argues that IS is an applied, rather than a pure discipline, and sees the need to develop stronger links between academia and industry. Such fields should direct their research efforts in an

applied manner toward improving practice (Moody 2002). Research questions should have relevance, interest and significance for both practitioners and academics (Darke, Shanks & Broadbent 1998). Listings of the most important ICT management concerns have long been of interest to academics, and supply them with the topics on which to base research questions (Luftman 2005). From an early stage, the renowned Tavistock Institute 'believed fervently that research must be a mix of theory and practice' (Mumford 1990b). Goldberg's (AACSB 1997) summing up is appropriate: 'The old monastic model of scholarship where the academic community is cloistered and apart from the external world must be replaced by a new inclusionary model where the academy maintains its independence but is very much a part of society'.

As an applied field, IS would benefit from having closer academic-practitioner interactions. As Fitzgerald (2001) observes: 'it is obviously more difficult to identify and conduct coherent research in an applied field, if one does not understand what practice actually entails.' He recommends frequent exposure to practice modelled on established applied fields such as medicine (Fitzgerald 2001). He suggests that this will increase respect: 'Another useful strategy would be to respect practice more. If IS is to be regarded as a truly applied discipline, then researchers could be expected to have some degree of familiarity with the practice they purport to research. This is certainly the case to a greater or lesser extent in the other professions, such as law and medicine'. He also draws attention to the underlying credibility issue which arises from poor relations: 'Yet, if the very idea that a successful practitioner could learn from the most leading-edge research in the IS field is a source of hilarity even to academics, then, as an applied discipline, IS clearly has a credibility problem.' (Fitzgerald 2001).

Lee (1999) explicitly identifies applied fields such as IS, architecture and medicine as being 'professions' distinct from 'natural sciences' (such as physics and biology). He argues that while 'Inquiry in the natural sciences pursues the goal of truth in formal propositions; inquiry in the professions pursues the goal of effectiveness in actions. Inquiry in the natural sciences produces knowledge about what the world is; inquiry in the professions produces knowledge about how to intervene in the world and change it in order to satisfy real-world needs'. He concludes that that we should emulate inquiry in the professions, rather than the natural sciences.

A fundamental concern of research in an applied, professional field, is the need to engage deeply with industry partners (AACSB 1997). The need for a mix of ideas, innovations and research from both academia and industry is evident, and many of the problems in the current system can be traced back to a basic lack of interaction between the two parties.

The need for university research is driven by such imperatives as 'the core academic values of independence, academic freedom, open inquiry and debate, and research excellence' which 'provide a sound footing for conducting conversations with business for significant, mutual long-run benefit. In industry there is no incentive to engage in research that becomes part of the common good. If business schools don't do this, it's not clear it would get done' (AACSB 1997). There is an acceptance within academia that change is imperative: 'important changes in both university and business cultures must take place... the global business community must learn from its academic colleagues the value of taking a longer term view... academics must change ... engage in research with a shorter term payoff, ... more situationally specific issues and problems ... its work cannot be solely curiosity driven... pressing need to respond to current concerns and problems facing business' (AACSB 1997).

Both pure research and applied research are important to business schools. While the need for applied research appears to be self-evident, the value of basic, 'pure', research for an applied field should not be overlooked. In a discussion about research relevance in business schools, several leading deans (of the AACSB) suggest that critics take a too short-term focus, since many contemporary business practices are based on earlier, more basic business school research (AACSB 1997).

Sullivan (of the (AACSB 1997)) sees the newly developing framework as one of applications-driven research, where 'Basic and applied research are being pushed together and research is framed around important priorities. The driver for research is the real issues and researchers are proud of interacting with those working in the field. By being close enough to our professional colleagues and communicating with them, we find the next set of important questions that need to be addressed'.

Lyytinen and King (2004) connect disciplinary legitimacy with 'the production of strong results' meaning that, in applied fields such as IS, 'with praxis at their center, theory must serve praxis'. Research processes should focus on strengthening the results that relate to practice. This is reminiscent of Bhattacherjee (2001) who sees applied academic research as 'bridging the chasm between IS academics and practitioners'.

Galliers (1994) raises several questions based on the applied nature of IS with the purpose of generating improved IS research practice. They include: 'To what extent should we include arguments as to why it is important that we pursue research on our chosen topic area?'; 'To what extent should the research agenda for Information Systems and the list of issues that are of most concern to practising Information Systems executives be aligned?'; and 'To what extent is there a place for the subjective/argumentative style of research in the field of Information Systems?'.

There is increasing recognition of the suitability of certain specific research methods for IS as an applied discipline. Case studies are suitable for 'sticky, practice-based problems', and for generating theories from practice (Benbasat, Goldstein & Mead 1987; Darke, Shanks & Broadbent 1998). AR is recommended as a method that 'produces highly relevant research results' (Baskerville 1999). Reflective practice is a common research method in other applied disciplines such as health and education, and has potential in IS (Grey & Fitzgibbon 2003; Imel 1992; McKernan 1991). Glass (2007b) comments that the all too common habit of using students as research subjects in IS is inappropriate in an applied field. Weyuker (2001) concurs, describing it as 'virtually meaningless'.

# 2.2.4 Indicators of the IS academic-practitioner disconnect

Key indicators of the uncertain state of the IS academic field, such as declining student enrolments, form an important element in this literature review. They are considered to be general indictors of the problems faced by the field and, in part, indicative of the academic-practitioner disconnect. The value of considering declining student numbers is that this issue is part of the backdrop to the current state of the field and a context for the current research. It is proposed that these indicators are likely to respond positively to a lessening of the academic-practitioner disconnect.

## Decline in IS student enrolments

One of the major indicators of well-being in IS academia is student enrolments. The steep, global decline in IS enrolments since 2000 has prompted much debate within IS academia (Granger et al. 2007). Granger et al. (2007) note that it is unclear whether the decline is the problem or the symptom. In the context of this research, it is viewed as a symptom. While some research has been done (Scott et al. 2009), the analysis of the situation is inconclusive as regards causes (Galletta 2007; Panko 2008), and the need for further research is acknowledged (Wei 2007). Despite differing opinions, all agree on the seriousness of the problem. It has been debated in all major IS academic forums including journals such as the Communications of the Association for Information Systems (CAIS) (Granger et al. 2007), conferences such as the International Conference on Information Systems (ICIS) 2007 (Avison & Ein-Dor 2007), Americas Conference on Information Systems (AMCIS) 2007 (Bullen, Abraham & Galup 2007; Galletta 2007) and ACIS 2007 (Grant, P 2007), and ISWorld (Granger et al. 2007). Resources are also being developed for the AIS (Galletta 2007). A complementary initiative for the development of a Core Body of Knowledge (CBOK) is being undertaken by the Australian Computer Society (ACS) (ACS 2007).

IS enrolment data have always been somewhat volatile, with some commentators believing that the dot-com/Y2K surge in the late 1990s was an aberration (Granger et al. 2007). Avison and Ein-Dor (2007) propose that the current decline is just a more severe downswing in the regular enrolment cycle. Granger et al. (2007) note the difficulty in accurately determining the decline, which is variously reported at between 25 and 75 percent: *'It is not unusual to hear cases of enrolment declines over 70%'* (Granger et al. 2007). The situation in Australia is reflective of the global situation (Wilson & Avison 2007). The knock-on effect is course closures and retrenchment of IS faculty (Avison & Ein-Dor 2007). Davenport and Markus (1999) link the future of IS academia to research relevance and student enrolments when they state: 'At the very least greater relevance will secure future resources in the form of students, jobs for students ...'. A decade on, Gill and Bhattacherjee (2009) affirm this sentiment: 'our severe drop in recent student enrolments has created a resource crisis... MIS needs to address the problem... if it wants to survive'.

One of the most important responses to the enrolment decline is the review of IS academic programs. This has affirmed the importance of business knowledge and experience for students (Atchison & Gonsalvez 2001), that, it is proposed, is best delivered through industry alliances (Abraham et al. 2006). Several recent studies show that top business schools are generally defined by factors other than their research outputs, most especially the perceived excellence of their academic programs (Gill & Bhattacherjee 2009; Lowry, Karuga & Richardson 2007).

At ACIS 2007, Peter Grant (2007) (a former Queensland Government CIO) delivered a keynote address from the industry perspective on the paradoxical situation of declining student enrolments at the same time as industry is suffering a serious skills shortage. He proposed a joint university-industry initiative to develop a professional career framework which would be useful for marketing ICT careers. He emphasised the need for close collaboration between academia and industry, and the mutually beneficial outcomes that could be delivered. It is noted that the ACS is undertaking a complementary marketing programme (Foreshew 2007).

It would appear that a more functional academic-practitioner relationship may facilitate initiatives that would positively impact IS student enrolments.

#### Practitioners do not read academic literature

That practitioners rarely read academic literature is another indicator of the academic-practitioner disconnect. Keen (1990) warns that 'ISR is in danger of talking mainly to itself about itself'. Comments such as: 'I never read a journal when I worked in industry, and I honestly don't know anyone who did' on ISWorld are indicative (Glass 2001). This is despite

IS practitioners being accepted as important stakeholders and potential consumers of IS academic research (Bhattacherjee 2001), and an almost universal belief among academics that IS research should be relevant to practitioners (Gray 2001).

Moody (1999) notes that the current situation effectively cuts off practitioners from the ideas of the research community. Practitioners source their information from vendors and consultants (Moody 1999). However it is a complex issue, not simply attributable to practitioners choosing not to read academic research. Practitioners do not generally have access to academic research, nor do they have a good understanding of what constitutes academic research (Darroch & Toleman 2004). When asked whether this is problematic, a PhD-qualified CTO responded: 'I'd agree, it shows that something is not right.' (Darroch & Toleman 2004). This issue is further explored under the research relevance (Section 2.2.6) and knowledge management (Section 2.2.14) elements of this review.

Lyytinen (1999) considers that it is important to introduce students to IS academic research in order to encourage in them a habit of continued access (of research) after they graduate. He believes that it will contribute to their development as reflective practitioners. He notes that students (especially North Americans) who lack such exposure are unlikely to begin doing so after they graduate.

It appears that a more functional academic-practitioner relationship may enhance the opportunity for, and likelihood of, practitioners reading IS academic literature.

#### Failure of academia to influence practice

A direct consequence of practitioners not reading academic literature is that it robs academia of opportunities to influence practice, hence exacerbating the disconnect. It is a widely-held perception that academia follows practice and the consulting industry, and fails to demonstrate adequate leadership in guiding the field's agenda and direction (Amaravadi 2001). Robey and Markus (1998) claim that consultants and the practitioner media rather than academics 'are shaping the way that practitioners think about these important new technologies and applications'. Davenport and Markus (1999) state that 'if academia ever led the race to invent new business IT concepts and approaches, we now lag'. Fitzgerald (2000) cites System Development Methodologies, an 'evergreen', quintessentially IS topic, as an example. Yet when Davenport (Lytras 2005c) was asked: '... how do you see the academic and practitioners worlds and their synergies?', he replied '... If business schools aren't influencing the practice of business and management, what's their purpose?'. The issue of leadership and influence is a source of contention between academia and practice and is another indicator of the poor state of the relationship.

Academics also lack exposure to contemporary professional practice because little research is located in the business world (Rollier 2001). 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. The lack of academic-practitioner interaction means that researchers are rarely closely involved with leading-edge practice as the innovations emerge. Instead they tend to follow after the fact and report about leading-edge practice (Lyytinen 1999). This is in contrast to a story from a Google researcher/engineer who describes a synergistic model of academic-industry interactions in the search engine area of computer science (Russell 2009).

Glass (2007a) is a long-term commentator on the issue of leadership and influence in the field. He is rare in that he has a dual academic/practitioner background, and maintains his connections with both sides of the field, publishing the practitioner perspective in the academic press. Examples of his regular columns are 'Controversy Corner' in The Journal of Systems and Software (Glass 1990), and 'The Practical Programmer' in the Communications of the ACM (Glass 1996). While he is a strong advocate of the practitioner viewpoint, he acknowledges that both theory and practice have topic areas in which they lead (Glass 1996). He describes the dysfunctional background to the situation wherein each side has been historically deeply critical of the other. Theorists have criticised software engineers for the 'software crisis', with researchers reporting projects as typically over budget, behind schedule, and having poor quality. In turn, practice have criticised theorists 'who fail to evaluate their ideas in a practical setting before advocating them'.

Glass (1989) discusses the temporal relationship between innovation in computing by both practice and theory, acknowledging that practice sometimes precedes theory, and this has serious implications that both academics and practitioners must evaluate. Both Glass (1989) and Lee (1999), cite other fields where practical innovations inspired and preceded the development of a theoretical body of knowledge, such as aerodynamics and thermodynamics.

Quoting Simon's famous work 'Sciences of the Artificial', Glass (1989) demonstrates the need for close connect between practice and theory: 'the main route to the development and improvement of time-sharing systems was to build them and see how they behaved. And this is what was done. They were built, modified, and improved in successive stages. Perhaps theory could have anticipated these experiments and made them unnecessary. In fact it didn't, and I don't know anyone intimately acquainted with these exceedingly complex systems who has very specific ideas as to how it might have done so. To understand them, the systems had to be constructed; and their behaviour observed.'. In terms of the academic-practitioner

disconnect, Glass (1989) reminds us that when 'there comes a point at which practice, having been surpassed by theory, must listen to it.' He concludes that this interaction is not occurring: 'Just as theory fails to study practice when it is appropriate, practice fails to listen to theory when that becomes appropriate. In other words, there are some fundamental problems in the interactions between theory and practice' (Glass 1989).

The idea that either academia or practice should prevail is unhelpful. Glass (1996) describes his vision for a more positive relationship basis, proposing 'an aware world of theory and a receptive world of practice'. This is based on the belief that there are 'better bridges' available wherein the best-of-practice findings can 'benefit both other practitioners and theoreticians willing to listen to them' (Glass 1996). He appeals for a constructive debate on the bridging basis, hence identifying the need to explore how more functional, synergistic academic and practitioner interactions may be engineered (Glass 1996). The model he proposes is based on a close, synergistic relationship between theory and practice where the initiative (leadership) passes to and fro between the two as developments occur alternatively between practice and theory (Glass 2006). While 'often the first glimmer of a new idea comes from the world of practice,... the act of maturing both the practice and the theory can and should go on in tandem. Attempts to do otherwise, as we have been trying to do in the world of computer science and software engineering, lead inevitably to weak theory and stuck practice'. He optimistically concludes with the hope that we can 'evolve theory and practice into a fundamentally sound working partnership'. Such a situation is only possible in a highly functional relationship between academia and practice (Glass 1990).

# 2.2.5 The ongoing major debates of IS academia

Persistent introspection and debate about the major issues and challenges that confront the IS academic field prompted one prominent academic to comment that IS 'may go down in history as a field that has done more navel-gazing than any other' (Galliers 2007). The IS field while comparatively young (Saunders 2007), has been marked by controversy over its identity, role, and relationships. These generally longstanding, recurrent debates provide major insights into the academic-practitioner disconnect.

# 2.2.6 The rigour-relevance debate

Perhaps more than any other, the 'rigour versus relevance' issue exemplifies how persistent debate about a longstanding problem can capture IS academia's attention. Lee (1989) long ago noted the potential for excessive rigour to come at the expense of professional relevance. Rosemann and Vessey's (2005) claim that 'the focus on rigour has led to the

disenchantment of the practitioner community' demonstrates the contemporary importance of this debate to the academic-practitioner disconnect.

Many leading IS scholars have contributed to the debate in a range of forums including editorials, feature and invited articles, special editions of journals, conference panels, and keynote addresses. Simon (2004) describes this debate as being 'as old as academe itself'. The topic's prominence is evidenced in an editorial introducing a new, special section 'IS Research Perspectives' in the Journal of the Association for Information Systems (JAIS) (Straub 2003). Straub (2003) described its goal as providing a space 'to debate issues that are critical in determining future research directions (e.g., the perennial relevance versus rigor debate)'.

There are multiple stakeholders for IS research including practitioners, academics, students, government and society at large (Bhattacherjee 2001). The relevance of IS research can only properly be judged when taking into account the goals of the research and its intended audience, namely the stakeholders (Bhattacherjee 2001). In the editorial introducing a special CAIS volume on relevance, Gray (2001) makes clear the prominence of practitioners as stakeholders in IS academic research: 'The relevance issue concerns the importance of academic IS research to the practitioner community'. The research relevance and academic-practitioner relationship issues are inextricably linked, as reflected in Simon's (2004) editorial 'Rigor Vs. Relevance: Why Can't We All Just Get Along?'. He directly links relevance with his 'first recommendation, [being] the involvement of practitioners in research studies. While difficult at best, this solution presents a method to bring both communities together'.

Panels have been instrumental in the relevance debate, including two at the 2000 European Conference on Information Systems (ECIS). A panel at ICIS 2002 debated the topic 'Different Research Communities: Are They Competitors, Complements, or Ignoring Each Other?' (Loebbecke et al. 2002). The panellists represented a wide array of positions from academia and industry, as well as research institutes and consultancies. It was expected that such a mix would express controversial positions, many of which would be provocative to an ICIS audience (Loebbecke et al. 2002). One of the key items of a panel at ICIS 2005 was 'What is the view of industry with respect to academic MIS research and its relevance?' (Grieves et al. 2005). A further panel at ICIS 2005 took the debate further: 'Information Systems Research That Really Matters: Beyond the IS rigor Versus Relevance Debate' (Desouza et al. 2005). The results of this debate are examined in Section 2.4. Further, it is noted that, at ACIS 2007, a panel was convened to debate 'Relevance in IS Research - How ACIS 2007 Measures Up' (Recker et al. 2009).

In his keynote address to ICIS, Lee (2000a) revisits the rigour-relevance issue, stating that the problem had 'been lurking in the background for the past twenty or twenty-five years, but sooner or later they'll emerge on the critical path of the development of our IS field'. His message is that the problem can be addressed by previous proposals, but that these important lessons from the past have been forgotten.

#### Background to the rigour-relevance issue

A brief background to the rigour-relevance issue provides insights into the current situation. During the 1950s the early business schools (which preceded the establishment of the IS field) were considered an embarrassment to universities because of their overly vocational nature, and lack of and intellectual content (Robey & Markus 1998). Business schools' research was criticised for being too practical and lacking in the tradition of great university scholarship (AACSB 1997). This created feelings of insecurity and lack of acceptance into the community of scholars (AACSB 1997). The 1959 Ford foundation report argued that the business schools' salvation lay in doing improved rigorous research, a course which they enthusiastically adopted (Robey & Markus 1998).

These events triggered changes toward a more theory-driven approach which developed throughout the period from the 1960s to the 1980s. Hence business academics sought academic respectability by emulating their peers in areas such as physics (AACSB 1997). These changes were overcompensating, and resulted in business academics losing their sense of being members of a profession (AACSB 1997). While the improved rigour delivered the much-desired academic respectability it came at a cost to practitioner relevance, which became the basis for a fresh wave of criticism in the 1980s (Robey & Markus 1998). The Porter-McKibbin report warned the business research community that it had lost the respect of the practitioner community (Robey & Markus 1998). This had important implications for the credibility of the academic community in highly applied disciplines, and carried the attendant problem of threatening financial support (Robey & Markus 1998).

The defensive response by business academics to the criticism from industry over the loss of relevance is described by Sullivan (AACSB 1997), a former dean at Carnegie Mellon University: 'Industry told us we were not creating value and we had to face up to that charge. Many people began to rationalize. They said industry was in no position to judge, the critics were not scholars and were not qualified. All of this was very self-serving, very defensive, circling the wagons' (AACSB 1997). This history may go some way towards explaining the development of the academic-practitioner disconnect.

## The rigour versus relevance debate evolves

The historical context described above resulted in the debate being framed as a dichotomy of 'rigour versus relevance', whereby increased relevance is at the expense of rigour (Applegate 1999). This infers a struggle between the opposing forces of academic respectability pushing rigour and pressure from practice for relevance. In this apparently irreconcilable situation, IS academics 'quickly learned that the respect of our colleagues and the rewards of academic life would come to those whose work was viewed as rigorous' (Robey & Markus 1998). This hints at the 'publish or perish syndrome', which Weber (2003c) notes militates against being 'reflexive'. He urges change: 'We continue to produce large amounts of rigorous but often uninteresting research. Somehow we have to find the key to being highly productive scholars who exercise appropriate levels of reflexivity in our research' (Weber 2003c).

Interestingly, Fallman and Gronlund (2002) argue that increased relevance is achievable without any decline in rigour. Others (Gray 2001; Robey & Markus 1998) claim that the two concepts may synergistically support each other. Gray (2001) comments that too much of the discussion is uni-dimensional, being on an 'either/or basis' when it should be a 'both/and' basis. This is consistent with Keen's (1990) stance that 'Relevance must drive rigor. Until relevance is established, rigor is irrelevant. When relevance is clear, rigor enhances it.' In a presentation entitled: 'A Scientific Basis for Rigor and Relevance in Information Systems' Research at the London School of Economics, Lee (2006) concludes: 'Information-systems researchers will come to regard research as rigorous only if also relevant. They will regard pragmatic research with all the same prestige that they now accord basic research.'

IS academics are often highly sensitive to the relevance issue. Gray (2001) notes in his editorial of a special volume on relevance that there had been a 'firestorm of ISWorld messages' which prompted him to invite articles from 30 of the participants. He comments that 'Like many of the other 4000 subscribers on ISWorld, I was fascinated by the dept of the emotion displayed and by the range of responses. Clearly the relevance of the academic research to the broader community is a raw nerve ending for the IS faculty throughout the world'.

An example is in Decision Support Systems (DSS), a longstanding key topic area of IS research, which Arnott and Pervan (2005; 2004) claim is 'facing a crisis of relevance'. Their review concluded that DSS is likely to suffer all five of the reasons that Benbasat and Zmud (1999) identified as possible causes of irrelevance. Their content analysis included reviewing the relevance of the papers to practice (Arnott & Pervan 2005; Arnott, Pervan & Dodson 2004). The findings of this rare empirical study of relevance were that only 1% of

papers rated as having very high relevance, and 8.6% as having high relevance, whereas 50.5 % rated as having either low or no practical relevance. A review of Group Support System (GSS) research, another quintessentially IS topic area, also rated poorly on relevance (Mandviwalla & Gray 1998). It was described as having reached a plateau: 'It is the contention of this paper that the time has come to expand beyond this single dimension' (Mandviwalla & Gray 1998).

Research into the practitioner perspective is rare. A survey of practitioners' reading habits of IS research journals (Pearson, Pearson & Shim 2005) explored the relevance of academic research as published in top IS journals. IS practitioners were asked about their awareness of a collection of leading IS journals, whether they read them, and whether the articles had practical relevance. While the results presented in the paper are not complete, the overall findings indicated that 'IS practitioners (1) do not know where academic research is published; (2) find academic research dated; (3) find academic research difficult to read; and/or (4) find the recommendations included in academic research to be of little value'. Perhaps predictably, readership and awareness rates were higher for senior managers. An author endnote of interest was: 'While this sampling group contains mid-level managers and IS/IT professional who indicated they do not read any of the journals identified in this study, many of these individuals were aware of at least one of the journals used in this study'. A question in the survey that is of interest to this review, but for which there were no data published, is: 'What types of effort and attention are needed by IS academics to encourage stronger cooperation between IS practitioners and IS academia?'. Another empirical study in the form of an IS 'relevance index' was undertaken on IS conference papers by Young et al. (2006).

Some view the dominance of the North Americans as being problematic in terms of relevance. Lyytinen (1999) claims that North Americans see the rigour-relevance relationship in terms of 'rigour will replace relevance if there is no power to stop it'. Whereas he claims that his European experiences are the opposite: 'relevance will replace rigor if there are no powers to stop it!'. Globally the IS academic field is dominated by the North Americans, as may be seen in the leading journals and international conferences being based there. Similarly Lee (2000a), himself a North American, notes the mistakes of the North American environment, as well as acknowledging 'the dominance or imperialism that North American research often imposes on the rest of the world'.

Some academics are not content that academic research is ignored and that it lacks impact in practice. Cushman, from the London School of Economics and Political Science, posted a message on the AISWorld ListServe (19 November, 2006) lamenting that a major, 200 page,

report entitled 'Delivering successful IT-enabled business change', published by the UK Comptroller and Auditor General (2006) contains no citations to academic research. He commented: 'We can either blame the National Audit Office for being myopic and ignoring our work, or ask ourselves why a group of intelligent people decided to ignore every aspect of our wisdom'.

Research relevance has also been raised within the context of PhDs. Applegate and King (1999) report a case where the pressure of publication timetables caused a PhD candidate (Marilyn Moore) to move from practitioner-oriented research to a student experiment. This highlights the career pressures that foster irrelevance. Furthermore, Hirschheim (2008) notes that relevance is a problem even among different groups of IS researchers, who respond with 'benign tolerance or indifference'.

#### Issues to consider in the relevance debate

Pearson et al. (2005) distinguish between 'direct' and 'indirect' relevancy. Direct relevancy is when practitioners explicitly judge a piece of research as being relevant to them. This assumes that, if a piece of research is not available to them, or not read by them, then it isn't relevant. Indirect relevancy 'suggests that research targeted for one audience may have an impact on another (perhaps unintended) audience'. It takes into account a 'trickle-down' effect whereby the research becomes available to another stakeholder group such as practitioners through other means such as education, passing on of ideas emanating from research via other stakeholder groups. Similarly, Klein et al. (2006) note that it only takes one segment of practice to access some academic research for it to become available to the wider group.

When responding to Benbasat and Zmud's (1999) recommendations regarding research relevance, Lyytinen (1999) poses an interesting question regarding how relevance to practice may be perceived: 'Is relevance only something that suggests immediate solutions for CIOs and that they can digest in one afternoon by reading a MISQ article, or is relevance something that can elevate and reshape professionals' thinking and actions in a longer perspective?'. This reflection on deeper, longer-term considerations of relevance has great significance for the academic-practitioner disconnect.

Academics are criticised in paper reviews for a number of shortcomings, but rarely for irrelevance (Glass 2000). Glass (2000) urges that academics 'post the scarlet letter A for Advocate on the foreheads of their colleagues who deserve it'. 'Advocates' are those who don't 'investigate' ideas, but who scold practitioners for not adopting the ideas they advocate.

The research relevance debate generates profoundly negative feelings for some academics, as expressed by Davenport in (Lytras 2005c): I have always argued for a balance between rigor and relevance. Most business research today is rigorous, but largely irrelevant. There are thousands of very smart people doing research that no practitioner will ever use, and can't even be taught in our classrooms. This to me is a great tragedy. My friend Warren Bennis has just written ... "How Business Schools Have Lost Their Way", and I am hoping it will begin to change things'.

Importantly, Gray (2001) notes that while the situation is serious and in need of significant change, it is not without hope: 'Several practitioners who contribute to this volume, however, see much good in what we do and take a much more benign view of our efforts. The bottom line is in the title of one of the contributions: "The Relevance of IS Academic Research: Not as Good As It Can Get". Similarly, empirical interview and survey research by Darroch and Toleman (2005b) found that, while the responses to Benbasat and Zmud's four questions affirmed problems with research relevance, practitioners are desirous of a closer relationship.

Similarly, work by Rosemann and Vessey (2005) demonstrates positive prospects. They conducted focus groups to develop and test their applicability checks approach, using DeLone and McLean's IS Success Model. Notably, while none of the participants had ever heard of it prior to joining the focus group, they perceived it as having potential relevance for them (with some changes). One participant stated: 'When the model is so successful in academia, why did nobody develop a tool based on this model that facilitates its application in practice?'. Adding these checks as an additional step to the research process may improve relevance, while preserving research rigour (Rosemann & Vessey 2007).

# 2.2.7 Academia and consultancy: their relative roles

Alter (2001) claims that 'IS faculty members do not have a monopoly on IS research'; that 'highly applicable' research is done by software firms, consulting firms and other organisations. The relationship between the roles and consequent influence of consultants and academics comes under scrutiny in a number of guises throughout these debates, especially with regard to research relevance and who leads thinking and innovation in the IS field. Davenport and Markus (1999) state that 'IS academics like to think that we do (and should) lead practice rather than follow it. At the same time, IS academics are quick to differentiate what we do to lead practice from what consultants do - what we do is, of course, better... the ideas that shape how managers think about IT have come from consultants.'. The literature describes points of interest and points of difference which together provide a picture not only of how the two roles are currently perceived, but also how academics might

advantageously change their role in ways that would allow them to better influence practice, improve relevance, and address the academic-practitioner disconnect.

Mårtensson and Lee (2004) claim that there is a perception that consultants' research has greater practitioner relevance than that of academia. This is closely linked to the issue of academia's lack of influence over practice, as evidenced by a comment from Watson, president of the AIS, in an interview when he stated: 'Within the broader IS profession, AIS has little influence. The information services, such as (e.g. Gartner) and consulting services have far more impact on practice than scholars ... I think we should get closer to the action' (Lytras 2005a). Ironically, consultant influence extends to teaching materials. Many readings, cases and materials for textbooks and courses are drawn from consultants' research published in practitioner journals such as Harvard Business Review (HBR) and Sloan Management Review (SMR), despite these outlets being disparaged by academics (Davenport & Markus 1999). Robey and Markus (1998) comment that 'We value these sources as teaching materials more than we value our own papers'.

## The positives of academia

When looking at the relationship between the roles and characteristics of academics and consultants a number of beneficial differentiators of academia have been identified. Research rigour is identified as a positive hallmark of academic research by Benbasat and Zmud (1999): 'Relevancy does not imply that research needs to be carried out in a less rigorous fashion. In fact, managers respect and value rigor (as it often proves to be a key discriminator between academic and consultancy contributions).' Robey and Markus (1998) note that the rigorous training in research methods enables academics to critically evaluate arguments and findings. Mårtensson and Lee (2004) add two other desirable qualities in the form of validity and replicability of research.

Benbasat and Zmud (1999) detail the issue of academic concern for 'justification' as being another differentiator between academics and consultants, when they state: 'While both academic researchers and consultants value the discovery and application of new ideas and solutions, it is the academic researcher who is more concerned with issues of justification (i.e., insuring that what is being discovered and applied is in fact "correct"). While practitioners seem to feign little direct interest in justification, most do recognize that justification allows them, even if indirectly, to better assess whether or not the prescriptions they receive are based on solid foundations'. One of the main uses for academic research artefacts and academic consulting in practice is for the justification of such things such as reengineering, competitive advantage and budgetary decisions (Benbasat & Zmud 1999).

Robey and Markus (1998) identify other positive distinguishing features of academia as the perceived neutrality and objectivity that come from a 'disinterested posture' and a lack of vested interests. Academia's commitment to publish knowledge in the public domain sometimes also differs from consultants who are often constrained by a pressure not to disclose knowledge for legal reasons or in the interests of proprietary advantage (Fallman 2000). Furthermore, academic research 'requires a commitment to scholarly values and ethical principles' (1998).

## The positives of consulting

Davenport and Markus (1999) challenge other academics' views including the degree of change needed in academia: 'They [Benbasat and Zmud ] are confident that IS research can be made more relevant without fundamentally challenging core academic values around research rigor, publication outlets and audiences, and the perils of consulting. By contrast, we believe that far deeper changes in the research enterprise are required.' Davenport and Markus (1999) also challenge the negative view of consultants. They sum up Benbasat and Zmud's position on consultants as being: 'Because rigor is what distinguishes academic research from consulting, consultants make poor role models for rigorous and relevant IS research. Consulting work is at best a distraction, at worst a bad influence on IS academics'. They (Davenport & Markus 1999) counter that view with their own: While much knowledge published by consultants lacks rigor, there is much worth emulating in the consulting world today. Consultants are typically faster at identifying practitioners' needs for research, and they increasingly see the rapid production of good (if not rigorous) research as a key success factor. ...IS academics can learn much from the relevance, the readability, and the emphasis on implementing results of the best consultant research. Instead of disparaging consultants, we should take the best of what they do and improve on it. Instead of viewing consultation as a distraction from legitimate research, we should respect it as an alternative way to acquire and share knowledge.'

Saunders (1998) proposes that faculty should spend time consulting to business to improve their capability for undertaking relevant research. Consulting should be balanced with other academic roles. Similarly, Gill and Bhattacherjee (2009) note that consultants are more influential with practice because they are adept at taking account of the practitioner environment. Furthermore, consultants show respect for the client's knowledge and consider the practical constraints on potential solutions.

## Appropriate roles and responsibilities for academics and consultants

In determining effective, highly functional means of interaction between academics and practitioners (via Dialogical AR), Mårtensson and Lee (2004) characterise the roles of

academic and practitioner as 'theoria' and 'praxis' respectively. Theoria is marked by the 'scientific attitude' which refers to the body of knowledge and manner of reasoning that characterises the thinking of, for example, a PhD-trained academic. On the other hand, praxis is marked by the 'natural attitude of everyday life' which refers to the body of knowledge and manner of reasoning that characterises the thinking of a practitioner as a member of an organisation.

In the process of characterising these roles for academics and practitioners, Mårtensson and Lee (2004) also explore consulting and how it differs from an academic conducting Dialogical AR. They define traditional consulting as being where the consultant plays the role of problem solver. Consultants are hired to undertake problem solving action in an organisational setting using their pre-existing expertise. The solution follows from the consultants' application of their expertise to the problem situation. It is not a requirement that the consultant possess academic, university-based expertise or scientific training.

The consulting process is linear and predefined regarding the consultants' application of their expertise, with no imperative for reflection, learning and revision based on the outcome. Furthermore, the role of the organisational counterparts (practitioners) may be very passive. On the other hand in an AR engagement, the outsider (academic researcher) entering the organisational context 'typically possesses and applies an expertise rooted in the academic world of one or another scientific discipline' (Mårtensson & Lee 2004). The researcher and practitioner work as a team. The process of AR incorporates an explicit cycle of action and critical reflection of the outcomes that seriously considers feedback (including negative feedback). While it is acknowledged that there may be situations where the consultant possesses scientifically based expertise, and practitioners are actively involved in working with the consultant, these features are optional in consulting, but mandatory in Dialogical AR (Mårtensson & Lee 2004).

Mårtensson and Lee (2004) also identify specific behaviours and responsibilities required of a researcher (conducting Dialogical AR) that are not required of, nor appropriate to, consultants. The researcher must switch from the 'scientific attitude' to the 'natural attitude of everyday life' when communicating with the practitioner. Similarly, Keen (1990) states: 'I hide the theory because it is mostly relevant to helping me study and write. It is not necessarily relevant to my target audience... when I feel it is, I cite it.' The researcher does not attempt to 'educate' the practitioner into her/his way of thinking (Mårtensson & Lee 2004). Rather, the researcher should enter the practitioners' world and adopt their perspective. The researcher must accept 'knowledge heterogeneity' (which explicitly acknowledges the equal status and unique value of the 'different forms that knowledge takes in the world of science

and the world of practice'). Finally, meetings should be conducted off-site, as reflective one-on-one scientist-practitioner dialogues. These responsibilities are discussed in greater detail in Section 3.2.2.

Lee (2000a) notes that the desirable process of crossing the boundary between academia and consulting is extremely difficult. On the one hand, he notes that practitioner and consultant research is often rejected for publication in research journals on the basis that it lacks rigour. On the other hand, he notes: 'Well then, what about the possibility of professors trying to do relevant, applied research? Well, when some professors try to do this, they are accused of doing "consulting" instead of "research". Nevertheless, Lee (2000a) sees this as an issue that must be addressed for the future well-being of the field. Weyuker's (2001) statement that during her time as an academic, her part-time industry consultancy 'positively affected my research', encourages a synergistic view of the opportunities.

In summary, the position espoused by Robey and Markus (1998) that academics maintain their differentiating advantages, while simultaneously embracing additional consultant behaviours to improve the practitioner 'consumption' of their research, is considered to be the appropriate and compelling position to address the academic-practitioner disconnect.

### 2.2.8 A cumulative research tradition

The issue of a cumulative research tradition is another protracted and polarising debate within IS academia. Benbasat and Zmud (1999) refer back to Keen's 1980 observation that IS has been less successful than other business schools in developing a cumulative research tradition. They cite three reasons for this.

Firstly, there is a diversity of theoretical frames used to explore and explain individual phenomena, many of which are not understood by the other researchers in that topic area. Secondly, the diversity extends to the research constructs and instruments deployed, which discourages the development of research streams. Thirdly, a proliferation of journals has made the task of aggregating research on a topic much harder. Benbasat and Zmud (1999) claim that such a situation impedes the development of strong theoretical models which may be applied in practice. This hinders the ability of academics to advise and lead practice and exacerbating the disconnect. There are two interrelated aspects to this issue, namely the selection of research topics and research concentrations.

## Research topic selection

The selection of research topics has been criticised by several academics (Arnott & Pervan 2005; Benbasat & Zmud 1999; Galliers 1994) as being doubtful regarding research relevance and lacking alignment with practitioner concerns. In their review of DSS research

Arnott and Pervan (2005) found the topics favoured for academic publications was completely unaligned with the emphasis in industry expenditure and CIOs' areas of interest. Galliers (1993) also noted a mismatch between the key issues of interest to IS executives and those which IS researchers were researching. Interestingly, it appeared that doctoral students' topic selection was more in line with the 'softer' organisational/managerial aspects considered critical by IS executives. Weber (2003a, 2003b) makes an explicit link between topic selection and the fate of IS academia when he states that 'we need to be more circumspect about our choice of research topics and their implications for the long-term future of our discipline.'.

Benbasat and Zmud (1999) recommend that research topics should be chosen based on likely impacts on practice and interest from key stakeholders, including practitioners. They propose that, rather than looking for gaps in the literature, researchers should actively involve the practitioner community in the identification of research issues. They advise that this is most effectively achieved through developing personal and professional relationships with individual practitioners. This is consistent with the views of Davenport in (Lytras 2005c) who commented: I think we should involve consultants and practitioners in these research agenda meetings. That would ensure that our research is on topics that would be useful; to the world'.

## **Research concentrations**

An issue related to topic selection is that of research concentrations. There has been substantial debate around whether IS academia should make formal efforts to identify a core group of enduring phenomena that represent the accepted areas of interest for the IS field. This would be of interest to practitioners and may be researched in a cumulative manner by IS academics (Benbasat & Zmud 1999). This issue has generated opposing views. Benbasat and Zmud (1999) claim that the long-term interests of the IS academic community will not be best served by 'a laisez-faire climate of "let a thousand flowers bloom", and hence support a consensus. Others such as Davenport and Markus (1999) argue against the idea on the basis of the rapidly changing business and technology environments on which IS must focus. They state that IS should 'achieve distinction as a field, we must not emulate irrelevant management fields, but lead them in relevance'.

Benbasat and Zmud (1999) and others (Siggelkow 2007) raise concerns that the focus of research articles tends to be too much on inputs such as theoretical frameworks and methods. This must change to a focus on outputs that would enhance research utilisation in practice (Benbasat & Zmud 1999). In doing so, there needs to be a change in emphasis from highly generalised models (usually quantitatively based), to outputs which are more

context-specific and provide rich descriptions, such as those produced by qualitative research (Benbasat & Zmud 1999). Theoretical frameworks used in research need to be more intuitively meaningful to practitioners, such as Nolan's 'Stages Hypothesis' (Benbasat & Zmud 1999).

The development of a cumulative research tradition would enhance the ability of researchers to focus on topics relevant to practice and develop appropriate theoretical models intuitively useful to practice. It would also aid in aggregating research to better support practice, thereby offering potential to address the academic-practitioner disconnect.

# 2.2.9 IS discipline identity

Banville and Landry's 1989 (1989) description of IS as a 'fragmented adhocracy' relates to another of the great debates in IS academia, namely the lack of a clearly understood and articulated discipline identity (Weber 2003a). As noted by Neufeld et al. (2007), the issue of a central identity has been of concern since at least the early 1970s, when Dearden argued that the IS field was 'embedded in a mesh of fuzzy thinking and incomprehensible jargon'. The debate persists with Galliers (2007) using his keynote address to the 2007 IFIP conference to argue in favour of diversity of topic (and method) in IS research, unconstrained by boundaries. It impacts the academic-practitioner relationship because a shared disciplinary identity is fundamental to the relationship between its two main stakeholders.

There is significant concern among academics (Benbasat & Zmud 2003), as seen in several recent dialogues on ISWorld such as the 'Need for a Bumper Sticker', aimed at conveying an attractive message to prospective students (Watson, RT 2006). Weber (2003a) acknowledges the polarity of the debate, implying that agreement it is unlikely regarding the existence of a serious identity problem, or about how it may be addressed. He takes a fatalistic view, concluding that he has a 'Darwinian perspective on the matter: let the different species coexist for the moment, and over time only the fittest will survive'. This is consistent with Davis' (2000) view that it will be evolutionary. While he sees some value in adding definition to the 'core', Davis (2000) believes the richness of IS research comes from its intersections with other disciplines research. When introducing a series of invited papers on the core of IS, the editor-in-chief, Gray (2003), noted the importance of the debate, and that it would not be resolved in the foreseeable future. He cited some of the main initiatives surrounding the issue, including a meeting at ICIS 2003 of long-time leaders in the field, chaired by the then president of the AIS. Both Gray (2003) and Alter (2003) raise the identity issue in the wider context of a possible IS crisis.

Language plays a role in the identity issue. Academics and practitioners label their field differently and this is indicative of an academic-practitioner disconnect. The problems associated with this are evident in a comment on the ISWorld ListServ: 'Let's face it. Business people today say "IT," not "IS.". The idea that technology is part of a larger business processes is no longer so novel that we have to give our field a name that has "system" in it. (Churchman is sooo 1960s and 1970s). ... the first rule of brand naming, "If you have to explain it, you have a bad name."").

The situation is exacerbated by the complexity of academic language. Alter (2003) questions the use of unnecessarily complex language, citing as an example: "IT artefact" is an exquisite example because the fancier and more ephemeral the definition, the more difficult it is for even the authors who propose the fancy definitions to use them in a consistent way'. Gray (2003) concurs with this concern about language.

Attempts to identify the field by content-analysis of journals have been undertaken by Ayanso et al. (2007), and Neufeld et al. (2007). The Neufeld et al. (2007) study covered over 6000 articles in seven leading IS journals between 1973 and 2004. Their analysis found that the research articles do share a strong central character that is distinct from research published in non-IS journals, and the identity of the field has continually shifted over time (Neufeld, Fang & Huff 2007). All (Ayanso, Lertwachara & Vachon 2007; Neufeld, Fang & Huff 2007; Weber 2003a) agree that the debate tends to polarise views about how the IS field should pursue the establishment of its identity. Each group argues that its position will bolster the field's prospects of flourishing.

One group advocates a normative approach with a set of predefined topics and the boundaries of the field are relatively clearly set (Neufeld, Fang & Huff 2007). Those arguing for this approach see great benefit in projecting a stable identity for the field, believing it will encourage cumulative research traditions (Neufeld, Fang & Huff 2007). They also argue that too great a diversity will result in the loss of the field's core identity (Ayanso, Lertwachara & Vachon 2007).

The other group advocates a descriptive approach where the central identity of the field is characterised by what topics IS researchers choose to research and label as IS research (Neufeld, Fang & Huff 2007). This group sees diversity as a strength (Ayanso, Lertwachara & Vachon 2007; Holland 2003). King (in (Neufeld, Fang & Huff 2007) summed it up as: '... it is a lot more sensible to look at what people in the IS field do for their research, and to then label what they do as IS research. In other words, IS research is what IS researchers do, and the breadth of IS research is pretty much the breadth of the imaginations of IS researchers'. This position rejects the need to identify a core on the grounds that it will constrain the

development of the field (Weber 2003a). Ives et al. (2004) argue that restrictive policies hinder relevance and pose a threat to the survival of the academic field. They contend that the importance of IS academia is dependent on the production of skilled IS professionals through student enrolments, rather than either the significance of IS research or the field's identity.

While Weber (2003a) believes a core should be defined, he does not agree that it should be based on what currently interests IS researchers. Furthermore, he states that the core should be composed of topics that are not underpinned by theories from other disciplines, since that would simply contribute to the other discipline. He cites an example whereby psychological theories may be used to predict or explain phenomena in human-computer interface research. Weber (2003a) sums up his position as: I believe the identity of a discipline is established through the contributions it makes to theory. The core phenomena of the discipline are circumscribed via the theories "owned" by the discipline that account for these phenomena... the theories owned by a discipline and its core phenomena are linked inextricably'.

Benbasat and Zmud (2003) argue in favour of a more clearly defined boundary for IS by proposing a core set of phenomena associated with IS scholarship. They termed this the 'IT artefact and its immediate nomological net'. They warn that the identity of the field is confused by problematic choices of topics that are either included or excluded from IS research agendas. Agarwal and Lucas (2005) reject Benbasat and Zmud's stance, arguing that it would reduce the influence of IS research and exacerbate the student enrolment issue by eliminating IS from many academic programs.

Gray's (2003) view is that limiting research topics to a currently identified core will relegate IS academia to studying IS history rather than its future. He cites 'wearable computing' as a topic that may have been lost to IS research had boundaries been implemented (Gray 2003). However, it seems that there should be a less dichotomous path whereby core topic areas are identified. This would realise the benefits of research concentrations and cumulative research traditions, without constraints hindering the field in researching the application of emerging technologies (Gray 2003).

Lyytinen (2004) also used a major international IS conference (ECIS 2004) to present his views of the identity debate. He used powerful imagery in the form of famous artistic images to make his point about what he terms the 'anxiety discourse' which he portrays with the painting 'The Scream'. His conclusion is that IS will achieve success as a field if it is seen as a 'Global Marketplace of Ideas' through which it will 'promote legitimacy through salience, strong results and plasticity'. King and Lyytinen (2004) have a similar message

rejecting the notion that a theoretic core will be a panacea for the IS discipline's anxiety about academic legitimacy. They propose aggressively pursuing new research opportunities that cross institutional barriers. In a complementary manner Keen (1990) argues that 'Coherence will come from shaping an identity based on relevance... to communities mainly outside ISR – will do so'. These latter directions would be consistent with moves to address the academic-practitioner disconnect.

#### **Enrolment issues**

The academic identity issue is exacerbated by the restructuring of many IS schools in response to the prolonged decline in student numbers (Gill & Bhattacherjee 2009; Hirschheim & Klein 2003). The enrolment problem has resulted in significant staff retrenchments, which in turn has resulted in the loss of many IS schools. There have been closures and forced mergers with other disciplines such as computer science, with some becoming subsets of other business or engineering schools (Avison & Ein-Dor 2007). This problem has also affected a significant number of Australian universities (Wilson & Avison 2007). The negative impact has also affected IS PhD programs (Kumar, Welke & Weber 2007; Loebbecke, Massey & Sambamurthy 2007).

These impacts have led Avison and Ein-Dor (2007) to warn that IS is becoming a 'low status discipline', further undermining the future of IS academia. Paradoxically, businesses grow ever-more dependent on ICT, and this is reflected in steady employment growth (Avison & Ein-Dor 2007). Industry concerns arising from possible skills shortages have resulted in calls for greater academic-industry cooperation (Abraham et al. 2006), hence underlining the importance of addressing the current disconnect. The President of the AIS, Dennis Galletta, has warned that the enrolment decline poses a threat to the future of the organisation (IS academia's preeminent governing body) (Galletta 2007).

### Reference disciplines

Lee (2000a) discusses the identity issue with regard to 'reference disciplines' by which he means older, better established fields such as economics and management science. (Note that this is distinct from the 'exemplar' discipline issue of emulating more established applied disciplines such as medicine) Referring to these fields as 'reference disciplines' represents a strategic danger to IS, as it downgrades the organisational power of the field and threatens its independence (Grover et al. 2008; Lee 2000a). This has manifested itself in IS courses becoming non-mandatory within MBA programs, as well as the disappearance of IS as a distinctive organisational unit within the business schools (Lee 2000a). In contrast, Keen (1990) believes that 'breadth easily threatens standards and quality', and that 'reference disciplines have been brought into ISR productively and relevantly'. Similarly, Paper

and Simon (2005) state that 'synergistic research between the MIS and Management disciplines would create a more cogent and important research product...'. The topic of reference discipline theories was also debated by a panel at ICIS 2008 (Gregor et al. 2008).

Where, then, does IS stand as a reference discipline? Baskerville and Myers (2002) argue the case for IS to be seen as a reference discipline. Elliot and Avison (2005) believe it has achieved reference discipline status. Gill and Bhattacherjee (2009) claim that based on citation of MIS publications by other disciplines it has failed. Lee (2000a) laments that 'there is still no clear set of expectations or blueprints for how the IS field should develop', arguing that it should be addressed using a 'systems' and 'design science' approach. Complementary to this is the work of Teo (2007) who claims that a theoretical framework is an important element missing in the identity debate. He produced a discipline identity theory providing a comprehensive theoretical conceptualization for discipline identity.

#### A review of the state of IS academia

In 2007 a special edition of the CAIS was published, consisting of nine articles forming a report on 'The Information Systems Academic Discipline in Pacific Asia 2006' (Gable 2007b). The study (originating from a Pacific Asia Conference on Information Systems (PACIS) 2002 panel and funded by the AIS), was motivated by the recognition that globally there are regional differences in how the IS academic discipline has evolved. Its objectives included the conduct of a longitudinal study providing a description of an emerging, maturing IS academic field. It also seeks to promote debate among academics regarding the state and identity of IS academia. Data for the study included an online survey of IS researchers (Gable 2004). The report's tone is set in Gable's (2007) opening comment: 'This is a time of more-than-usual uncertainty within the IS community about the acceptance of IS as a distinct, legitimate academic discipline. Within this atmosphere of insecurity and self-doubt about the IS identity, the administrative placement of IS academic staff within universities has been a matter of debate.'

SWOT analyses were conducted on four universities in order to gain an understanding of possible impacts of their administrative placement within or outside of a business faculty (Gable 2007b; Gable et al. 2007; Gable & Smyth 2007). A summary statement from the report on IS in Australian universities demonstrated the serious state of the field in terms of its identity: 'The overall view portrayed was an environment where the continuing existence of Information Systems is under threat. IS in most NSW universities is viewed as having failed to develop an identity or a presence' (Gable 2007a).

The link between the identity issue and the academic-practitioner disconnect is established by several commentators. Firstly, Ives et al. (2004) when they conclude: 'If our field

currently faces a crisis, we believe it not to be one of scholarly identity but rather one of practical import'. Secondly, Iivari in (Alter 2003) who states: 'I would suggest that [the IS field's] identity should be based on its distinctive mission as an applied science, to support IS experts in practice'.

# 2.2.10 Theory in the Information Systems field

Another of the major challenges confronting the IS academic field that has been the subject of persistent debate is the concern about a lack of theoretical development. Weber (2003a) laments the deficiency of powerful, general theories in IS, so impeding the progress of the field. He notes that the theory issue in IS has waxed and waned since the early 1970s. Lee (2000b) demonstrates how IS theories may be developed to avoid technical redundancy. The relative lack of theoretical development is evidenced by the fact that only four of the 52 theories listed on the AISWorld theory webpage originate predominantly from the IS field (Markus & Saunders 2007). Argyris (1996) emphasises the need for strong links between academia and practice when he states: 'I repeat that the bases for effective managerial theory and management practice are the same. The more each side attempts to see itself as distinct and different from the other, the more likely that bad science and bad managing will result'. Bunge (1967) considers the philosophical problems that arise when applying theory to practical problems and the different classes of technological theories that may be identified. These links between good theory and good practice underpin the need for highly functional academic-practitioner relationships.

There is a strong interrelationship between the theory issue and the field's identity, as evidenced in an editorial from Markus and Saunders (2007) when they claim that 'Information Systems will only be recognized as a discipline when it builds its own unique themes and theories.' They argue that what distinguishes a discipline from a multidisciplinary field of interest is a unique theoretical discourse (Markus & Saunders 2007). They consider it to be acceptable to borrow theories and concepts from other fields, provided that they are critically adapted for use in IS. Markus and Saunders (2007) also link theoretical development to the survival of the academic discipline. They suggest that it is time to move the focus of the debate from the identity of the discipline and defining its 'core', to the theoretical aspects of the field: 'Developing IS-specific concepts and theories is, we believe, essential for our emergence (or survival) as a discipline that is autonomous of our several reference disciplines'. To this end, Gregor (2002b, 2006) has proposed a taxonomy of IS theory which is specifically focussed on the needs and characteristics of IS, and which takes a broad, comprehensive view of theory.

Decision Support Systems (DSS) research is an example of a major IS research topic area which has been identified as needing improved theoretical foundations (Arnott & Pervan 2005). Allen (2000) perceives a lack of theoretical development to support research in socio-technical topic areas. Markus and Saunders (2007) note that the development of theory in IS has received a great deal of encouragement, attention and support from editors-in-chief of leading IS academic journals as well as from the AIS. This has been in the form of initiatives such as the establishment of specialised journals, departments and webbased resources. The need for developing a theory of Information Systems was the subject of a panel 2002 ICIS (Weber 2003a).

In a series of editorials for Management Information Systems Quarterly (MISQ), Weber (2003b, 2003c, 2003d) bemoans the continuing lack of theoretical development within the discipline, and emotively urges researchers to explore this more deeply by becoming reflexive researchers and 'to have the discipline and courage to stare at the underbelly of our research'. In Weber's view, research reflexivity involves questioning oneself, the assumptions, biases and perspectives that underlie all the components of our research that enable us to understand a particular topic more deeply. Weber (2003c) emphasises that it has wider meaning 'than the hoary old chestnut of positivism versus interpretivism'.

In his farewell MISQ editorial, Lee (2001) challenged senior editors to identify 'What We Haven't Learned' which should form the basis of IS research efforts. Watson in (Lee 2001) uses Lewin's famous 'Nothing is so practical as a good theory' quote to appeal for the development of 'a good grand theory' of IS which he believes will provide a necessary disciplinary heart for IS. Sambamurthy in (Lee 2001) also comments on theory, with the emphasis on it being publishable research, and that it must be combined with field-based emerging insights. He posits that achieving this blend will necessitate broadening the view and methods of rigour to accommodate situations where the precise definition of constructs may not be possible.

When considering an underpinning theory for the IS field, Checkland's (1999) work based on Systems Theory, would seem to have the desirable characteristics. Firstly, its 'foundational/underlying' nature means that it has broad applicability. Secondly, it has been worked on by a range of researchers at the Tavistock Institute who have built up an understanding of how it might be used (such as Soft Systems Methodology) over a period of decades (Checkland 1981). Further, Lee (2000a) has prescribed what he terms 'enacting true systems thinking' as one of three key strategies to address the major challenges facing IS academia.

A strong theoretical base is likely to be an essential element of any academic field. The applied nature of IS means that this would be best achieved in an environment where academics and practitioners work closely and productively.

# 2.2.11 Institutional and political factors

Many authors have identified the mechanisms for academic promotion, reward and tenure as being problematic for research relevance and the academic-practitioner relationship. Kavan (1998) is one of many who call for change to the academic reward system: 'what is valued within many academic research institutions must change'. He also notes the incongruity in the lack of overlap between the two major publication forums that drive each of academic and practitioner success. Hence academics are rewarded on the basis of academic journal publications to the exclusion of practitioner journals such as HBR (Kavan 1998). This lack of overlap exacerbates the academic-practitioner disconnect.

Davenport and Markus (1999) argue that the practice of basing promotion and tenure processes on publication in academic journals and evaluation from academics (to the exclusion of practitioner journals and evaluations), fosters irrelevance. This is consistent with Gray's (2001) editorial stance where he draws attention to an article entitled 'You Get What You Reward'. He also revisits the notion that academia should hire people with significant practitioner experience and encourage practitioners to undertake PhD programs. Similarly, Gill and Bhattacherjee (2009) propose that academic consulting 'be viewed as career-enhancing rather than career-inhibiting and that they should positively impact the promotion and tenure process.'

As previously discussed, the pursuit of academic respectability by IS researchers and journal editors has led to an emphasis on rigour over relevance (Benbasat & Zmud 1999). In their paper 'Rigor and Relevance: Careers on the Line', Applegate and King (1999) narrate the case of a young researcher, Marilyn Moore, to demonstrate the dilemma facing early career researchers and the pressure of publication timetables to ensure their tenure. She had been keen to do research relevant to practitioners and make use of her industry knowledge and contacts from her earlier practitioner career. Her shift from a practitioner-oriented PhD research project to a student experiment highlights the career pressures that exacerbate the academic-practitioner disconnect. The case relates the conflicting messages regarding publication opportunities, the academic reward system and concern for research relevance (Applegate & King 1999).

In another acknowledgement that the reward system militates against the practitioner relevance of IS academic research, Simon (2004) states: 'One wonders what changes might

be in store if academics were rewarded for ideas that business could translate directly into cost savings, improved productivity, or enhanced effectiveness'. Lyytinen (1999) also concurs with the view that incentives in IS research are not aligned to fostering relevant research or strong academic-practitioner relationships. Tenure policies encourage opportunistic research behaviours that tend to ignore practice (Lyytinen 1999). A survey of 4000 academics confirms that research is the overwhelmingly dominant criterion in determining academic salary (Lang 2003). Keen (1990) complains that despite the impact that books make, Journals are the currency of the tenure game. Books are not.' Mumford's habit of copublishing books with practitioner AR partners (1989) and books about her joint industry projects (2003) indicates that she felt it was worthwhile.

If academic reward systems were amended appropriately, it might reduce the loss of high quality academics. Weyuker (2001) describes her 'agonising' decision to leave academia, after 25 years as a professor, to do research in an industrial setting. She reflects that 'It was the best professional decision I have ever made... Scientifically, the work that I did in an industrial research lab is much more meaningful, useful and interesting than anything I did while an academic. ... it's a wonderful life'.

Senn (1998) states that 'the IS research community has an obligation to communicate its research findings, where investigations are meaningful, to practitioners in the language and though the media of practice. Currently that obligation is woefully unmet'. While he acknowledges that the current university reward system does not support such activities, he points to the external reward system in operation in the form of industry sponsored research (Senn 1998). He points out that a linkage that provides funding and research field settings is impacted by the relevance of IS research to practice. Despite the apparent logic underpinning this assertion, it has not triggered a sufficiently strong response from IS academia to address the situation.

While many have identified problems with the reward system, the degree of change required appears to be difficult to effect. Almost a decade ago, in an MISQ editorial Lee (2000c) reaffirmed that the academic reward system does not foster relevant research, stating: 'we need to recognize the necessity for organisational change... including the introduction of relevant research on a significant scale'. Furthermore, there are inconsistencies in what is stated as being desirable and what is rewarded, as seen in Bennis and O'Toole (2005): 'Deans may say they want practitioner-oriented research, but their schools reward scientific research designed to please academics'.

Fitzgerald (2001) calls for fundamental, revolutionary change to the whole system including the reward system. In an editorial to a special journal issue entitled 'The Role of

Business in IT Research', Saunders (1998) notes that 'changing the system is beyond the capability of any single individual. Yet a concerted effort of the academy may yield an infrastructure more supportive of research recognized for its relevancy. And now may be the time for change'. Robey and Markus (1998) believe that 'responsibility for making IS research more consumable lies with the senior leadership of our profession... Responsibility also falls upon the leadership of academic institutions directly engaged with practicing IS professionals to support the efforts of effective academics producing consumable IS research.' Lee's (1999) comments on the Marilyn Moore case support Robey and Markus' (1998) stance; namely that such institutional cultural matters are 'a challenge that senior members of the academic IS research would have the responsibility to take up'.

It is clear that changes to the reward system would have a beneficial impact on the academic-practitioner disconnect: 'When I talk with academics about doing work that's relevant to practitioners, they often say they would prefer doing that kind of work themselves, but their universities wouldn't support it... The only way we can get our field more useful is to start doing - and rewarding - work that can be read and applied by businesspeople', see Davenport in (Lytras 2005c).

This issue is further discussed in Section 2.2.14.

## 2.2.12 Students' role in the academic-practitioner relationship

As future practitioners, students are a significant stakeholder in IS academia and well placed to play a role in addressing the academic-practitioner disconnect. They provide a natural link between academics and practitioners through scholarship and teaching. Therefore, issues associated with linking research with scholarship (and teaching) provide a powerful means to facilitate the relationship. Currently, however, relatively little academic research finds its way into textbooks, or informs the scholarship of university courses. A survey on ISWorld (Gray 2001) reported that, while 82% of respondents rated publications in MISQ and JAIS as most important for their research, only 12% reported those journals as most important for their teaching, whereas 83% cited practitioner journals and trade publications journals as most important for their teaching.

Davenport and Markus (1999) identify the importance of considering students as important potential consumers of IS research. They argue that, if academics produce more practical research, it will be more applicable for inclusion into curricula. In this way academia may exert a more positive influence on students, encouraging their development as reflective practitioners. Doing so would create a stronger relationship with the field's future practitioners and 'build our influence in the practitioner community' (Davenport & Markus

1999), hence breaking the cycle of disconnect. Gill and Bhattacherjee (2009) also recognise the importance of 'the student client', as a crucial provider of resources (tuition fees) to IS academia.

The link between research, scholarship and teaching is a potentially powerful one for academics. Plosser, a member dean of the AACSB (1997), states that: 'One of the primary ways we show the corporate community that what we contribute is valuable is the knowledge we impart to our students. We prove ourselves by the success of what we teach and our students' contributions'. Sullivan, also from the AACSB (1997), states: 'If you are dealing with applications-driven research, the research can go into the classroom and reinforce learning, so that it can go right into the field...Both mutually reinforce the other'. Interestingly, Grant et al. (2005) found that academics saw the link between research and teaching as uni-directional, flowing only from research into teaching. Few believed that teaching enhanced their research.

Both Lee (1999) and Lyytinen (1999) also affirm the promising link between teaching and research in terms of textbooks. Lee (1999) views textbooks as potential distilleries of academic research. Lyytinen (1999) considers them to be the most important means of disseminating academic research to practice and a powerful way of shaping the thinking of these future practitioners. However Lyytinen (1999) acknowledges that textbooks quickly become out-of-date, and often do not incorporate significant reference to IS academic research. As this is often the only exposure practitioners have to IS empirical research, it can lower the practitioner's esteem for it.

Lyytinen (1999) is critical of the educational delivery in North America (where he has experience) which he considers inadequately prepares graduate students: 'makes them incapable (and clearly not motivated) of reading anything other than well-packaged "teaching hamburgers". No wonder, then, that managers and other professionals (our former students) don't read our research papers!'. He claims that, in his native Europe, the situation is different because graduate students are expected to read scientific texts. While he acknowledges that they may not enjoy doing so, it has longer term benefits for them as they are cultivated into understanding and valuing academic research, and more likely to implement it in their practice (Lyytinen 1999).

Keen's (1990) believes that the 'only solution to the problem of ensuring quality in diversity is to reiterate the need for more attention to scholarship and exegesis than just to "research".' Lee (2000a) also connects research and scholarship when he comments that our research 'for the most part is unteachable to our undergraduate and MBA students'. This may contribute to the situation where information systems as a core course within

undergraduate and graduate business studies has come under pressure (Weber 2003a). This has serious implications for the field, including loss of identity and declining enrolments, both of which would undermine the power of the field. As noted in the research relevance section of this review, Davenport and Markus (1999) establish a link between research relevance and strong student enrolments as a vital element of the academic field's survival. They warn that by not 'eating our own dog food', IS academia puts itself at risk 'in the emerging environment of corporate universities and distance learning' (Davenport & Markus 1999).

Fitzgerald (2001) questions the strength and genuineness of the academic-student relationship. Since books tend to be more readable for students, he claims that, if academics valued the relationship, they would publish more of their work in books, and book publication would then inevitably attract more academic reward. Increased book publications would also facilitate the establishment of a cumulative tradition (Fitzgerald 2001). Furthermore, if such a bond exists, academics would seek out more teaching opportunities rather than using research funding to 'buy out' of teaching commitments (Fitzgerald 2001). Lang (2003) claims that 'In the eyes of many IS professionals, the only purposeful role that academics fulfil is that of graduate training...'.

When considering the student relationship, Westfall (1999) reminds scholars that IS demands a measure of pragmatism compared to that of classic university studies such as philosophy and history: *TS* is not one of the cultural foundations of world civilization... people do not come to us to discover the meaning of life... Students come to us because we can provide skills that will help them get good jobs... Industry is happy to hire all the competent graduates we can turn out... If we can generate research that helps IS professionals do their work more effectively, so much the better'.

Student/curriculum issues have been the subject of important IS academic forums. A panel was convened at ICIS 2005 entitled 'What Matters?' to debate key issues of curriculum and graduate attributes (Grieves et al. 2005). Yen et al. (2003) report on the gap in curriculum perception between academia and practice. Keen (2004) used his keynote address to the ECIS 2004, to raise what he terms 'the 2+4 dilemma', whereby changes to graduate outcomes are years in the making, namely two years to change the curriculum, and four years to graduate the first cohort.

In addition to the research-scholarship-teaching linkages that may address the academic-practitioner disconnect, more active interventions have been proposed. Watson and Huber (2000) and others (Neville & Adam 2003) recommend integrating students into real-world industry settings to increase and improve academic-practitioner interaction. Klein and

Rowe (2008) see potential benefits in harnessing the practitioner background of appropriately experienced PhD students.

The student relationship ought to be of paramount importance to IS academia. It presents many opportunities to address the academic-practitioner disconnect.

# 2.2.13 Research approaches to address the disconnect

There has been wide-ranging debate about what constitutes appropriate research methods and approaches, and philosophical and epistemological paradigms for IS over much of its history (Klein, HK, Hirschheim & Nissen 1990; Myers & Avison 2002). The issue of diversity in research methods is a response to the historical dominance of positivist, quantitative research approaches. This situation arose out of the business schools' quest for academic respectability when the scientific method became fashionable because of its perceived rigour (Robey & Markus 1998). Nevertheless, efforts to promote qualitative approaches to address 'sticky, practice-based problems' are longstanding (Benbasat, Goldstein & Mead 1987).

It is a decade since Markus' declared: 'We have won the war, let us celebrate' in acknowledgement of the broad acceptance of qualitative approaches (Avison et al. 1999). Nevertheless, quantitative, positivist, research remains the overwhelmingly prevalent paradigm (Chen & Hirschheim 2004; Pratt et al. 2005). Arnott and Pervan (2005) report that over 80% of IS research is positivist. Many IS academics (Baskerville & Myers 2004; Carlsson 2006; Lee 1999) continue to champion non-positivist approaches and non-quantitative methods, especially arguing their case on the grounds of improved research relevance for practice.

Calls for diversity in research approaches, especially qualitative ones, have often been linked to improved interaction between academia and practitioners, and improved research relevance. Many including Germonprez and Mathiassen, Baskerville and Myers (2004; 2004), note the increased opportunity that AR offers for interaction and collaboration between IS researchers and practitioners. When advocating wider adoption of AR, Avison et al. (1999) state: 'to make academic research relevant, researchers should try out their theories with practitioners in real situations and real organisations'. Similarly, Lee (2001), in his final editorial for MISQ, renewed his call for the IS research community to embrace AR. Klein and Rowe (2008) especially recommend AR for Professionally Qualified Doctoral Students (PQDS). Furthermore, they claim that 'the chances of conducting action research effectively will be much higher for a PQDS'.

Ethnography has also been presented as a research method that has the capacity to bridge the gap between academia and practice, given its concern with the research context (Harvey & Myers 1995). Similarly, Benbasat et al. (1987) advocate an increase in case-oriented research noting its suitability for 'sticky, practice-based problems'... 'We believe that the case research strategy is well-suited to capturing the knowledge of practitioners and developing theories from it'. They emphasise the importance of understanding the real-world settings of IS practice when developing theory, and comment that innovations in IS usually come from practice rather than academia (Benbasat, Goldstein & Mead 1987). When departing as a senior editor of MISQ, Robey in (Lee 2001) appealed for more 'interesting' papers which use new avenues of enquiry to explore existing important, difficult problems that prior research efforts have been unable to resolve.

Greater research rigour has been used to promote positivist approaches. This is challenged by Lee (2006) who uses fundamental principles of logic to demonstrate that there is a common scientific basis for all types of research including quantitative, qualitative, positivist, interpretive, AR and design science. In arguing in favour of a wider more expansive acceptance of qualitative research, he makes the point that it is not the numeric nature of quantitative research methods that provide the scientific rigour, and therefore they are not inherently more rigorous than the other methods and approaches.

Lee (1999) views the positivist approaches which originated from the natural sciences as being inappropriately narrow for IS as they are theory-driven rather than practice-driven. He and Ngwenyama (1990; 2002; 1997) propose the Critical Social Theory (CST) paradigm, as a more promising foundation for IS research. They argue its greater suitability for social inquiry in fields such as IS. Using architecture as a reference discipline, they draw parallels with IS and explains its epistemological suitability: "Traditional theory [positivist] restricts itself to describing and explaining what it takes to be objectively "there", just waiting to be discovered and understood. CST, on the other hand, does not regard any aspect of nature or society to be objectively "there", just waiting to be discovered and understood, but regards it to be socially constructed reality, suitable for intervention in the interest of social betterment or emancipation' (Lee 1990). However, the ability for CST to deliver organisational change is challenged by Hirschheim and Klein (1994).

Others to argue for alternate philosophical approaches include Goles and Hirschheim (2000) who propose pragmatism as 'a welcome opportunity to improve the rigor and relevance of IS research. Pragmatism recognises the importance of theory... while subjecting it to the test of practice...' Similarly, Galliers (1993) concluded that the post-positivist research methods are far more appropriate to research the 'softer' organisational/managerial sorts

of topics considered critical by IS executives. In a similar vein, Arnott and Pervan (2005) note that the newer topic areas within DSS research coincide with newer research approaches: 'It is interesting that the more modern types of DSS are being researched with a more modern mix of paradigms than older types of DSS... this cannot be explained by the differences in focus of research, units of analysis, and research questions...'. Trauth and Jessup (2000) demonstrated that, when researching sociotechnical issues, an interpretive approach provided more significant evidence than did the positivist approach.

Panels have provided an important forum for this debate. At IFIP in 1990 research methods were a central issue in a panel entitled 'Relevance versus Rigor in Information Systems Research: An Issue of Quality' (Turner et al. 1990). One of the panel themes was concerned with 'the extent to which there is bias against non-functionalist research in the information systems community'. Orlikowski (a panellist) claimed that this bias is partly due to research training of IS PhD students (in the US) taking place in positivist-dominated business. She commented that 'we need to pay serious attention to these institutional barriers if we are ever to nurture the sort of diversity in information systems research that Peter Keen talked about in his keynote address, and which has been a refrain throughout our discussions here at this conference. ... By and large the Ph.D. dissertation should address both issues of rigor and relevance'. This is reflective of the Marilyn Moore case in (Applegate & King 1999) whose PhD experiences demonstrate the pressures for doing positivist PhD research: 'Once again she was discouraged from pursuing this line of "messy field research".

A decade on, the issue was revisited at the IFIP Working Conference on Realigning Research and Practice in Information Systems Development with a paper entitled 'Collaboration Between Academics and Practitioners Using Action Research' (Land et al. 2001). The persistence of the debate is evidenced in it returning at the IFIP 2004 conference. The theme 'Information Systems Research: Relevant Theory and Informed Practice', was intended to address the alignment of research practice and IS development (Kaplan et al. 2004). The preface of the proceedings repeats a call from IFIP W.G. 8.2 twenty years earlier when Mumford had declared: 'One of our areas of interest is research methodology ... discussing the need for new approaches. Our concern that traditional research methods can not adequately investigate social needs and problems.' The repetition was in response to continuing concerns that while 'some were celebrating the end of the "methods wars"...the work by others... who were employing innovative research approaches, was still being excluded from the discourse'. A whole part of the conference was assigned to AR papers, which is seen as being able to directly address the need for real-world relevance, 'as the method for researchers to "rub" theory and practice' (Kaplan et al. 2004).

Those arguing for change in research paradigm and method do so on the basis of moving the field forward in terms of research quality and relevance, and their appropriateness to an applied field such as IS. Gill and Bhattacherjee (2009) warn that new approaches require substantial investment of time and must be attractive for publication possibilities. Atkinson (2005) warns that it is critical to evaluate the outcomes of partnership-based research. The proposed research approaches are characterised by higher levels of involvement by practitioners, and concern for them, hence offer significant opportunities to address the academic-practitioner disconnect.

# 2.2.14 Knowledge Management

A primary aim of research is to generate new knowledge. Knowledge Management (KM) is fundamental in the academic-practitioner relationship, since knowledge sharing is the main link between the two parties. There has been extensive debate about problems with KM with respect to the academic-practitioner relationship. The disconnect is evident in KM where once again there are serious alignment problems regarding the interests of academics and practitioners. The KM debate is inextricably linked to other debates, such as research relevance and academic reward systems, and they will only be briefly revisited within this specific context.

According to Lang (2003) IS academia's two major objectives are to create new knowledge and to disseminate that knowledge and raise awareness of its potential applications. Kavan (1998) perceives lost opportunities in applying academic research to practice: 'Knowledge created but not shared has no value' and 'Knowledge for the sake of knowledge is self-defeating. Knowledge that can be applied (as in the case of the physician) is critical'.

## An Indication of the challenges faced in the KM domain

A significant part of the KM challenge relates to researchers' responses to issues of KM that have an underlying impact on the relationship with practice. A panel convened to debate Watson's proposals that IS journals should fully embrace and utilise Internet was notably and uniformly conservative in its members' responses. This is especially significant when considering the technologies' advanced state, and the panellists' status as leading IS scholars (Gray et al. 2006).

Willcocks' (a panellist) comment may raise concerns when considering the future of IS academia, and its need to influence and provide leadership to practice: 'I agree with Rick that the journals in IS do not fulfill the potential of the Internet. But as we know, IT capability is all too often a matter of IT solutions in search of business (or here, publication system) problems. I think this is somewhat the case with Rick's proposals. Yet I am not convinced that

electronic journals, encoded information, and a central, structured repository is necessary or inevitable, or deal with urgent or major problems. A good case can be made that we are still doing OK being in the partly paper, partly electronic world and learning as we go.' (Gray et al. 2006)

Watson's response to Willcocks makes clear his frustration and concerns regarding the immediate KM issue, and the wider implications for the future if IS academia is to play the constructive, influential role it should (Gray et al. 2006). The following lengthy quote provides insights on a number of issues relevant to this literature review. 'All journals will eventually be electronic. In the age of global warming, it is socially and fiscally irresponsible to continue with a high cost paper-and-postal based model. We preach that IS is an enabler of change and argue that the CIO needs to part of the top management team because IS is critical to innovation; but our record of change and innovation is lamentable. ... we can and should go much further.

'I am surprised by the panellists' response. First, there seems to be a strong reluctance to give up paper. Many readers have already given up paper subscriptions for the convenience of the anywhere, free access electronic library subscriptions....'.

'... there is a reluctance to see IS as a leader in encoding knowledge. Rather, I think we should take the lead in a core field of our discipline, knowledge management. Indeed, I believe that as IS scholars we have a responsibility to reinvent the academic publication system rather than leave it to the physicists, as we did with HTML. Too much of IS scholarship is studying what others have invented, or codifying the experience of others when we could be more influential and respected if we were creators rather than reporters.'

#### The systemic problem of academic rewards

The issue of lack of reward for academics to publish in practitioner journals is an obvious disincentive. The academic reward system is perhaps the most important yet unresolved issue. It resurfaces in many of the debates that influence the academic-practitioner disconnect. Despite its apparent obviousness and straightforward nature, with many leading scholars appealing for change, it remains unaddressed. If behavioural change is desirable, then the reward systems that underpins and influences it must be changed.

Many authors note that academics are most rewarded career-wise for publishing in highly-ranked academic journals, but are poorly rewarded for practitioner publications (Clark & Warren 2006; Fitzgerald 2001; Keen 1990; Ross 2006). The academics' perspective of top journals remains predominantly constrained by a view that they are a vehicle for career progression (Dennis et al. 2006; Lee 2007; Mingers 2002), hence limiting opportunities for

the consideration of issues such as relevance and the academic-practitioner disconnect. Davenport and Markus (1999) urge change regarding journal publication. They argue that, in order to get their research message out to practice, academics should publish in journals valued by practitioners such as HBR and SMR. This is problematic as the academic promotion and tenure system does not reward academics for publishing in these types of journals (Davenport & Markus 1999). Similarly Keen (1990) argues that there must be a move from 'who writes and who is cited to who reads and where is the citation'. For him the core question is: 'Whom does ISR want to influence?' (Keen 1990).

However, Westfall (1999) sees publishing in practitioner journals as an obligation: 'As academics we occupy a privileged position, with the opportunity to substitute research for teaching. This privilege implies a responsibility to share our research findings with the larger society in the most effective fashion. Practitioner-oriented publications offer opportunities to fulfil our obligation in ways that are not possible with academic journals. They have a larger circulation, and their emphasis on readability and interest make their content much more accessible to their readers'.

# The need for a broad, balanced view of knowledge

Precisely what constitutes academic literature or academic knowledge is difficult to define and open to a wide range of interpretations that may easily lead to conflicting assumptions. A narrow view of what constitutes academic literature is that it is limited to academic journal articles and published academic conference proceedings. A broader view might include textbooks, academic course materials and some less formal materials published on the Internet as academic literature. Except in academic journals, authors do not always declare themselves as being either academic or otherwise, hence leading to some confusion. This problem is evident in Teubner's (2007; 2005) work in an AR case where he explores the suitability of 'academic literature' to support practice. When noting the lack of resources in one area of the company, he refers to another as having 'many academic sources (textbooks, guides, tools)'.

Darroch and Toleman (2004) found that practitioners lack access and exposure to academic literature, leaving them confused or unable to comment. One interviewee remarked: 'I can't really comment because I don't really know... Amongst my peers at work, I don't know anyone that's into it [academic literature]'. Further, it was clear that others erroneously attributed Internet-based resources to academia.

Another relevant aspect of knowledge is its usefulness. Whereas academics prefer 'propositional' knowledge, practitioners prefer narrative and visual knowledge (Worren, Moore & Elliott 2002). One aspect of this is whether research questions are derived from

the academic literature or from practice-based problems (Worren, Moore & Elliott 2002). This divergence in focus of knowledge type exacerbates the academic-practitioner disconnect.

When considering KM, it is important to recognise different sorts of research. Dennis (2001) distinguishes between the two distinct contributions to society made by two subgroups within IS academia, and the two distinct constituencies that they serve. The first is by the 'priests of research purity' who contribute in the form of creating deep, new knowledge with a future focus, intended for like-minded academics (March in Dennis' 'knowledge exploration' (Dennis 2001)). The second is by 'the soldiers of organisational performance' who contribute by disseminating and applying that knowledge with a contemporary focus intended for practitioners and students (future practitioners) (March in Dennis 'knowledge exploitation' (Dennis 2001)). Dennis believes that managing the balance between the two is critical and that IS academics do a good job of knowledge exploration. However, he sees the need for significant changes and improvements in knowledge exploitation, and advocates emulating other professional schools such as Medicine and Engineering.

There is a need to restore some balance where both pure and applied research are respected. Innovative, pure research must be made accessible to practitioners: 'The business school officials also acknowledge that their institutions must do a better job of disseminating the results of faculty scholarship in forums accessible to practitioners and in language that is more easily understood' (AACSB 1997). There is an underlying need for an improved academic-practitioner relationship to capitalise on IS academic research.

### Problems in Knowledge Management (KM) processes

With regard to the academic-practitioner relationship, KM may be viewed as having three important processes. They are the creation of knowledge, the transfer of knowledge, and the application of knowledge in organisations (Alavi 2001). Problems may occur in any of these processes and exacerbate the disconnect. Addressing these KM problems has the potential to aid directly and significantly in resolving the academic-practitioner disconnect.

A study of the research-practice gap in Strategic Information Systems Planning found that the base problem was not lack of access to academic research on the subject, which was initially thought to be the case (Teubner 2007; Teubner & Mocker 2005). Rather, it was that the material was not relevant to the practitioners even when academics sourced and 'translated' it into more user friendly forms. It was concluded that it was a knowledge creation problem, i.e. a 'misalignment of topic selection/questions asked' problem. They had confirmed a lack of familiarity with academic literature. 'Our research precluded

communication barriers by translating the academic discussion directly into practical recommendations... managers were sceptical about the recommendations as well as the underpinning arguments drawn from the literature... they were sceptical about the relevance of the academic discussion'. Similarly, Alter (2003) states 'the most important question is whether we produce results that are potentially useful for IS professionals...'.

There are credibility problems with regard to academic knowledge. Senn (1998) sees the situation of relating IS research to practice as worsening. He cites the 1998 unbundling of the MIS Quarterly journal to Society for Information Management (SIM) members, which had previously been included in their membership. That this action prompted no outcry from the practitioner community, demonstrates a worsening of the situation (1998). SIM is the largest professional ICT organisation, with membership dominated by Chief Information Officers. The SIM board deemed MISQ to be no longer valuable to members, despite having received the journal since its inception in 1977. Gill and Bhattacherjee (2009) also interpret this incident as indicative of the drift apart of academia and practice. Instead, Senn (1998) sees the non-academic research community, as exemplified by the Gartner Group, as being a more sought after resource for ideas for practice. He conducted a series of semi-structured, in-depth interviews with CIOs who were overwhelmingly critical of IS academic research 'If I want to know what works or what's being tried, I'll pick up the phone and get a hold of my counterpart in other companies... With few exceptions, the academic IS community doesn't have a clue' (Senn 1998).

Darroch and Toleman (2004) also found that the knowledge problems associated with practitioner relevance are as much access and transformation problems as they are content (creation) problems.

Knowledge translation (AACSB 1997) is an important KM process which is not being fully utilized. An AACSB dean conducted a forum with industry leaders: 'We sat down and said, "Let's look at where the ideas came from"... the corporate representatives were interested and enlightened by the number of connections between what they practice and earlier faculty research'. This is reflective of the industry focus groups conducted by Rosemann and Vessey (2005, 2007) using DeLone and McLean's IS Success Model.

#### Journal publication

Journals are the lifeblood of all academic professions, including information systems' (Gray et al. 2006). There has been much debate about the role of journals in many aspects that relate to the academic-practitioner relationship.

Willcocks (Gray et al. 2006) raises serious questions about how well journals currently serve the field: '...what strikes me as a reader is how many papers offer uncritical or superficial use of theories and frameworks from other disciplines. Can we not, as IS authors, be better read and more critical? The papers also contain too much incremental testing but too little (scholarly) risk, innovation, and imagination. Are we driving these characteristics out of our authors by how we educate them, discipline them, and run our journals?'

Academic journal publication processes exert a strong influence on the direction, style and focus of IS academic research (Benbasat & Zmud 1999). This comes through in the mission statements, the review processes and editorial directions. Publication in academic journals is the key performance indicator for academic careers. It is widely acknowledged that academic journals value rigour to the exclusion of relevance, and in doing so reinforce the relevance problem (Benbasat & Zmud 1999). Benbasat and Zmud (1999) call on the leading journals to foster changes that will address the issue of research relevance through their editorial decisions/practices. Papers should be characterised by both rigour and relevance. Willcocks' (Gray et al. 2006) comments on the journal review process is complementary: 'Despite being carried out rigorously, too many published papers add little to our learning and knowledge. It is almost as if papers that cannot be faulted for their rigor get through the system immaterial of the value of what they say. They are a triumph of method over content, with many all too reminiscent of what C. Wright Mills called in his day 'abstracted empiricism'.'

There is growing recognition of the need for peer review of research, especially that funded by taxpayers, to be expanded to include end users (Sharma 2005). Sharma (2005), Deputy Vice-Chancellor (Research and Commercialisation) at QUT, recommends widening the peer review process to include users. Regarding research impact, he states: 'it is no longer sufficient in today's [economic] climate ... to say that one's research has impact purely because it is influencing the research of other researchers' (Sharma (2005).

The timeliness of the publication process in IS academic research has been raised as a hindrance to practitioner relevance. Another comment from Willcocks (Gray et al. 2006) refers: 'Too many papers are chasing too few publication spots. In these circumstances, how can what is published appear 'relevant' in such a fast moving field? And what are the consequent adverse effects on: (a) the research subjects we are pressured into choosing to offset long turnaround times, and (b) how our field is perceived by non-IS or practitioner readers?'

#### The MISQE journal initiative

The issue of making academic research available to practitioners through appropriate journal outlets has often been raised (Dennis 2001; Simon, SJ 2004). MISQE was setup in 2002 for this purpose (Rockart 2004a). Its mission is not only to disseminate practice-based research that is relevant and useful, but also to encourage academic researchers to undertake such research, and thereby encourage more meaningful research relationships between academia and practice (<a href="http://misqe.org">http://misqe.org</a>). It may be seen as an attempt to address the academic-practitioner disconnect: 'Our target audience includes both practitioners and researchers -- so that MISQE can stimulate ongoing discussions at the intersection of research and practice -- but our primary focus is research that is immediately relevant and useful for practice.' This appears to fulfil the intent of what Dennis (2001) described as the 'knowledge exploitation' problem when he suggested 'journals whose mission is to promote and disseminate research that is more relevant to today's practitioners'.

Over the period of its establishment successive editors have reported a series of changes to the journal all aimed at improving its management, as well as its attractiveness to academics to publish in it and practitioners to read it. These include new relationships with industry bodies (Rockart 2003), new types of articles (Rockart 2004b), a 'top ten' article listing (Rockart 2005a), focus on emerging topics of interest to CIOs such as outsourcing (Rockart 2005b), and Management Information Systems Discovery (MISQD) aimed at providing practitioner insights on academic research (Ross 2005).

Ross' (2006) editorial comment demonstrates the difficulty of convincing academics to undertake and publish research suitable for this journal. Again, the base problem is lack of appropriate incentives: 'The current issue of MISQ Executive—like the prior two issues—has been published late. The delay results from an insufficient pipeline of papers ready for publication. While the number of quality submissions is gradually increasing, we remain at risk of being late for another issue or two. We thank you for your patience as we grow out of our lengthy start-up phase. Our first few years of publication have convinced us that there is interest on the part of academics in doing research for practice and on the part of practitioners to learn from that research. But few universities offer incentives for publishing in practitioner-focused journals. Those researchers who have published in journals like MISQE find the rewards are related to the potential impact on practice, a satisfying outcome that is nonetheless quite different from tenure or promotion'. (Ross 2006).

The fact that MISQE has struggled should not necessarily be viewed negatively. Examples of decisive action in these debates are rare, and much can be learned from the experience. What the MISQE experiment suggests is that more changes are needed.

Another initiative, designed to encourage diversity, was the establishment in 1994 of MISQD. This had the goal of fostering 'the creation and electronic distribution of innovative work pertaining to the use of information technology for the creation and dissemination of scholarship' (Weber 2003c). By 2003 it had languished, having had only three articles published (Weber 2003c). Hence it may be seen that changing the publication habits of IS academics is a very difficult task.

It is interesting to note that, while MISQ remains unchallenged as the top IS academic journal, all of its spin-off journal projects, including MISQD, MISQR and MISQE, have struggled. It is likely that they have all been affected by the problems associated with the academic reward system.

Another example is the Journal of Information Science and Technology (JIST). Simon (2004) states that its establishment was partly motivated by the rigor versus relevance debate, and is aimed at bridging the gap between academics and practitioners. The journal encourages academics to form practitioner alliances or partnerships. It formalises that goal by seeking to publish at least one article per issue by a practitioner or partnership. A scan of the electronic journal does not make clear whether this goal has been met.

### Academic writing style and journal format

Opinions differ about the issue of the readability of academic writing. Lee (2000a) claims that academic research is generally unreadable by managers. Benbasat and Zmud (1999) propose that 'the vast majority of IS research articles should be crafted in a clear, simple, and concise manner such that they are accessible by all the potential readership.' The use of 'accessible' here means comprehendible, rather than available, which is a different aspect of the problem. Lyytinen (1999) refutes Benbasat and Zmud's (1999) assertion regarding writing styles. He suggests: 'instead I would expect that we educate our practitioners to appreciate brilliant intellectual efforts! Several IS phenomena are hard to understand and may demand difficult and esoteric language because they cannot be couched in the "common language". He cites the fashionable use of Heidegger in understanding design or use of IT (Lyytinen 1999). Since such a construction is unlikely to have application, it therefore lacks practitioner appeal. Further, the high probably of it not being understood by most IS academics, perhaps raises more questions than it answers.

Discussing the readability of academic publication without being specific about the intended audience and publication type is unhelpful as it tends to blur the issue. As pointed out by Alter (2001) the most basic concept in marketing is correctly identifying the customer, and in the case of academic journals he and others (Gill & Bhattacherjee 2009) believe that 'the customers' are IS academics. Straub and Ang (2008) are forthright in their

position regarding the target audience for academic research published in academic journals: 'Any academic journal written by researchers for researchers as the primary audience is simply not targeted for practitioners.'

The practitioner community has its own journals and publications such as HBR, the Wall Street Journal, and the New York Times (Alter 2001). Keen (1990) comments that HBR's influence is due in part to it being 'brutally clear about their audience.' Interestingly, Alter (2001) considers that IS academic journals have readability problems for academics as well: 'I am not particularly concerned that practitioners don't read MISQ or ISR very much because these journals are not directed toward them. I am frankly much more concerned with how difficult and often painful it is for an academic to read an academic journal. Articles in what are generally viewed as the "best" academic journals sometimes seem designed to be difficult to read due to: lifeless writing style, pretentious language... extensive reliance on statistical analysis that is uninteresting and unconvincing to most practitioners and many academics'. This is affirmed by Hirschheim (2008) when he states '... the language used by the advocates of Actor Network Theory (ANT) which is considered impenetrable by those outside the ANT community'.

There are many suggestions about how academic research may be made more palatable for practitioners. Benbasat and Zmud (1999) link the readability of academic research writing to the research relevance issue, which in turn impacts the academic-practitioner disconnect. Academic journals are often the only place of publication of IS academic research, and hence the only means available to practitioners to make themselves familiar with it. Benbasat and Zmud (1999) suggest the addition of 'reader-friendly executive overviews'. Similarly, Alter (2001) suggests that leading journals should publish articles in two formats. The first as a five-page overview that focuses on the research results and relevance, rather than the methodology and academic precedents (concerned with the 'rigour of relevance'). The second as a complete article, similar in form to that which is currently published (concerned with the 'relevance of rigour').

Robey and Markus (1998) also urge researchers to produce reports suitable for both practitioner as well as academic audiences. This involves writing in an appropriate style, and making the results available via a variety of accessible channels. Darroch and Toleman (2005a) followed this advice, by publishing research regarding the academic-practitioner relationship in a practitioner journal. However, their experience confirmed others' conclusions that the amount of work and lack of career rewards act as a severe disincentive. That these proposals have remained largely unacted upon for a decade indicates the entrenched nature of the problem.

Watson's strong call for change in (Gray et al. 2006) carries a note of disappointment, and concern that IS academia lacks an appropriate mindset to embrace its potential role as a leader in KM: I did not expect the panelists to embrace my ideas wholeheartedly and join me on the barricades of revolution. Change in the dispersed and individualistic academic community is slow, unless there is overwhelming recognition of an imminent threat. Rather, my goal ... is to stimulate disagreement with the status quo and engage the community in thinking of alternative ways of operating the key elements of our community... I firmly believe that IS will have a much rosier future if it becomes the change agent for moving the academic community to the Information Age. We have the skills, we understand the power of the technology, but we need to change our mindset from passive observers to active inventors. We are too wedded to the retrospective conservatism of the social sciences when I believe some of us should be inventors of the future.'

### 2.2.15 Proposed solutions

This review demonstrates that the IS field faces many serious, often interrelated, problems/challenges, all of which impact the academic-practitioner relationship. Left unaddressed these relationship problems threaten the future of the IS field, especially within academia.

Over the course of the debates many proposals have been put forward to address individual problems, most of which have implications for the academic-practitioner disconnect. Most of the proposed solutions are at a high-level, conceptual stage and are largely untested. Therefore it is likely that many subtle complexities and barriers would arise with their attempted implementation.

Many of the proposals are general in nature and are underpinned by ideas or recommendations for improved interactions and communications. Others such as the 'medical model' and Evidence Based Practice are more specific. They have a common focus of encouraging academia and practice to work together in a more synergistic manner and thereby improving the prospects of a thriving IS field.

#### Restructuring academic-practitioner interactions

Many of the proposed solutions to improve the relationship involve restructuring academic-practitioner interactions. Some of these including, for example, Davenport and Markus' (1999) academic-consultant model, assume an amended role for the academics concerned. Increased levels of engagement are also proposed in approaches such as Robey and Markus' (1998) joint academic-industry research partnerships and alliances. Lang (2003) and others (Darroch & Toleman 2007; Williams 2007) propose professional education

programmes. A panel was convened at ACIS to discuss 'Research Collaboration between IS Research and Industry: Can it work?' (Moody et al. 2000). In a complementary vein, Fitzgerald (2001) proposes that academics spend more time in industry (for example making use of sabbatical leave), and become familiar with current problems. This would, he suggests, engender greater respect for practice and greater credibility for academia. Using the Internet as an effective tool for connecting research and practice is a common theme (Moody 2002).

Many such arrangements may be contentious. Weyuker (2001) advises that in her experience, academic-practitioner alliances are very difficult to set up and maintain: 'Building successful collaborations is by no means easy. There are lots of overheads and lots of false starts'. She warns that 'Many practitioners view researchers as impediments'. Serva and Pearlson (1998) report on a failed academic-practitioner research partnership highlighting the challenges associated with their conduct. Political sensitivities within the organisational research environment led to the abandonment of the research project and the researcher had to find another site for his PhD field work. Similarly, Paper (2001) warns that establishing industry contacts and trust takes significant time. He claims that understanding practitioners, their needs and how they think is part of the rigour of field-based research.

An extension of restructured academic-practitioner interactions is the development of networks for sharing knowledge. According to Hirschheim and Klein (2003), the major means of avoiding or addressing the so-called IS crisis is to focus more on understanding the field's organisational stakeholders (practitioners). They advocate the development of social Knowledge Creation and Transformation Networks (KCTNs), that are inspired by the knowledge networks of established, successful fields such a medicine and engineering. These networks may involve a variety of stakeholders, including practitioners, consultants and industry researchers who through their involvement and feedback contribute to the knowledge processes. The members of the network will transform 'abstract research insights into understandable and action-oriented, practically relevant knowledge.' In academia, knowledge transformation may be evidenced in many ways, such as a contribution to scholarship for teaching, course materials and textbooks. Hirschheim and Klein (2003) acknowledge the importance of incentives to the effective operation of the KCTN.

In summarising the industry view of the current state of university collaborations, Kennedy (2007) states that 'we are still too unambitious; the bar for business-university partnerships should be set higher. ... university-business partnerships should serve to take both parties outside their comfort zones.'

#### Joint university-industry appointments

Moody (1999) proposes joint university-industry appointments whereby expert practitioners are hired as half-time university appointments. This idea is inspired by practices in the field of medicine. It is reflective of Borchers' (2001) proposal of 'practitioner scholars'. Such scholars would have involvement in both environments, where basic and applied research would merge. The proposal is to provide doctoral level education to highly successful, experienced IT professionals. The expectation is that they would conduct research with high levels of rigour and relevance. They would also bring positive changes to the teaching of students, so producing graduates who are better prepared for professional practice. Such programs would require new approaches to the doctoral program delivery to cater for prospective candidates' particular work and lifestyle needs (Borchers 2001).

### The emulation of mature, successful, applied fields: the 'medical model'

Of the many proposals put forward to address the academic-practitioner disconnect, the emulation of more mature, successful applied fields is a favourite. Dennis (2001) calls for IS to emulate the more successful professional schools such as medicine and engineering, which he claims have better interactions and do a better job of disseminating their research in a relevant form to practitioners. Lee (1999) also recommends following the lead of other applied fields such as medicine, law, engineering, and architecture. He explicitly identifies these fields as being 'professions' distinct from 'natural sciences' (such as physics and biology). He concludes that if we are concerned with the relevance of our research to practitioners then we should emulate inquiry in the professions, rather than the natural sciences (Lee 1999). Davenport and Markus (1999), are among many academics calling for IS to follow mature, successful applied fields. They explicitly warn against following the lead of other management disciplines, as many of them also suffer research relevance problems.

In proclaiming the 'medical model' as the ideal exemplar for IS, Moody (1999) describes it as 'a natural starting point in bridging the gap' and 'being academically respectable as well as being highly relevant to practice'. He notes that such applied fields have two primary objectives, namely to increase theoretical knowledge, and to improve practice. Medicine applies theory from 'pure', referent fields to solve its own practical problems.

Despite its popularity, there does not seem to be a clear picture of how the medical model might operate. Moody (2002) reports on a trial using the Internet to disseminate research findings to practitioners in an IS setting which mirrors another in the medical field. This Author was unable to find details of the outcome of the trial. The literature more commonly comments on conceptual issues such as Moody and Buist's (1999) claims that as an applied field, IS will achieve legitimacy through being 'practically useful' like the medical field which

is highly integrated between its research and practice. Davenport and Markus (1999) similarly describe the 'medical-model' where faculty also have clinical practices, and practitioners *do* read the academic literature.

#### An 'Evidenced Based Practice' approach

Evidence Based Practice (EBP) is a closely related initiative to the 'medical model', and has also been proposed as a means of addressing the disconnect and improving research relevance. A panel at ACIS entitled 'Evidence Based Information Systems: Bridging the Gap Between Research and Practice' debated the prospect that EBP might offer a new way of addressing 'two perennial issues have continued to challenge the IS community; the need to establish a body of research that is both academically rigorous and relevant, and the need to foster a productive synergy between IS researchers and practitioners' (Atkins et al. 2000). Evidence-Based Information Systems (EBIS) has been defined as 'a mechanism for facilitating informed decision-making and providing indications of valuable research directions through the promotion of conscientious, explicit and judicious use of current best evidence, as determined by the rigorous evaluation and synthesis of all evidential sources' (Atkins & Louw 2000b).

Great improvements in medical practice based on EBP inspired attempts to adopt it within Software Engineering (SE) (Dybå, Kitchenham & Jørgensen 2005). Evidence Based Software Engineering (EBSE) seeks to close the gap between research and practice by encouraging methodological rigour and practical relevance. While significant progress has been made in the development of EBSE, Kitchenham and others (Brereton & Budgen 2000; Budgen et al. 2004; Dyer, Shepperd & Wohlin 2005; John 2005; Jørgensen, Dybå & Kitchenham 2005; Kitchenham 2004, 2005a, 2005b, 2005c; Kitchenham et al. 2005) have identified significant differences between SE and the medical field which present difficulties.

EBP was also a key feature of Moody's (2002; Moody & Shanks 1999) trial of emulating the medical field. He notes the deleterious impact that the lack of professional accreditation in IS has on the academic-practitioner relationship (Moody 2002). This contrasts with the medical field where mandatory formal qualifications, journal subscriptions and updates to qualifications provide the basis for an inherently closer relationship (Moody 2002). Atkins and others (Atkins & Louw 2000a; Atkins & Sampson 2002; Atkins, Sampson & Shanks 2003) have also undertaken early work on EBP in IS. Darroch and Toleman (2005c) found that while EBP may have promise for addressing the academic-practitioner disconnect, there are significant operational challenges to be overcome before it is viable.

### 2.2.16 A summary comment

This broad review of the IS literature places the academic-practitioner disconnect as a common underlying thread in the major challenges faced by the field. It demonstrates that these challenges are long-standing and complex, and sufficiently serious as to threaten the long-term survival of the academic side of the IS field. There is a lack of empirical evidence, especially regarding the practitioner perspective on the relationship. Furthermore, despite extensive debate within academia, little progress has been made on any of these issues.

### 2.3 Literature from Other Fields

Webster and Watson (2002) suggest that in interdisciplinary fields such as IS, a scan of literature from other fields can be valuable.

Other fields reporting similar concerns to IS regarding the academic-practitioner relationship include management (Andriessen 2004; Aram & Salipante 2003; Shapiro, Kirkman & Courtney 2007; Van de Ven 2007; Van de Ven & Johnson 2006), Industrial, Work and Organisational (IWO) psychology (Anderson, N, Herriot & Hodgkinson 2001), health management (Connelly 2000), public administration (Srtreib, Slotkin & Rivera 2001), and librarianship (Booth 2003; Booth & Brice 2004). This literature largely reflects the analysis within IS, especially regarding suggested remedies. Anderson (2001) reports that an ever-expanding array of forms of the 'academy-industry relationships' have emerged, and notes the complexity of managing such relationships. While the examination of the problem provides some interesting insights, there is a dearth of reported action and proven solutions.

### 2.3.1 The Management field

The research-practice gap has been debated at length within the management discipline, especially in terms of research relevance and knowledge management.

Starkey and Madan (2001) explore the issue of research relevance and the academic-practitioner relationship from the perspective of knowledge creation and dissemination processes. Research is viewed as the main knowledge creation tool, and teaching the main knowledge dissemination tool (Starkey & Madan 2001). Criticism is levelled at how these functions are being performed, and universities are considered to be organisationally inflexible (Starkey & Madan 2001).

The mandate to create knowledge in universities is via research and, since Business Schools' research is seen to lack relevance, they are seen to be out of touch with stakeholders (Starkey & Madan 2001). Academics and practitioners need to maximize their

interactions where they can discuss and pursue common interests (Starkey & Madan 2001). Networks and partnerships are essential to address the academic-practitioner divide. They provide crucial insights for academics faced with the dual challenges of rigour and relevance and give practitioners a means to access knowledge (Starkey & Madan 2001). Starkey and Madan (2001) pose the question: 'How are practitioners to be made aware that relevant research does exist?' They note that practitioner outlets do not normally cater for the dissemination of research. Networks of stakeholders (including practitioners) must have an integrated engagement throughout all stages of the research process, from the earliest scoping of projects to the final dissemination of research findings. Being part of a network is an important means of accessing the knowledge that is generated (Starkey & Madan 2001).

In the absence of a workable model, Starkey and Madan (2001) propose a form of intermediary role as an independent 'knowledge broker'. This involves forming networking partnerships with organisations such as consultancies and think-tanks, and employing innovative modes of dissemination (Starkey & Madan 2001). Such collaborative networks should focus on creating partnerships between academics and practitioners, described by one professor as a 'mutual education society'. Despite the apparent benefits, few universities provide such opportunities (Starkey & Madan 2001).

Criticism levelled at how the publication and teaching functions are being performed raises fundamental questions about Business Schools' educational role/mission, and calls for reform (Starkey & Madan 2001). Starkey and Madan (2001) emphasize that the teaching role in academia has become neglected and undervalued, and must be restored as the main dissemination route for research to practice. University teaching is the primary avenue through which practitioner managers access university research, assuming that it is incorporated into the coursework (Starkey & Madan 2001). Business is interested in the application of knowledge rather than knowledge for its own sake (Starkey & Madan 2001). Starkey and Madan (2001) warn of the dangers of outmoded curricula and academia failing to respond to changes in the external environment.

From a pragmatic perspective it may be considered that learning is incomplete if it does not enhance the capacity to take action (Starkey & Madan 2001). Academics need to embrace innovative, 'out-of-the-box' teaching and research methods, and acknowledge the need to have business leaders play a role and share responsibility for determining educational priorities and directions: 'Academics need to convince practitioners that they can help in building both the knowledge base and the learning capacity of the organisation' (Starkey & Madan 2001).

Changes are needed in the relationship. Starkey and Madan (2001) comment that bridging the gap between academia and practice requires changes in the mindsets of practitioners as well as academics: 'Practitioners need to be more reflexive about their own learning and the effects of their existing knowledge and mindsets'. The knowledge economy will reward those who can create, collect and deliver knowledge in innovative and effective ways (Starkey & Madan 2001). Starkey and Madan (2001) conclude that 'Managers and academics need to engage each other in a dialogue about the nature of knowledge and to educate each other to their needs in the joint development of a mutually beneficial research process'.

Similarly, Shapiro et al. (2007) express concern about the lack of impact management research has on practice. They describe the 'research-practice gap' in terms of a 'knowledge translation problem' which is similarly reported in the IS literature when Hirschheim and Klein (2003) propose 'knowledge creation and transformation networks.' The term 'lost before translation' refers to the knowledge production process, and the term 'lost in translation problem' refers to the knowledge transformation process (Shapiro, Kirkman & Courtney 2007).

A survey by Shapiro et al. (2007) of Academy Of Management (AOM) members sought to understand whether either of the knowledge management processes was considered contentious, and what action may be required. They make the interesting observation that 'if there is a meaningful gap between management research and practice, it can only be closed if individual AOM members change their knowledge transfer and/or knowledge production processes. Yet members will only change these processes if the proposed solutions fit their perceptions of the problem.' (Shapiro, Kirkman & Courtney 2007). They later comment that the 'most important conclusion ... is that AOM members... do perceive a gap between management research and practice and are at least somewhat concerned about it.' However, this is tempered by their finding that tenured academics are less concerned about the gap and the knowledge transfer process. A likely explanation is that '... most prolific academic researchers... have enjoyed productive careers focussed on publishing in top-tier journals... tend to be less concerned about practice since it may be sufficiently gratifying for their work to be highly regarded by other academics' (Shapiro, Kirkman & Courtney 2007). They conclude that it is logical that those with greater job security and success are less concerned about the research-practice gap: 'Undoubtedly, these academics perceive much risk and, potentially, little return in such changes' (Shapiro, Kirkman & Courtney 2007).

Shapiro et al. (2007) identify a lack of systematic enquiry into the research-practice gap. They judiciously argue that, whether it is a knowledge production problem or a knowledge transfer problem, the solution must be tailored to fit whatever is the real problem.

Van de Ven and Johnson (2007; 2006) also write about 'the gap between theory and practice' in the management field, framing it as a knowledge management problem. This gap may be viewed as 'different and distinct kinds of knowledge' (Van de Ven & Johnson 2006) which is similarly reported in the IS literature by Mårtensson and Lee (2004) as 'knowledge heterogeneity'. They examine three different aspects of the problem. Firstly, they examine it as a 'knowledge transfer' problem, which means that there are problems translating and diffusing research knowledge into practice. Secondly, they examine it from the perspective of the distinct but complementary nature of the two bodies of knowledge belonging to research and practice. They base it on the concept of arbitrage, to exploit the differences in knowledge that scholars and practitioners can contribute to a problem. Thirdly, they examine it as a 'knowledge production' problem that, while it acknowledges the applied nature of the field, also recognises that the reward system of academia militates against research relevance.

Van de Ven and Johnson (2007; 2006) also propose a solution of 'engaged scholarship' wherein 'researchers and practitioners coproduce knowledge that can advance theory and practice in a given domain.... to bridge the gap between theory and practice, we need a mode of inquiry that converts the information provided by both scholars and practitioners into actions that address problems of what to do in a given domain'. In this context engaged scholarship is defined as a 'collaborative form of enquiry in which academics and practitioners leverage their different perspectives and competencies to coproduce knowledge about a complex problem or phenomenon that exists under conditions of uncertainty found in the world.' (Van de Ven & Johnson 2006) This is somewhat reflective of Mode 2 Knowledge, as described in the APITF (Section 3.2.4). Such an approach not only helps deliver relevant research to practitioners, but also offers opportunities to generate higher quality theoretical knowledge (Van de Ven & Johnson 2006).

Rynes et al. (2001) report a crisis in the field of management research, claiming that it is caused by a loss of relevance coinciding with increasingly sophisticated research techniques. The lack of empirical evidence is noted: 'Although volumes have been written about the probable causes and consequences of this gap, surprisingly little empirical evidence exists concerning the various viewpoints. ... although many claims continue to be made about the nature of the academic-practitioner interface, the vast majority are based on personal predilections and anecdotal evidence rather than on solid empirical data.' (Rynes, Bartunek & Daft 2001). They describe the origins of the gap to be "deeply embedded in academics' and practitioners' most basic assumptions and beliefs... suggested that academics and practitioners have fundamentally different frames of reference with respect to such things as the types of information believed to constitute valid bases for action... notable differences

between academics and practitioners with respect to the goals they seek to influence, the social systems in which they operate, the variables they attempt to manipulate, and acceptable time frames for addressing problems' (Rynes, Bartunek & Daft 2001).

The challenges of effective interaction are also highlighted: 'different groups as academics and practitioners often experience difficulties in learning from one another' and 'many observers are sceptical about whether closer relationships are possible' (Rynes, Bartunek & Daft 2001). The importance of 'good social relations between academics and practitioners for successful knowledge creation... team- and trust-building activities' are also emphasised (Rynes, Bartunek & Daft 2001).

The sharing and transfer of knowledge between research and practice remains challenging: 'suggest that practitioners are either less motivated, or less able, to process written, declarative information than information presented in other ways' (Rynes, Bartunek & Daft 2001). However the following evidence affirms the importance of contextualising knowledge, face-to-face communication and innovation in dissemination: 'When we went over the data, it really, really helped to have the researcher interpret the results ... if you just gave that output to people to read, they wouldn't... with interpretation of the data and a summary and then a discussion of the data and its relevance, that's really where it's at. ... Thus, academics who are interested in disseminating research to those who might use it will generally have to find ways to both motivate and enable practitioners to process and use academic findings, even those with direct implications for practice' (Rynes, Bartunek & Daft 2001).

Alternative research approaches have also been proposed from the management field. For example, Aram and Salipante (2003) suggest that other ontological and epistemological approaches, aside from the traditional positivist natural-science model, must be considered. Approaches that emphasise context, such as AR conducted under an interpretive paradigm, are especially appropriate. They assert that such an approach would represent 'potential intellectual bridges across the academic-practitioner 'relevance gap" (Aram & Salipante 2003). Likewise, Andriessen (2004) argues that the quantitative methods favoured by academics result in research that has little useful value for practice. He recommends methodological approaches inspired by design science and a form of AR to 'reconcile the rigour-relevance dilemma' (Andriessen 2004).

Vaast (2004) promotes the use of internet technology to facilitate communication between academics and practitioners. In particular, intranets have great potential to support linkages between local Communities of Practice (CoPs) to form wider Networks of Practice (NoPs). Lost opportunities for academia to influence practice have also been reported in the

management literature. An example of this is the overvaluation of Internet firms which led to the dot.com crisis (Arend 2006).

### 2.3.2 The Industrial, Work and Organisational (IWO) psychology field

The IWO psychology discipline also has concerns about the widening disconnect between academics and practitioners (Anderson, N, Herriot & Hodgkinson 2001). The consequences of this are *'irrelevant theory'* and *'untheorized and invalid practice'* (Anderson, N, Herriot & Hodgkinson 2001). This is characterized by stereotypical perceptions from both parties. Researchers consider that practitioners follow unsubstantiated fads, while practitioners consider that researchers are obsessed with rigour and are unconcerned with the real world.

Anderson et al. (2001) propose a four quadrant model shown in Figure 1 based on axes of practical relevance and methodological rigour. In this schema, 'pragmatic science' is the desired mode, producing research high in rigour and relevance. However environmental forces influence practitioners toward 'popularist science', and academics toward 'pedantic science'.

#### Methodological Rigour

Low		High
High	Quadrant 1	Quadrant 2:
Practical relevance	Popularist Science	Pragmatic Science
<u>relevance</u>	Quadrant 4:	Quadrant 3:
Low	Puerile Science	Pedantic Science

Figure 1: Anderson et al. Research categories

Anderson et al. (2001) consider that methodological rigour, together with the associated standards of evidence, is an issue that must be resolved in terms of what constitutes valid knowledge creation. They question the suitability of the conventional natural/physical sciences model (positivism), and propose that the more contextually sensitive, socially distributed model (interpretivism) may be more suited to the contemporary problems in the field. They recommend a wider range of research methods be adopted, including 'scholarly consulting' or AR that is characteristic of the 'pragmatic science' quadrant (Anderson, N, Herriot & Hodgkinson 2001).

Anderson et al. (2001) argue that the choices made by both academics and practitioners regarding the exercise of their resource/reward power is pulling the field further away from 'pragmatic science', and pushing the two groups further apart. The situation is damaging to both groups, as well as negatively impacting society (Anderson, N, Herriot & Hodgkinson 2001). They claim that the only meaningful action is political activity to gain the support of other stakeholders such as government and professional associations to address the issue of stakeholder power (Anderson, N, Herriot & Hodgkinson 2001). It is asserted that many of the actions proffered to address the drift (such as exchange sabbaticals and visiting keynote speakers) treat the symptoms rather than the causes, and 'will not have the desired effect unless political issues of stakeholder power are addressed' (Anderson, N, Herriot & Hodgkinson 2001).

Academics, through their control and management of the academic reward and progression system, are aiding the drift away from 'pragmatic science' toward 'pedantic science'. Similarly, practitioner stakeholders, through the adoption of fad remedies and the hiring of consultants, use their power to push toward 'popularist science'. Anderson et al. (2001) propose the 'scientist-practitioner' role as a means of achieving 'pragmatic science'. They openly acknowledge the challenge of implementing such an initiative (Anderson, N, Herriot & Hodgkinson 2001).

#### 2.3.3 The Public Administration field

The relevance of public administration research to the practitioner is addressed by Srtreib et al. (2001), who feel that the practitioner perspective of research has been neglected. As in IS, a prior lack of academic rigour has now been largely addressed, and it is not necessary to compromise these gains when aiming for increased relevance. There is little overlap between practitioner managers' interests and the research material in the premier academic journal. Concern is raised at the fragmented and unguided nature of academic research. In common with other fields reviewed herein, potent factors are the academic promotion and reward mechanisms and the powerful role journal editors play in determining the research agenda (to the exclusion of practitioners).

Srtreib et al. (2001) note the medical discipline's high levels of research relevance and close linkages between academics and practitioners, in contrast to their own situation. A melding of academic research and practitioner knowledge requirements is recommended as being the laudable objective for the discipline. The authors, somewhat gently, suggest that the findings in their paper will encourage academics 'to give additional thought to the possible benefits of any new research that they undertake' (Srtreib, Slotkin & Rivera 2001).

### 2.3.4 Medical-inspired Evidence Based Practice

The implementation of EBP is most widely associated with medicine where it has made a significant impact (Booth 2003). Consequently, it has spread to a broader range of healthcare fields including nursing, pharmacotherapy, dentistry, and complementary medicine (Booth 2003; Richardson 2002). Its reach now extends to a diverse range of other disciplines, including social work, education, human resource management, criminology and librarianship (Booth 2003).

EBP may be defined as 'an approach to a discipline's work that promotes the collection, interpretation and integration of valid, important and applicable user-reported, practitioner observed, and research-derived evidence. The best available evidence, moderated by user

needs and preferences is applied to improve the quality of professional judgements.' (Booth 2003).

The term Evidence Based Medicine was coined at the McMaster Medical School (Canada) in the 1980s to identify the approach that was pioneered there over the preceding decade (Rosenberg & Donald 1995). It was inspired by the early work of Archie Cochrane, a Scottish-born epidemiologist (Information Services n.d.).

The motivation for Evidence-Based Medicine (EBM) has several facets. In part, it is a response to information overload (Sackett et al. 1996). It aims to distil relevant, quality information while at the same time removing large amounts of distracting information that is either out of date, invalid or irrelevant (Nissen 2005; Rosenberg & Donald 1995).

Another concern being addressed by EBM is that clinical decisions may sometimes be based on out-of-date primary training, or be overly influenced by experiences with individual patients within a clinicians' experience (Haynes & Haines 1998; Rosenberg & Donald 1995). The awareness, over decades, of a gap between research evidence and clinical practice, the attendant consequential cost to society and the potential harm to patients' wellbeing, have prompted the push for EBM (Rosenberg & Donald 1995).

The practice of EBM means integrating individual clinical expertise with the best available external clinical evidence from systematic research (McKibbon 1998; Sackett et al. 1996). This makes it appealing to other fields where there are concerns about the lack of impact on practice of academic research and a divide between academia and practice.

An essential element of the EBM success is its significant infrastructure and resources which include the Medline bibliographic database and the Cochrane Database of Systematic Reviews (Rosenberg & Donald 1995). The UK Cochrane centre was established in Oxford in 1992 by the National Health Service. It provides training and support to its entities (centres, review groups, networks) (Information Services n.d.). The Cochrane Collaboration was established in 1993, and is an international non-profit and independent organisation 'dedicated to making up-to-date, accurate information about the effects of healthcare readily available worldwide. It produces and disseminates systematic reviews of healthcare interventions and promotes the search for evidence in the form of clinical trials and other studies of interventions' (Information Services n.d.). The need for such facilities is exemplified by the comments of a past Dean of Harvard Medical School who observed: 'Half of what you are taught as medical students will in 10 years have been shown to be wrong. And the trouble is none of your teachers know which half."' (User Education Services 2004).

EBM is not universally supported within the medical and paramedical professions (Baltzan 1998). There is concern that EBM results in top-down 'cookbook' medicine. This is refuted by the advocates who say that the important roles of clinicians expertise and patient preferences will not allow that to happen (Sackett et al. 1996). Some clinicians perceive EBM to be a threat to their expertise and positional authority (Rosenberg & Donald 1995). These issues need to be considered by other fields contemplating EBP adoption.

Librarianship is another discipline where the EBP approach has been proposed, with the aim of bridging the research-practice gap. There are long-held concerns in the librarianship discipline that much of the research emanating from the academic side lacks relevance for day-to-day practitioners (Booth 2003). Typically practitioners do not make good use of the available research as they find that it is either divorced from their areas of concern, or that the presentation impairs understanding and application (Booth 2003).

There is obvious appeal for other fields to follow the example of medicine. However, it is necessary to take account of the many challenges which are inherent in EBP adoption. Furthermore, close scrutiny of the differences between medicine and other fields will expose other issues requiring consideration.

### 2.3.5 A summary comment

From this review it is evident that the problems faced by IS are common to other newly established, applied fields, especially among business schools. Likewise, there is a commonality among the solutions proposed, all with a familiar underlying theme of 'any solution must start with the premise that academics and practitioners should spend more time together, appreciating and understanding each others' worlds better.' (Shapiro, Kirkman & Courtney 2007). Shapiro et al. (2007) call for 'further research and experimentation' to determine what may close the research-practice gap.

### 2.4 IS Academic Literature: Key Direction-Setting Papers

When discussing the relationship between literature reviews and demonstrating contribution, Webster and Watson (2002) emphasise the importance of 'providing calls from well-respected academics to examine this topic'. This section explores the papers (all from well-respected academics) which most inspired the researcher and provided key influences that shaped the direction of this research.

### 2.4.1 Hirschheim and Klein: "Crisis in the IS Field? A Critical Reflection on the State of the Discipline"

Straub (2003) describes Hirschheim and Klein as 'two well published and highly respected IS scholars'. Their paper is outstanding in providing the overall context and basis for this research, the main aspects of which are discussed below.

Hirschheim and Klein (2003) make an explicit, priority call to investigate the practitioner perspective on the academic-practitioner relationship:

'As researchers, we must ask ourselves: is there anything that we can do to illuminate the issues at stake from a longer-term perspective? For a start, we believe that research should be undertaken in at least two areas: There is a need 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. As an applied discipline, we need to better understand what each community expects from the other.'

'... we need research on how all the various stakeholder groups come to understand IS and how they form their perceptions about the proper role of IS as an academic discipline';

They provide a definitive characterisation of the problematic state of the academic-practitioner relationship, as a disconnect arising from communication problems:

'... we find that the IS discipline suffers from two problematic structural patterns: a number of significant communication gaps, which we term "disconnects." ... there is a significant disconnect between IS practitioners and IS academics that is well known. IS practitioners feel academics live in ivory towers engaging in research that is devoid of any practical relevance. IS academics, on the other hand, feel that practitioners do not understand the need for theory and are only interested in vocational training...The feedback control loop to practice has been lost entirely; research remains entirely in the ivory tower.'

They make clear that addressing the academic-practitioner disconnect is a necessary precursor to resolving the research relevance problem, thereby creating an explicit link between the two issues. An obligation of IS academia to its societal stakeholders is also identified.

'First we cannot make our research more relevant for external interests, unless we understand their ways of thinking and doing.'

"... we reached the conclusion that IS research needs to advance on two fronts. First it needs to target research on better understanding its external constituencies - who they are, what they want and what they need (which may not be the same). This in turn might then also lead to advancement on the second front, viz. providing the motivation and direction required for overcoming its internal deficits of relevance and generalization."

'... the real causes for the perceived lack of relevance – at least as we see them – are the disconnects between IS research and the external stakeholders: practitioners, executives, and ultimately political leaders and their constituencies supplying the financial support for university research and teaching.'

Their call influences the style of this research as it indicates the need for it to be conducted in an in-depth manner, and to employ a research approach that facilitates extended and high levels of interaction between the researcher and practitioners:

'Study our stakeholders' "forms of life" to better understand their "being," i.e., their timeframes, lifeworlds and expectations. ... By trying to understand how our external stake-holders work and live, we do not unduly cater to them or become dependent on them, but, of course, we cannot understand them unless "they" let us into their forms of life.'

Their concerns about the relationship with practitioners are deep and longstanding:

'... we feel particularly uncomfortable with the current state of the IS field because we see certain underlying structural patterns that give us serious cause for concern.'

'The external issues of the field were touched on in Hirschheim and Klein (2000) where we first started to worry about the field's disconnects with its external stakeholders. Some of these concerns were also foreshadowed in an earlier paper which looked at societal change and its potential impact on the field (Klein, HK & Hirschheim 1987).'

This paper also positions the academic-practitioner relationship as a central issue within the broader context of the troubled state of the IS academic field. They directly link improving the academic-practitioner relationship to avoiding a crisis within IS academia:

'In either case, we feel that some underlying structural patterns in IS are in definite need of attention because they could portend trouble in the longer run (possibly even in the short run). Rather than proposing a radical transformation of the field, we believe that taking 'corrective action' could be sufficient... We feel such corrective action is necessary regardless of whether the field is actually in a state of crisis at this very moment... If the field is not in crisis, then our paper should be interpreted as advocating 'proactive change' as a way of avoiding a crisis.'

This paper further provides the basis of the research contribution made by the Author's work by indicating the imperative nature of the research problem, directly linking it to the survival of the IS academic field:

'... we find that the IS discipline suffers from two problematic structural patterns... These lead to at least the following major threats: intellectual rigidity and the subsequent lack of fruitful discipline-wide communication; and a lack of relevance leading to possible emasculation through dispersal into other disciplines or business functions or through "offshoring." If so, the institutionalized IS discipline, as we know it, may cease to exist...

Unless the academic leaders of the field begin to address these structural threats, they will eventually undermine the viability of the field.'

'The main body of this paper has been built around the idea that there exist significant communication gaps in the field - both internally and externally - and that these gaps are a serious concern for the future of the field. More pointedly, if we do not address these gaps - and address them soon - we may not have any field to worry about in the future.'

# 2.4.2 Desouza et al. "Beyond Rigor and Relevance Towards Responsibility and Reverberation: Information Systems Research that Really Matters"

As the title suggests, this paper takes one of the key challenges in the IS field beyond its traditional boundaries and attempts to invigorate the debate in a way that will deliver new opportunities for IS academia (Desouza et al. 2006).

Overall, the paper contributes to the shape and direction of this present research by challenging the status quo, and stimulating a sense of optimism and possibility that IS research can deliver on its full promise. The paper inspires a vision of how academia should relate to practice as a major stakeholder and consumer of IS academic research. It positions IS practice at the centre of the field in terms of considerations of what should be important to IS researchers. The paper's specific influences are as follows.

While the focus on practitioners carries with it an imperative to deeply engage with them, it highlights the fact that effective academic-practitioner interactions are not necessarily easily achieved:

El Sawy in (Desouza et al. 2006) 'I think the most significant problem is that the nature of the interactions between the academic and practitioner community are not structured to yield maximal benefit for research that matters. First, it is only a very small percentage of IS academics who take advantage of the deep intuitive knowledge that reflective managers can have in generating non-obvious research hypotheses from the field. Second, it is also a very small percentage of practitioners who feel comfortable and know how to usefully interact with academics around research issues that lead and impact practice.'

The description of research that is both 'responsible' and 'reverberates' sets the tone for this research by elevating the debate beyond the usual considerations:

El Sawy: 'Let me comment on "Reverberation." Sometimes (and perhaps more often than we care to admit), we see research papers or studies that are both rigorous and relevant, but that are flat and uninspiring...This "reverberation" typically comes about when there is deep engagement between academics and practitioners, and the researchers are passionate about their topic... research without passion robs us all of the creative potential that is inside each of us and which produces our best work.'

Galliers: 'For the most part, unfortunately, I do not think we have moved to a position of doing research that reverberates and is responsible.... In order to be more responsible and to undertake work that reverberates, we have to take greater risks.

Loebbecke: 'How can we talk about responsibility, if we live in a system where practically all the (research) work is for keeping ourselves happy?!... In order to pursue IS research that really matters, we would have to give up on our promotion paths.... Successfully doing such kind of IS research would have to be reflected in PhD and tenure decisions. So, for now, unfortunately, I would not recommend PhD students or junior faculty to aim for 'IS research that really matters.'

Watson: 'Another one of the important problems for IS researchers is that we are still hostages to the paper and postage system thinking of the last century.... Imagine a business that did not .... We would ridicule it, but aren't we rather ridiculous in our lack of adoption of the very technology we study and teach'... Finally, I don't think we have reached a point of doing IS research that is responsible and reverberates. We have not accepted that we have a responsibility for addressing important societal problems.'

While their paper draws attention to problems within the IS academia, it also hints at the positives that are on offer if the problems in the academic-practitioner relationship are addressed:

El Sawy: 'believes that a prerequisite to doing research that makes a visible impact on society is understanding how to do so, including how to more effectively structure and shape the way that practitioners participate in IS research, while leading rather than following industry practice... we need to seek more creative ways to use practice to creatively inform theory in the IS area and proposed different ways of mixing academics and practitioners in structured discussions... [El Sawy says] It is his belief that through structuring these interactions more judiciously, it is much more likely we will craft research that is not only theory-driven but also practice-focused.

The commentary also reaffirms the importance of a holistic view of academia linking research and teaching:

Galliers questions: 'does our research impact our teaching?'

Watson: 'Our students need us to bring our research into the classroom to give them an enriching and firsthand experience.'

There are strong calls for changes that encourage a 'reforming' approach and agenda that have influenced the approach taken during this present research:

Desouza: 'The area that I think is neglected is the aspect of encouraging risk-taking in doctoral research. Risk-taking behavior should be encouraged and not discouraged during the doctoral training program. Most students are told not to do risky research and to focus on studying traditional problems by augmenting traditional theories. The end result is that they are trained from the onset to value the status quo. Radical

innovation is discouraged in favor of getting papers out of the dissertation in top-tier journals in our field, all of which do not yet encourage risky research.'

Watson: 'In terms of moving the field ahead, I think there is a significant role to be played by our senior leaders. Senior leaders of our field can promote significant research by encouraging new types of research undertakings mentoring junior faculty, and reforming the current incentive schemes of our academe. However, we will not be able to bring about change without making promotion and tenure decisions at the department level. Change and innovation are shackled by tradition and what might have mattered a decade ago. We need to realign incentives with wealth creating and societal problem solving research.'

Loebbecke: 'So I dare to push it as far as saying, I define significant IS research as IS research that is significant beyond academia, being important to real life, and influencing businesses or societal aspects. Significant research must impact people beyond tenure candidates, journal editors, and promotion committee members.'

'It is our hope that the panel at ICIS, and this commentary, will lead to serious discussion in the IS field about reforming current practices of research. IS research has the potential to make significant impacts on our society, and it will remain an untapped reservoir of knowledge and expertise, unless we are able to position and leverage it optimally.'

### 2.4.3 Mårtensson and Lee: "Dialogical Action Research at Omega Corporation"

The Mårtensson and Lee paper (2004) is instructive to the conduct of this present research for the detailed behavioural descriptions of the relative roles and responsibilities of academics and practitioners in forming highly functional research relationships. Such a focus is rare in the wide array of AR literature, and particularly valuable to this research. The importance of distinguishing differing, but complementary, roles between researchers and practitioners is crucial when designing research that is concerned with the academic-practitioner disconnect. As this paper is more a 'technical' reference than an opinion piece, it lends itself less to the inclusion of quotations. Furthermore, Dialogical AR is an important element of the APITF, and is examined in detail in Section 3.2.2.

The essence of the researcher and practitioner roles is highlighted in the following quote which emphasises the importance of respecting the differing knowledge of each party, as well as the necessity of having both kinds of knowledge:

Dialogical AR, as proposed, described, and illustrated in this paper, can be seen as an approach rooted in combinations of several dimensions of **both...and**. First, there is the copresence of both the knowledge of the scientific researcher (theoria) and the knowledge of the realworld practitioner (praxis).

### 2.4.4 Benbasat and Zmud: "Empirical Research in Information Systems: The Practice of Relevance"

The Benbasat and Zmud (1999) paper, along with the accompanying editorial and other invited papers that make up the special issue of the journal, provides an exemplar of the great debates within IS academia, and specifically the rigour-relevance debate. This particular collection of frequently quoted papers provides a seminal, comprehensive coverage of the topic. Despite a decade having passed, the lack of progress means that it remains a largely accurate reflection of the current state of the issue.

Benbasat and Zmud (1999) are part of a large group of prominent IS academics who have debated the issue of IS research relevance. They see the relationship gap between academics and practitioners as being one of the main causes of research irrelevance.

They call for greater research concern for the field's stakeholders and closer connects with practitioners in order to better understand their needs. The points below are useful in setting longer term research goals:

"... We, as a community, must engage in a dialogue with practitioners about: (1) their "critical success factors"; (2) the important challenges they confront on a regular or periodic basis; (3) the important questions they have been unable to find answers for; and (4) the issues that will be important to them three to five years from now. Similarly, we as academics, with insights from practitioners, must define the "fundamental issues" of our discipline. We are just not convinced that a laissez-faire climate of "let a thousand flowers bloom" is in the best long-term interest of the IS academic community.'

They also call for improved communication with practitioners, and emphasise the need for close, productive research relationships. This will assist in tracking the diffusion of research into the world of practice:

We must make a concerted effort to communicate to practitioners how our research would be relevant to them. As well, we need to demonstrate, or at least describe, the extent to which the outcomes of IS research have been and are used by practitioners. Unfortunately, the IS field does not possess the evidence with which to illustrate the impact of its research. While other administrative science disciplines have investigated how academic research has diffused into the world of practice and influenced its inhabitants, we know of no work in IS that has done so. This is an important question that IS academics should investigate.'

They recognise the need for two-way flows of ideas and knowledge, the potential for practitioner innovation, and the value of empirical research in a range of contexts. Their claim that a 'strong symbiotic relationship exists' may be more accurately worded as 'could/should exist':

'The world of practice certainly has much to offer the IS academic researcher. Practice provides strong signals regarding what we should be studying. Invariably, it is practitioners, as they strive to stay ahead of their competitors, who discover through trial and error (if only within a single context) the value of emerging IT-related innovations. Clearly, a strong symbiotic relationship exists between practice and research. Theories and models are judged on their predictive power for guiding practitioners, the quality of theories are enhanced by testing and revising them with data from the world of practice, and the cues and insights offered by practitioners are assessed through rigorous examination across a variety of contexts.'

The authors desire a strong, cooperative relationship with practice:

'...For all these reasons, and with some extra effort and attention by IS academicians, we foresee in the future even stronger cooperation between the two solitudes of practice and academia.'

In closing, we wish to end on a positive note. To reiterate, we are committed to and interested in doing good research. We strongly believe that the contributions of IS academics to practice can and should rise...'

Another of the papers in this collection by Lee (1999), calls for empirical research into relevance:

'It is not enough for senior IS researchers to call for relevance in IS research. We must also call for an empirically grounded and rigorous understanding of relevance in the first place.'

### 2.4.5 A summary comment

This review of the key direction-setting papers identifies the practitioner perspective of the IS academic-practitioner relationship as an important topic requiring further research. The papers contain explicit calls for research into this practitioner perspective, and this is reflected in the choice of research objectives and research questions detailed in Section 1.2.

### 2.5 A Closing Comment

This review of the literature has placed the academic-practitioner disconnect as a recurrent theme in the major debates with IS academia. It has established the seriousness and intractable nature of the problem, and the need for moving from debate into action. It has also identified the practitioner perspective on the relationship as a topic worthy of further research. The following chapter details the research design.

### CHAPTER 3 RESEARCH DESIGN

Chapter 2 described the research problem within the context of the academic literature, and identified areas worthy of further enquiry to be pursued in this Author's research.

This chapter details a research design to support that enquiry. It begins by providing an overall research design. Details of the APITF which underpins the approaches trialled in the AR cases follow. Next there is an explanation of the philosophical research paradigms chosen for this research. This is followed by an examination of the research methodological elements, namely AR, data sources, interview methodology, and data analysis methods. The chapter concludes with a description of the research quality and rigour framework.

### 3.1 Overall Research Design

The overall research design for this study provides an outline of the major components and their interrelationships.

### 3.1.1 Alignment of research objectives, questions, methods and theoretical framework

It is important to note the alignment of the research methods with the research objectives and research questions as detailed in Section 1.2. The main research approaches used to explore the research problem are AR, qualitative interview and observation research.

The research problem has been formulated into two research objectives.

The first research objective and its three research questions relating to the practitioner perspective on the academic-practitioner relationship are explored via interviews with and observations of the practitioners involved in the two AR cases. These research questions are not of an AR nature, as they are not particularly seeking to assess an impact. Nevertheless, it was greatly advantageous to conduct this interview enquiry and observation component within the context of the AR cases. The in-depth involvement of the researcher and practitioners in the AR research environment facilitated much richer data than would have otherwise been the case.

The second research objective and its research question relating to the effectiveness of the engagement approaches are specifically and explicitly relevant to the AR method. This research question employs interviews with the same practitioners from each of the two cases to assess the efficacy of the approach. The AR aim is to test the effectiveness of approaches, based on the APITF, in addressing the academic-practitioner disconnect.

Hence, the APITF, like the AR method, specifically relates to this second research objective. It is detailed in Section 3.2 below.

### 3.1.2 Alignment of the Academic-Practitioner Interaction Theoretical Framework (APITF) and the research cases

The APITF is formulated from a blend of theoretical influences from the academic literature, selected for their promise of addressing the research problem. This framework potentially may be configured into many possible implementation forms. In this study it is configured into two approaches which are also inspired by the academic literature, as detailed in Section 3.2.5, and based on literature reviewed in Section 2.2.15. While both approaches are fundamentally conceptually similar, regarding the behavioural aspects of the researcher, and the focus on intensive and innovative interactions with practitioners, they differ somewhat in how those interactions are structured.

Hence in this research, the two approaches (based on the APITF) and their respective cases are labelled as:

- The 'Academic-Practitioner Workshop Approach' which is trialled in the 'BA Workshop Case'.
- The 'Academic-Practitioner Alliance Approach' which is trialled in the 'PM Alliance Case'.

The naming of the cases is reflective of their links to the academic literature, as well as their specific implementation context. Both the workshop and the alliance approaches are means of configuring academic-practitioner interactions in environments reflective of the APITF (especially Section 3.2.5). These approaches offer an optimal engagement basis which encourages deeper academic-practitioner interactions, hence limiting the possibility of superficial relationships and less compelling/significant findings. Specific details of each case design are included at the start of the respective design and findings chapters of each case study (Sections 4.1 and 5.1).

Figure 2 depicts the relationship between the theoretical framework, the two approaches and the associated AR cases.

### Overall Research Design

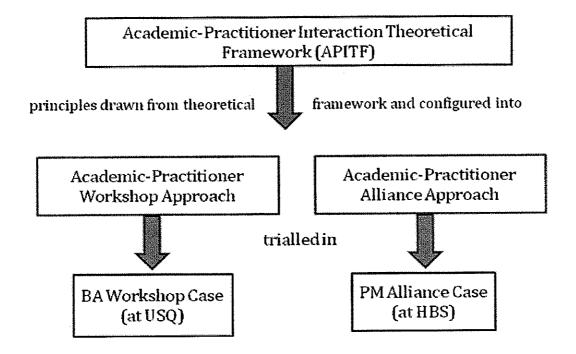


Figure 2: Overall research design

Figure 3 depicts the overall research process from research problem through to research conclusions.

### **Overall Research Process**

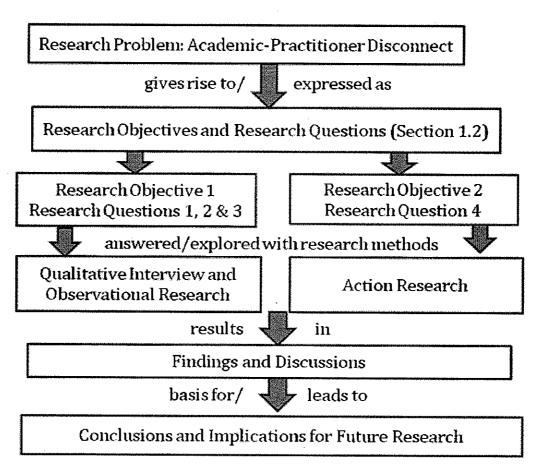


Figure 3: Overall research process

### 3.1.3 Selection of research cases and practitioner participants

The cases were selected following Creswell's (1998) 'purposeful' case sampling strategy. Creswell (1998) advises that 'the purposeful selection of participants represents a key decision point in a qualitative study'. He recommends identifying one of Miles and Huberman's (1994) sampling strategies. The 'intensity' strategy has been here chosen as being the most appropriate, as it is focussed on identifying 'information-rich cases which manifest the phenomenon intensely but not extremely' (Creswell 1998).

In implementing this strategy, the Author sought cases where the practitioners had some exposure to IS academia. The reason for this is that they would be more likely to be able to comment in an informed manner regarding the academic-practitioner relationship, and therefore provide richer data and a more substantial base for analysis and conclusion. An earlier study by Darroch and Toleman (2004) demonstrated how contentious it can be to seek the opinions of practitioners in matters in which they have little or no experience. In both the current cases the exposure to IS academia is based on organisational links to the local university, where the Author was a teaching academic within the School of IS. Hence the interviewees were chosen on the basis of their direct involvement in the research cases where they had substantial interaction with the Author.

While particular in their exposure to academia, in another sense the participating practitioners may be considered as 'typical' in terms of their work environments. This has important implications for the generalisation of the research findings. Both cases are set in the ICT installations of large organisations which support significant numbers of staff and tens of thousands of clients with online systems. Both ICT divisions provide a typically broad and all-encompassing range of ICT functions expected in a contemporary Australian business setting. Hence the practitioners working in these environments (a subset of whom participated in this research) may be deemed to be representative of the typical ICT practitioner, as discussed in the academic literature. The participating practitioners included senior practitioners and middle and senior management.

Case selection was also influenced by the complementary nature of the two cases. This was appealing since qualitative research often seeks variety rather than replication. Avison et al. (2001) describe two main ways in which AR projects may be initiated, both of which are represented in part in this research.

One initiative is 'research-driven', where the researcher has a theoretical framework perceived as addressing a problem, and is seeking suitable settings characterised by the problem. The PM Alliance case is 'research-driven', as it is initiated by the Author.

The other initiative is 'problem-driven', where practitioners are confronted by a problem and they seek help from an academic/theoretical specialist. In this situation, 'the researchers may have to develop their research program somewhat opportunistically', as occurred in the BA Workshop case, which is 'problem-driven', being initiated by practitioners. The opportunistic aspect related to the need to align the 'operational project' with the Author's academic knowledge areas, in this case business analysis. The concept of the 'operational project' is further explained in Section 3.4.5.

Another important consideration was the perennial issue of how many interviews/cases are needed? The answer is 'Interview as many subjects as necessary to find out what you need to know', i.e. until concept saturation has been reached, and no new insights are forthcoming (Kvale 1996, pp. 98, 101). Kvale (1996, pp. 98, 101) observes that most interview studies 'would have profited from having fewer interviews... taking more time to prepare the interviews and to analyse them.' Hence Kvale (1996, pp. 98, 101) argues in favour of the in-depth understanding of a phenomenon that may be gained by focussing intensively on a limited number of cases.

## 3.2 The Academic-Practitioner Interaction Theoretical Framework (APITF)

As noted by Webster and Watson (2002), the relative youthfulness and interdisciplinary nature of IS dictates that reviews may need to cover a broader range, especially when searching for an appropriate theoretical framework. This research follows Palvia's (2006) use of the term 'theoretical framework' to describe the underpinning theory that shapes the research. He notes the dearth of guidance available to researchers for building research models (Palvia 2006).

The APITF is a blend of theories, the most prominent of which is Boundary Spanning Theory (BST). Other important theoretical influences come from Dialogical AR, design science, and Mode 2 Knowledge. The final element of the framework is a blend of proposals from the academic literature regarding restructured academic-practitioner interactions. These theoretical components are complementary, and are selected on the basis of their potential to work synergistically to support highly functional academic-practitioner relationships. They are drawn from the management and IS literature. Each has been proposed as a potential means of addressing particular aspects of the academic-practitioner disconnect. A discussion of each of the five components follows.

### 3.2.1 Boundary Spanning Theory

Authors in several of the more recently-established, applied fields including IS (Hirschheim & Klein 2003; Levina & Vaast 2005; Lyytinen & King 2004) and Management (Richter et al. 2006; Rynes, Bartunek & Daft 2001; Starkey & Madan 2001) have proposed the boundary spanning role as a promising means of addressing problems relating to the academic-practitioner relationship.

In the context of this relationship, the term 'Boundary Spanner' is used to characterise a researcher who exhibits a particular combination of attributes, attitudes, and behaviours (as described in this section) that may positively influence academic-practitioner

interactions (Levina & Vaast 2005; Rynes, Bartunek & Daft 2001; Starkey & Madan 2001). Rynes et al. (2001) report that researchers who take on boundary spanning roles and who have the highest levels of interaction with practitioners benefit by increased productivity and quality of research. Hence the key element of this framework is the researcher acting in a boundary spanning role between IS academia and practice.

Boundary Spanning Theory posits that a group's boundary spanners are those group members who have significant levels of engagement with members of 'out-groups', and who facilitate interactions and manage conflicts between the two groups (Richter et al. 2006). Boundary spanners tend to be leaders whose characteristics and behaviours create effective interactions between groups, and positively influence the behaviour of other group members. Richter et al. (2006), from the management discipline, identify the importance of frequent 'out-group' contact, and note that boundary spanners have a positive impact on intergroup productivity. They (Richter et al. 2006) especially recommend the boundary spanner role for countering dysfunctional relationships and ineffective intergroup relations.

Boundary spanners create a 'common superordinate group' which operates such that group identity is retained without blurring of boundaries (Richter et al. 2006). This is consistent with Levina and Vaast's (2005) conception of boundary spanning which they describe in terms of an organisational competence, whereby a 'new joint field of practice' is developed that accommodates the knowledge, interests and practices of two groups. Boundary spanners engage with members of other groups, relating practices in one field to practices in another by negotiating the meaning and terms of the relationship. This process is effected by 'boundary spanners-in-practice' who transform their practices to accommodate the interests of their counterparts. This spanning may occur across diverse professional and organisational settings and is proposed by Levina and Vaast (2005). The new joint field effectively harnesses the best of both groups, and provides a highly functional environment for members of either group. It unites members on the basis of their common interests and pursuits, and distinguishes them from those who remain in the local groups (Levina & Vaast 2005).

Similarly, Starkey and Madan (2001) (from the Management field) propose a boundary spanning approach based on practitioners fulfilling US or French-style Adjunct Professor type roles. Their conception of this role is a new style of academic who embraces innovative teaching practices and conducts a combination of pure and applied research (which they label as 'bridging research'). The inference of these new positions is that knowledge creation can be a two-way process with flows from and to academia, and facilitated by experience within the profession. This represents a challenge to the traditional educational

model where knowledge creation is seen to be the preserve of academics, and knowledge flows are assumed to be one-way in the direction of students and practitioners (Starkey & Madan 2001).

Others in IS such as Hirschheim and Klein (2003) and Lyytinen and King (2004) also suggest boundary spanning as a means of improving the interaction and knowledge exchange between IS academics and practitioners. Klein and Rowe (2008) explore the concept of boundary spanning in an alternative doctoral program aimed at attracting candidates from industry, stating that 'The best strategy for any IS researcher is to develop personal relationships with individual practitioners...'. They propose a program of boundary spanning PQDS who will become IS faculty capable of, and motivated to, publish research in forms attractive to the professional practitioner community. They comment that 'We need these students more than they need us... What makes PQDSs unique is their ability to combine their educational learning experiences with insights from day-to-day work experiences to yield practical wisdom and comprehensive know-how. ...they are more likely to be able to understand cultural and professional contexts and so correctly interpret the beliefs and opinions of the study participants... come equipped with the capacity for such boundary spanning, a capacity that cannot be acquired from books and is important for effective fieldbased research' (Klein, HK & Rowe 2008). Klein and Rowe (2008) perceive barriers to the effective transfer of knowledge between academics and practitioners. 'Overcoming these barriers requires the special skills of boundary spanners'. They emphasise that the dual elements of significant practitioner experience coupled with proper academic research (PhD) training will equip PQDSs to fully deliver the boundary spanning role required in IS academia that may be a significant means of addressing the academic-practitioner disconnect.

Klein and Hirschheim (2008) state that 'boundary spanning is vital for the long-term success of the discipline'. They identify 'external' boundary spanning between academia and practice as a means of connecting with the practitioner community and improving understanding and communication between the two communities. They convey the difficulty of managing the relationship when they state 'Spanning the boundaries between practice and academia may well prove to be the toughest challenge the field faces'. The reason for this is the fundamentally different types of knowledge, experience, and learning that each of these communities values. To achieve the boundary spanning capacity, they also propose a range of alternative doctoral programs that complement practitioner expertise with PhD-style research training.

Levina and Vaast (2005) distinguish between 'Nominated Boundary Spanners' who are 'agents assigned by empowered agents in a field to perform certain roles in boundary spanning of diverse fields', and 'Boundary spanners-in-Practice' who are 'agents who, with or without nomination, engage in spanning (navigating and negotiating) boundaries of diverse fields'. Their research indicates that boundary spanning activity is only effective when undertaken by Boundary Spanners-in-Practice, and that only a small portion of Nominated Boundary Spanners became Boundary Spanners-in-Practice (Levina & Vaast 2005). Successful boundary spanners produce a new set of relationships, practices and objects specific to the new field. Potential boundary spanners must develop an interest, which includes an ability and inclination to participate in negotiating relationships between fields (Levina & Vaast 2005). Hence there is a strong element of self-selection associated with successful transition to boundary spanner-in-practice.

Levina and Vaast (2005) identify three necessary conditions for a Boundary Spanner-in-Practice.

Firstly, the contender must become a legitimate, but possibly peripheral, participant in the practices of both fields. This is necessary in order to negotiate the relationship between the practices of both fields. This is a difficult task, as it necessitates shifts in power relationships. To become a Legitimate Peripheral Participant (LPP) requires the exchange of sub-species of capital accumulated in one field for capital in another. These sub-species include cultural capital, which is an understanding of the practices of one field; economic capital (time and money); and social capital (such as contacts, networks; and symbolic capital, and reputation).

Secondly, aside from being rated as an LPP in both fields, Boundary Spanners-in-Practice must be in a position to be legitimate negotiators on behalf of the field whose interests they represent. This rests on the person having sufficient symbolic capital to convince others that they are capable of reshaping the practices in the field for which the person serves as a representative.

Thirdly, people engage in boundary spanning because they have the inclination to do so. This is not necessarily a conscious motivation. This motivation may be related to a perception of advantages translated through improved cultural, symbolic, and economic rewards.

### 3.2.2 Dialogical Action Research

Dialogical AR is the work of Mårtensson and Lee (2004) who formulated it as a specific type of AR most concerned with the development of respectful, highly functional relationships

between researchers and practitioners in AR environments. It contributes several important elements to this theoretical framework, especially concerning the nature of researcher-practitioner interactions.

Firstly, the essence of Dialogical AR is its strong focus on effective communication. To ensure effective verbal communication between academics and practitioners, and address the cultural and language differences, special consideration is necessary. The approach is via one-on-one reflective dialogues between the two parties, preferably outside the practitioners' organisational setting (Mårtensson & Lee 2004). Researchers do not attempt to *educate* the practitioner into their way of thinking; rather they should enter the practitioner's world and adopt the practitioner's perspective (Mårtensson & Lee 2004).

Secondly, Dialogical AR provides a description of the roles and responsibilities of researchers and practitioners using the labels of 'theoria' and 'praxis' respectively. 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 characterise the thinking of PhD-trained social scientists (Mårtensson & Lee 2004). It 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; the shared scientific norms and conventions represent the culture of academia (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 organisation. Practitioners in an organisation have their own language, including context-specific colloquialisms, and a culture based on the organisational norms and their shared experiences. Their culture also incorporates their professional education and their shared socializing experiences (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 organisational problem and context. However, the practitioner does not have an equivalent responsibility (Mårtensson & Lee 2004).

Thirdly, Dialogical AR addresses the issue of a mutually respectful and beneficial relationship. '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. It represents peer recognition of the qualitatively different forms of knowledge and reasoning, each within their own context.

Fourthly, Dialogical AR recognises the importance of the social and historical context of the research environment. For the researcher, this necessitates a lengthy socializing process, or significant immersion in the practitioner world of the organisation being researched. This helps the researcher properly to understand the organisation and its problems that are the focus of the research. Again, the responsibility rests with the researcher to achieve 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 party may lose their meaning when detached from the contextual bases on which they depend. This consideration extends to the manner in which the parties conceptualize the situation. Each party makes their own judgement concerning the research impact. Practitioners judge how appropriately or effectively results may solve or remedy their real-world problem. The researcher judges the implications of the empirical results for scientific theory (Mårtensson & Lee 2004).

# 3.2.3 Design science

For the purposes of this research, the IS field is characterised as a design science, as it inspires an appropriate focus on the academic-practitioner relationship, as well as a research emphasis on pragmatic, solution-oriented knowledge suitable for application by practitioners. The concept of design science originates from Herbert Simon's (1996) seminal work, 'The Sciences of the Artificial', where he analysed the fundamental differences between the study of natural systems (natural objects and phenomena) and the creation of artificial ones (artefacts created by humans). Simon concludes that natural sciences are concerned about how things are, whereas design (artificial) sciences are concerned about how things ought to be (Trullen & Bartunek 2007). His work involved exploring the notion of how to construct an 'empirical' theory (Simon, H 1996).

Design science offers a sound theoretical base with a variety of perspectives, and its interpretation within the IS field has generated robust debate (see (Gregor 2002a; Gregor & Jones 2004; Hevner et al. 2004; Jones & Gregor 2005; McKay & Marshall 2005, 2007b; Venable 2006; Walls, Widmeyer & El Sawy 1992)). A panel recently debated 'Design Science in Information Systems: Hegemony, Bandwagon, or New Wave?' at ICIS (Land et al. 2008). The values of an interpretivist view of design science, which takes account of organisational and people issues as well as technical issues, is most suited to this research (McKay &

Marshall 2005; van Aken 2004, 2005). Hence, the following definition is adopted: "The term 'design science' is used here to indicate that the mission of (academic) research in such a field is to develop scientific knowledge to support the design of interventions or artefacts by professionals and to emphasise its knowledge orientation: a design-science is not concerned with action itself, but with knowledge to be used in designing solutions, to be followed by design-based action' (van Aken 2004).

It is useful to explore the meaning of a design science within a broader perspective.

Based on Simon's work, van Aken (2004) describes three categories of scientific disciplines: the *formal* sciences, such as philosophy and mathematics; the *explanatory* sciences, such as the natural sciences (physics) and major sections of the social sciences (economics and sociology); and the *design* sciences, such as the engineering sciences and medical sciences. It is proposed that IS fits within this latter group as a design science.

The core mission of an explanatory science is to develop valid knowledge, contributing to the understanding of the natural or social world (describe, *explain* and possibly predict). The core mission of a design science is to develop valid and reliable knowledge that can be used by professionals in the field in question to design solutions for their field problems (van Aken 2005). Whilst understanding the nature and causes of problems is of great assistance in designing solutions, a design science does not limit itself to understanding, but also develops knowledge on the advantages and disadvantages of alternative solutions (van Aken 2005). Hence, the design sciences are aimed at intervening in particular situations, not just describing and understanding them, which is highly consistent with AR.

The nature of academic research in the explanatory sciences may be seen as a quest for truth. It is description-oriented, with the typical research product being the causal model as exemplified in the natural laws of physics. If such laws are beyond reach, as in the social sciences, the aim, at least, is to reach shared understanding of causal patterns (van Aken 2005). Students in these disciplines are usually trained to become researchers (van Aken 2005). However, understanding a problem is only part way towards solving it. The second step is to develop and test (alternative) solutions (van Aken 2004). Hence, in the design sciences, academic research objectives are of a more pragmatic nature, where the quest is for understanding and improving human performance. It is solution-oriented (prescriptive), using the results of description-oriented research from reference (explanatory) disciplines, as well as from its own efforts to solve field problems (van Aken 2005). Design science students are trained to be professionals able to use the general knowledge of their discipline to design specific solutions for specific problems. Many academic researchers in these fields start their careers as professionals (van Aken 2005).

Another important consideration is the positioning of the 'science' that comes with viewing IS as a design science. As van Aken (2004) notes, the use of the term 'science' is often associated with 'natural science', reflective of Schön's (1983) 'high hard ground of theory'; whereas practitioners operate 'in the swampy lowlands of practice'. Within this landscape, design knowledge occupies the middle ground, i.e. between the explanatory, descriptive theory, and the actual application by practitioners. A significant part of design knowledge is produced by academic research, which scores highly in both the academic and the professional reputation systems (van Aken 2004).

Gregor (2002a) considers design theory to be a special form of traditional theory, with the additional facet of being prescriptive, whereby propositions are extended to provide guidelines that elaborate 'how something should be done' in practice. Gregor and Jones (2004) propose that design theory can build on and incorporate other types of theory. Hence the role of an academic in a design science is to work with a dual focus of the idealised world of textbooks and the ever-changing world of practice (van Aken 2004). The problem and context faced by the practitioner is always unique. Therefore general knowledge must be translated into a solution designed for the case at hand, followed by design-based action from the practitioner (van Aken 2004).

Generally, the development of descriptive knowledge (in the explanatory sciences) is theory-driven, focusing on existing situations. The development of prescriptive knowledge (in the design sciences), on the other hand, is field-problem driven and solution-oriented, describing and analysing alternative courses of action in dealing with particular organisational problems. Van Aken (2005) claims that attempts to improve research rigour to address poor academic credibility (in the management field), resulted in the loss of respectability for prescriptive knowledge. Hence, prescriptive knowledge became unfashionable in academic circles, where it has been dubbed 'Heathrow lit' (van Aken 2005). In contrast, mature design sciences such as engineering and medicine view the production of design-oriented research products as a natural and respectable objective of academic research. In these fields a significant portion of academic research is highly valued by both the academic and practitioner communities (van Aken 2005). In using design approaches, their purpose is to focus not only on what is (the cause of a problem) but also on creating something new (a remedy) (Trullen & Bartunek 2007).

Trullen and Bartunek (2007) identified five underlying values of design research. Firstly, it is based on collaboration between researchers and clients. Participation and involvement on the part of clients in the creation of a particular design, along with ongoing dialogue among clients and researchers during the creation process, is fundamental to design

approaches. Secondly, the solution focus tends to reduce the amount of preliminary analysis of a situation. Thirdly, the approach is based on pragmatic experimentation. Fourthly, it is important to consider the problem within its wider context. Lastly, design research is based on a systemic intervention approach that involves stated goals.

Plsek et al. (2007) address the issue of mutual learning between researchers and the practitioners in research environments. Orlikowski (2002) examines the issue of knowledge transfer among different groups. Plsek et al. (2007) synthesise the work of Schön (1983, 1987) and Argyris (1996) in their interpretation of design science: 'The process of making the implicit explicit underpins the notion of reflective practice, which is known to deepen learning for all involved, theorist and practitioner alike'.

# 3.2.4 Mode 2 Knowledge (M2K)

Mode 2 Knowledge (M2K) contributes to this research context by describing the sort of knowledge concerns that are appropriate to drive IS academic research where academic-practitioner interactions are of interest. The shared values of design science and M2K have led van Aken (2004, 2005) to identify a synergistic relationship between them.

M2K originates from the work of Nowotny et al. (2001, 2003) who present it as a new paradigm of knowledge production which they describe as 'socially distributed, application-oriented, trans-disciplinary, and subject to multiple accountabilities'. Key to the concept of M2K is 'that the production of knowledge and the process of research are being radically transformed' (Nowotny, Scott & Gibbons 2003). It supersedes Mode 1 Knowledge (M1K), which is the old paradigm of scientific discovery, wherein knowledge production was viewed as being the sole province of universities (Nowotny, Scott & Gibbons 2003). Whereas M1K is purely academic, M2K aims to solve complex and relevant field problems.

There is a broad societal trend toward change in knowledge management. Universities no longer hold a monopoly supplier position for knowledge workers (Starkey & Madan 2001). Starkey and Madan (2001) envisage a growth in demand for M2K. Nowotny et al. (2003) also report a rise in M2K-type research coinciding with a resultant decrease in 'pure' research. They commend it to researchers in the newer 'professional' disciplines (Nowotny, Scott & Gibbons 2003). Research environments are being more purposely 'steered' in particular directions toward a more 'engaged research' model with tied funding (Van de Ven 2007). This is accompanied by increased accountability and evaluation of the quality and effectiveness of research (Nowotny, Scott & Gibbons 2003).

Starkey and Madan (2001) foresee changes in the role that academics and university research play in knowledge production and diffusion. These 'forces for change' (Starkey &

Madan 2001) centre on the issue that M1K is losing touch with stakeholders (public and private sector). Academics are being pressed into change because of a more sophisticated stakeholder audience demanding more relevant research, increasing competition for student income, concerns from within academia about their role in a changing world, and the impact of ICT. Technology has made available vast amounts of information which are outside the traditional (M1) repositories of libraries and universities. It has also facilitated the development of an expanded array of opportunities for knowledge production (Starkey & Madan 2001). Such changes will blur the previously clear boundaries between public and private sectors of the traditional M1K production (Starkey & Madan 2001).

The nature of M2K is such that it is conducive to highly productive academic-practitioner research interactions. M2K is generated at the research interface between appropriately skilled and motivated practitioners and academics (Starkey & Madan 2001), and is characterised by intense interactions (van Aken 2005). It values knowledge outside the academic realm, including practitioner knowledge (Nowotny, Scott & Gibbons 2003). Whereas M1K is more concerned with theory, M2K is 'crucially concerned with knowledge as it works in practice in the context of application' (Starkey & Madan 2001).

M2K is created jointly between academics and practitioners in a real-world setting that crosses the traditionally distinct public/private boundaries. Its production is characteristically interdisciplinary, tied to context, oriented toward problem solving, and greatly more collaborative than M1K. Hence it is concerned with accessing knowledge from whatever fields and sources may be appropriate to solving a specific multi-dimensional 'messy' real-world problem (Starkey & Madan 2001; van Aken 2005). It represents a joining of the 'supply side of knowledge' (universities) with the 'demand side' (business) (Starkey & Madan 2001). The nature of M2K makes it compatible with AR.

M2K is focussed on solution-oriented knowledge (van Aken 2005). Nowotny et al. (2003) state that '...'Mode 2' knowledge is embodied in the expertise of individual researchers and research teams as much as, or possibly more than, it is encoded in conventional research products such as journal articles or patents'. It is reflective of what Nonaka (in (Rynes, Bartunek & Daft 2001)) describes as tacit knowledge. Hence, the relative forms that the knowledge takes differ. M1K tends to preserve its form in the traditional knowledge/research artefact of the academic journal article, which is very stable in form. On the other hand, the knowledge/research artefact in M2K is more transient and temporal in the form of the actions of practitioners, potentially harnessing multidisciplinary knowledge. M2K represents a snapshot in time in a specific context (Starkey & Madan

2001). Quality control also differs, with M2K being more socially accountable and reflexive (Starkey & Madan 2001).

Both Van Aken (2005) and Starkey and Madan (2001) propose M2K as a platform for academic research to bridge the relevance gap (in management research). The desired state is where interested and suitably skilled academics work closely and collaboratively with industry partners (Starkey & Madan 2001). Starkey and Madan (2001) see closing the relevance gap as something to be achieved by creative action undertaken by all stakeholders to effect the necessary changes in research content, research process and research dissemination. Addressing the relevance issue also requires institutional, cultural and organisational change at the interface between business and universities which will result in new forms of organisation to facilitate knowledge (and people) exchanges. An M2K style of knowledge production that is based on interaction between 'the world of practice and the world of theory' and which engages many different stakeholders is the most effective means of legitimising academic research (Starkey & Madan 2001). This type of research can counter the undermining effects that result from the inherently low predictive validity of theory in business academic fields (Starkey & Madan 2001).

There are several assumptions that underpin an M2K approach.

Firstly, it is assumed that the knowledge base needs to be continually updated (Starkey & Madan 2001). Practitioners' knowledge (often based on undergraduate studies) quickly becomes outdated in the complex and ever-changing business world (Starkey & Madan 2001).

Secondly, the social production of knowledge in M2 is a collective, rather than individual process. Networks of stakeholders (including practitioners) should be engaged throughout all stages of the research process, including the scoping of a project and the dissemination of research findings (Starkey & Madan 2001).

Thirdly, such collaborative partnerships assume a preparedness by both academics and practitioners to change their views, and to develop a deep understanding of the others' operational environment and challenges. It also requires an acceptance that developing this shared understanding will be dynamic and ongoing (Starkey & Madan 2001). Effective M2K interaction requires 'a rapid interplay between ... theory and practice, with academics and [practitioners] committed to learning from one another, a virtuous circle of academics learning from [practitioners], codifying information into blueprints for practitioner practice, and managers learning from academics, developing and applying practically-derived theories' (Starkey & Madan 2001).

Fourthly, it is assumed that there is a need for universities to conduct research that the private sector is unable or unwilling to pursue (Starkey & Madan 2001). Michael Porter in (Starkey & Madan 2001) identifies the key role of the business school as developing new insights: 'scholars should be determining the next best practice'. It is then the consultant's role to bring others up-to-date in best practice. He notes that consultants are increasingly extending their services into executive education.

Gill and Bhattacherjee (2009) propose that a productive strategy for addressing the 'academic-practitioner informing challenge' would be to identify innovative practitioners who would act as a launching point to diffuse academic research to the wider practitioner community. To do this, 'we need to find ways of establishing close ties with innovative practitioners and to focus on informing practice one individual at a time, rather than a collective whole.' '... if we wish to successfully inform practice, we must engage with practice.' '... explore alternative approaches for building bridges with practice... research collaborations with practice, technology training with practice...'

They recommend that IS academia 'begin to think creatively about ways to encourage faculty to participate in practice' (Gill & Bhattacherjee 2009).

# 3.2.5 Restructured academic-practitioner interactions

The final element of the theoretical framework concerns the restructuring of academic-practitioner interactions. Approaches to increase levels of engagement are a common element of several proposals to improve the relationship (as described in Section 2.2.15). Such approaches provide an important contribution to this theoretical framework and influence, to varying degrees, both of the AR cases reported in this research. The literature does not provide detailed explanations and hence they are used only as a conceptual basis for interpretation and practical implementation by the Author.

Three proposals from the IS literature influence the approaches taken in these cases.

The first is the academic-consultant model which assumes an amended role for the academics concerned (Davenport & Markus 1999). This is consistent with Saunders (1998) who proposes that faculty should spend time consulting to business to improve their capability for undertaking relevant research. Consultancy should be balanced with other academic roles.

The second is the joint academic-industry research alliance which promotes greater collaboration between the parties (Robey & Markus 1998). Saunders (1998) similarly proposes building partnerships and alliances with industry as a means to improve the relationship.

Lastly, Lang (2003) proposes 'developing part-time professional education programmes that may serve as forums for bi-directional exchange of knowledge'. All of these approaches are consistent with Fitzgerald's recommendation that academics need to spend time 'working in IS departments in real organisations'. They are also consistent with Mumford's (1990a) description of an action researcher as 'an investigator, advisor and teacher all at the same time...'.

Weyuker's (2001) comments on industry collaborations also provide inspiration and direction '...my most successful collaborations have been with individuals who were themselves excited about being involved in research, and whose managements were supportive, and even rewarded them for their involvement.', 'The contributions are different, but the work could not be done without the partnership...', and 'I have found that the way for me to have successful collaborations with people outside of a research organization is to recognize that their contributions are as valuable as mine'.

Further, Weyuker's comments about collaboration underline how the roles of academic and practitioner differ, and may well also imply differences with the consultant role: 'the type of collaboration I had in mind, we would be doing things jointly that neither could do on their own'. She cautions that it takes a long time to develop relationships that have significant 'buy-in' from practitioners '... they didn't want an outsider to know what their real software problems were ...' A pragmatic, flexible approach on the part of the researcher helps secure practitioner collaboration: 'I generally volunteer to do anything reasonable in order for my collaborator to have the time to be involved.'

# 3.3 The Research Paradigm

Of the range of philosophical research paradigms available to IS researchers, two are especially promoted as being suitable for the conduct of AR. These are 'interpretivism' and 'pragmatism'. A blend of the two is used to underpin this research based on what each may contribute to addressing the research problem, their underlying assumptions, and their complementary nature. This approach follows Marshall et al. (2005) who demonstrate the efficacy of an eclectic blend of paradigms in order to maximise IS research impact. Such an approach is also consistent with Baskerville and Myers' (2004) recommended teaming of pragmatism as an underlying philosophy with AR as a research approach. They perceive the two to be highly compatible and the most appropriate combination to address IS research relevance.

Researchers are commonly advised to adopt a research approach that is suited both to the research problem and to their own personal style (Grbich 2007; Keen 1990; Kvale 1996;

Walsham 1995). The Author followed this advice and conducted a broad exploration of approaches suitable for researching the IS academic-practitioner relationship (Darroch & Toleman 2006). The research approach for this study is influenced by the many recommendations for increased use of qualitative methods, and interpretivist and pragmatist approaches. Such approaches are claimed to improve both research relevance and the academic-practitioner relationship (Goles & Hirschheim 2000; Gordon 2008; Keen 1990; Marshall, Kelder & Perry 2005; Walsham 1995).

Throughout its relatively short history, there has been intense, and often divisive, debate about appropriate philosophical bases for IS research and valid and appropriate approaches to the production of knowledge (Weber 2004). The overwhelming dominance of positivist approaches is subsiding. It is accompanied by a broad acceptance that there is a place for both positivist and non-positivist (interpretivist) approaches to IS research (Avison et al. 1999; Goles & Hirschheim 2000; Walsham 1995; Weber 2004). This study is qualitative in nature. While qualitative research methods are generally aligned to the interpretivist view, it is important to note that there are also positivist versions of qualitative methods such as case study and AR (Dube & Pare 2003; Klein, HK & Myers 1999; Myers 2004; Walsham 1995).

Positivism has its origins in the physical sciences, and interpretivism in the social sciences (Walsham 1995). Pragmatism tends to stand apart, originating in the late 19th and early 20th centuries as a distinctly American philosophical movement (Goles & Hirschheim 2000). Arguments in favour of the wider adoption of interpretivist approaches are based on the fundamental importance of social issues to the study of information systems (Dobson 1999; Marshall, Kelder & Perry 2005; Walsham 1995). Arguments in favour of the wider adoption of pragmatist approaches are based on its 'practical' nature and values, and its suitability to the applied nature of the IS field (Baskerville & Myers 2004; Goles & Hirschheim 2000). Goles' and Hirschheim's (2000) statement that 'Pragmatism provides an attractive approach to meet these calls for increased interplay between research and practice' is fundamental to this research.

IS research environments are usually characterised by a potent interaction of people and technology set in unique and historically sited contexts. As noted by Marshall et al. (2005), positivist approaches deal with these complex, volatile socio-technical environments on the assumption that they are stable and measurable. They attempt to come up with enduring, universal theoretical truths, in the process producing over-simplistic models which struggle to make a meaningful/relevant contribution to practice.

The historical dominance of positivism as the basis for IS research means that there is relatively little established tradition for non-positivist approaches (Arnott & Pervan 2005; Arnott, Pervan & Dodson 2004). While there is much encouragement from leading IS scholars (Baskerville & Myers 2004; Goles & Hirschheim 2000; Walsham 1995) to adopt alternate approaches, there is a lack of published, detailed guidelines that explain these alternatives (Baskerville & Myers 2004). Equally, there is a dearth of fully documented research exemplars based on these approaches (Baskerville & Myers 2004).

There is considerable confusion over the use of terminology associated with research paradigms and methods in IS research. This has contributed to the controversy and lack of progress in the adoption of a wider array of non-positivist research approaches (Darroch & Toleman 2006; Myers 2004; Patton 2002). A relevant example is what may be described as the 'non-positivist' paradigms. Where Weber (2004) refers to them collectively as 'interpretivist', Guba and Lincoln (1989; 1985) also variously refer to them as 'constructivist', 'naturalist' and 'naturalistic' paradigms, (apparently using the terms interchangeably). Nonetheless, when Marshall et al. (2005) discuss the 'constructivist theoretical orientation', they follow Schwandt (1994, 1996) and Young and Collin (2004), and position it as a close relative of 'constructionism' (also referred to as 'social constructionism'). They treat both constructivism and constructionism as quite specific subsets of a much broader 'interpretivist' approach. This approach also contains other sub-sets.

It is imperative that researchers definitively state not only their preferred position regarding paradigm, but also the specific source or interpretation on which they rely. Therefore, definitions of the relevant terms will provide a useful base for understanding the research approach taken in this study.

# 3.3.1 Paradigm, epistemology and ontology

A research paradigm provides an understanding of a researcher's world-view, underpinning belief systems and assumptions about what constitutes valid knowledge (Guba & Lincoln 1989). While a range of classification systems have been proposed for research paradigms (Creswell 1994; Guba & Lincoln 1994; Orlikowski, W.J. & Baroudi 1991), a common approach is to group them as essentially positivist and interpretivist (Weber 2004). The differences among the paradigms are usually expressed through a range of criteria, the most prominent of which are epistemology and ontology.

The debate surrounding the meaning of epistemology and ontology generates a wide range of interpretations and may also lead to confusion (Creswell 1998, p. 76; Guba & Lincoln 1994, p. 108; Myers 2004; Swepson 1995; Walsham 1995; Weber 2004). Interestingly,

some see the relationship between epistemology and ontology as being so inextricably linked that they must be treated together (Guba & Lincoln 1994, p. 108). Some claim that the boundaries between them blur to the extent that they should be treated as a single criterion (Göktürk n.d.).

Epistemology is a branch of philosophy 'that deals with origin, nature, and limits of human knowledge' (Guba & Lincoln 1989). According to Guba and Lincoln (1994, p. 108), the epistemological question is 'what is the nature of the relationship between the knower or would be knower and what can be known?' Hence, it is about the level of researcher objectivity and the relationship between the researcher and the phenomenon being studied. The 'distance' of the researcher from the phenomenon being researched, or objectivity, moves along a continuum. At one end is the positivist paradigm, where researchers believe that they are totally objective and have no influence on the phenomenon they are researching. Toward the other end is the interpretivist paradigm where researchers accept a more subjective stance, in which individuals create their own meanings about the world. That is, it is socially constructed (Marshall, Kelder & Perry 2005; Myers 2004).

The epistemological position in this study is drawn in part from the following interpretivist viewpoints. Weber (2004) defines interpretivist epistemology as being where 'Knowledge of the world is intentionally constituted through a person's lived experience'. Walsham's (1995) discussion, on the epistemology concerned with knowledge claims, offers an interpretivist position that 'facts and values are intertwined and hard to disentangle, and both are involved in scientific knowledge'. Finally, Guba and Lincoln (1989) state that constructivism answers the epistemological question 'by asserting that it is impossible to separate the inquirer from the inquired into. It is precisely their interaction that creates the data that will emerge from the inquiry'.

Ontology is a branch of metaphysics which 'is concerned with issues of existence or being as such' (Guba & Lincoln 1989). According to Guba and Lincoln (1994, p. 108), the ontological question is 'what is the form and nature of reality and, therefore what is there that can be known about it? '(Guba & Lincoln 1994, p. 108). Weber (2004) describes positivist ontology as where the 'Person (researcher) and reality are separate.' Positivists believe there is a straightforward, single, measurable reality or absolute truth. Weber (2004) describes interpretivist ontology as where the 'Person (researcher) and reality are inseparable (lifeworld).'

The interpretation of what ontology means in this study is drawn from the following non-positivist viewpoints. From a qualitative stance, reality is constructed by individuals, that is, each person has their own perception of what is real. Hence multiple realities exist to

represent each of the individuals being researched, the researcher's and the readers' own interpretations (Creswell 1998, p. 76; Marshall, Kelder & Perry 2005). Walsham's (1995) discussion on the ontology concerned with the nature of reality, offers an interpretivist position of 'internal realism' 'which views reality-for-us as an intersubjective construction of the shared human cognitive apparatus'. Finally, Guba and Lincoln (1989) state that 'A Relativist ontology asserts that there exist multiple, socially constructed realities ungoverned by natural laws, causal or otherwise'.

Guba and Lincoln's (1989) review of ontology leads to a discussion about 'truth'. Truth is defined as the 'best informed (amount and quality of information) and most sophisticated (power with which the information is understood and used) construction on which there is consensus (although there may be several constructions extant that simultaneously meet that criterion). Constructions can be and usually are shared...That does not make them any more real but simply more commonly assented to.' What is taken to constitute truth is defined as 'that most informed and sophisticated construction upon which there is consensus among individuals most competent to form such a construction.'

# 3.3.2 Qualitative research

This research study employs qualitative methods and, in particular, action research. Denzin and Lincoln (2005) point out the difficulty of defining qualitative research because of its complex history. However, they offer the following: 'qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them.'.

Creswell (1994, pp. 1-2) describes a qualitative study as a process aimed at understanding a social or human problem. It is conducted in a natural setting wherein a complete picture is recorded with words that report the in-depth views of the informants. Qualitative research involves the use of qualitative data, such as interviews, documents, observation and participant observation data, and the researcher's impressions and reactions (Myers 2004). Qualitative research methods were developed in the social sciences to enable researchers to study and understand people and the social and cultural contexts within which they live (Myers 2004).

### 3.3.3 Interpretivism

The interpretivist paradigm contributes some important and useful assumptions to this research. Interpretivist research assumes that reality is only available via social constructions such as language and shared meanings (Myers 2004). Walsham (1995) emphasises the importance of the human/social element which should be reflected in IS research: 'Human interpretations concerning computer-based information systems are of central importance to the practice of IS'. Researchers studying information systems in contemporary organisations are met with complex environments that are difficult to understand or report meaningfully. Hence, interpretivist research needs to provide 'thick' descriptions to attempt to capture the subtleties and complexities of situations (Walsham 1995). 'Thick' descriptions are an ethnographic technique aimed at capturing details that enable the reader to understand and reconstruct a situation. IS interpretivist research is strongly focussed on understanding the research context and the interaction between it and the information system or phenomenon being studied (Jonsson 1990; Myers 2004).

Klein and Myers (1999) state that 'IS research can be classified as interpretive if it is assumed that our knowledge of reality is gained only through social constructions such a language, consciousness, shared meanings, documents, tools, and other artifacts. Interpretive research does not predefine dependent and independent variables, but focuses on the complexity of human sense making as the situation emerges; it attempts to understand phenomena through the meanings that people assign to them'.

The role of the interpretivist researcher is to attempt 'the difficult task of accessing other people's interpretations, filtering them through their own conceptual apparatus, and feeding a versions of events back to others...' (Walsham 1995). This means that the researcher is deeply involved in the collection and analysis of data as well as the research context (Walsham 1995). It essential that the highly subjective nature of this type of research is acknowledged. In such contexts, the researcher becomes a temporary member, though not a total insider, of the group or organisation in which they are researching. This is beneficial in that the researcher will get an inside view, and usually be privy to more confidential and sensitive information. However, the researcher will be perceived as having a direct personal stake in the outcomes of the research (Walsham 1995). Walsham (1995) notes the difficulty for the researcher when reporting involvement in an accurate and balanced manner. Further, Walsham's (1995) guidelines on what should be reported in an interpretivist study, including reasons for site selection and details of data collection and analysis, have been followed in this research. This directly impacts research rigour and quality.

The ability to generalise the results of interpretivist research has long been at issue (Walsham 1995). Keen (1990) advises 'always generalize beyond your data. It is important to come up with new and bold hypotheses. It is the only way of getting closer to the truth... Data do not generate theories. It is only researchers who generate theories.' Again, Walsham (1995) contrasts the positivist processes of theory building and testing against the interpretivist stance, concluding that 'generative mechanisms identified for phenomena in the social sciences should be viewed as 'tendencies', which are valuable in explanations of past data but are not wholly predictive for future situations. The generalizations ... should, therefore, be seen as explanations of particular phenomena derived from empirical interpretive research in specific IS settings, which may be valuable in the future in other organisations and contexts.' The approach to generalisation in this research will follow these two authors (Keen 1990; Walsham 1995).

## 3.3.4 Pragmatism

Pragmatism is recommended as an appropriate paradigm for IS research by Goldkuhl (2004, p. 24) who comments 'research should be part in changing and improving the world, not just a disinterested observer standing aside'. Goles and Hirschheim (2000), who argue in favour of AR as a means of addressing the research relevance issue, also propose pragmatism as an appropriate philosophical paradigm. Keen (1990) urges IS to 'set our agenda to create research that people can really use – that is Research Pragmatics in the commonsense meaning of pragmatism and in its philosophical sense of the value and "reality" of theory resting on its contribution to action and use...'.

Despite these recommendations, there are challenges to adopting pragmatism as an IS research paradigm. Tashakkori and Teddlie (1998) note that one of the problems associated with pragmatism is that it is not generally treated as a standard option in comparative paradigmatic classification schemes such as, for example, that developed by Guba and Lincoln (1994). They consider this omission to be serious since pragmatists were highly instrumental in challenging the dominance of positivism. They provide a comparison table that includes pragmatism along with other major paradigms (Tashakkori & Teddlie 1998). It covers a range of characteristics such as epistemology and ontology, that demonstrate how pragmatism rejects the either/or incompatibility argument concerning positivist/non-positivist positions, and embraces positions from both (Tashakkori & Teddlie 1998). Similarly, Creswell and Plano Clark (2007), following Crotty (1998), include pragmatism as one of four 'worldviews' (paradigms).

This research follows the approach of considering pragmatism as a research paradigm. Interestingly, there is no entry for pragmatism in Denzin and Lincoln's (2000) Handbook of Qualitative Research.

## The origins of Pragmatism

The earliest philosophical origins of pragmatism are accorded to the Academic Sceptics of classical antiquity. They denied the possibility of achieving authentic knowledge regarding the real 'truth', claiming instead that we must make do with 'plausible information adequate to the needs of practice' (Honderich 2005).

Pragmatism as it is known today is a distinctively American philosophy which emerged in the late 19th and early 20th Centuries. It is rooted in the works of American scholars, most particularly Charles Saunders Peirce, William James, and John Dewey (Magee 2001). Peirce's early paper, 'How to Make Our Ideas Clear' in 1878, is credited with introducing the basic notion of pragmatism (Magee 2001). While the modern inspiration comes from Peirce's work, it was made famous by James' essay 'Pragmatism: A New Name for Some Old Ways of Thinking' in 1907 (Honderich 2005). He had earlier introduced Peirce's term 'pragmatism' in a lecture 'Philosophical Conceptions and Practical Results' to the University of California at Berkley in 1898 (Menand 1997).

Magee (2001) describes Peirce's pragmatism as a theory of meaning. Peirce's central contention is that knowledge is an activity. He saw the process of inquiry as identifying a problem, evaluating it to see what is working or missing in the problem situation, and ways in which it may be resolved (Magee 2001). This is reflective of the basic process followed in AR.

Peirce's work also countered the prevailing view (of the time) of 'knowledge as impersonal fact'. He saw it from the perspective that people gained knowledge of the world as participants rather than as spectators. He claimed that knowledge acquisition is motivated by the human desire for survival. We are not disinterested bystanders, but intricately part of the world into which we enquire. In this respect, pragmatism counters the objectivist position of positivism, and equates more closely to the interpretivist view of meaning (Magee 2001). Furthermore, Peirce claimed that knowledge is not static and certain, but subject to continual change as we experience the world (Magee 2001).

Magee describes James' pragmatism as a theory of truth (Magee 2001). James argued that statements and theories that support known facts, accord with confirmed propositions and deliver useful insights, should be deemed 'true' (Magee 2001). James sought to understand things by questioning 'what difference it makes in practice or experience' (Honderich 2005).

Dewey's main contribution to pragmatism was in the field of education (Magee 2001). He believed that we 'learn by doing', hence combining practical learning with taking account of theory (Magee 2001). Such an enquiry method is a way of increasing both knowledge and competence. Dewey judged knowledge on the basis of its positive impact on the world and people's lives (Magee 2001). Many of these ideals are reflective of AR, including Dewey's view of inquiry as a 'self-corrective process whose procedures and norms must be evaluated and revised in the light of subsequent experience' (Honderich 2005). Pragmatic truth theory posits that 'truth, like other concepts, is to be understood in terms of practice'. Dewey terms truth to be 'warranted assertibility', associated with the solution to a problem. Dewey describes the inquiry process as starting with a problematic situation and, if resolved, ending in a situation 'that is so determinate and unified that hesitancy has been eliminated' (Honderich 2005).

More recent contributions to pragmatism have come from a range of contemporary theorists including Quine, Rorty, Bernstein, Davidson, Murphy, Patton and Cherryholmes (Creswell 2003; Goles & Hirschheim 2000; Menand 1997; Tashakkori & Teddlie 1998). Many of these theorists are not trained philosophers, coming instead from a range of backgrounds including sciences, law and education (Menand 1997). Pragmatism's lack of unity and purity of style is evidenced in Bernstein's response to the early writings that he was 'immediately struck by their clashing philosophic temperaments, and by the different problems that preoccupied them... the vitality and diversity of this tradition' (Menand 1997).

European scholars have been somewhat disdainful of pragmatism on the grounds that it debunks metaphysical concepts such as 'truth' (Tashakkori & Teddlie 1998). This is evidenced in a quote from Howe in (Tashakkori & Teddlie 1998): 'After all, much of pragmatic philosophy is an attempt to get philosophers to stop talking about truth and reality... and generating pseudoproblems in the process'. This statement inspires a commonsense approach to these issues that are addressed in the Author's current study.

#### The 'useful' nature of Pragmatism

The basic tenet of Pragmatism is the notion of 'usefulness' (Marshall, Kelder & Perry 2005). Pragmatists emphasise significance of actions and the external world through interventions and repercussions (Goldkuhl 2004, p. 22). It avoids concepts such as 'truth' and 'reality', instead considering truth to be 'what works' (Goles & Hirschheim 2000). Knowledge claims arise out of actions, situations and consequences (Creswell 2003).

Context and the social world are fundamentally important in pragmatism. This includes social, historical, and political contexts (Creswell 2003; Honderich 2005). There is a concern for applications where prime importance is attributed to 'what works' in solving problems

(Creswell 2003). Pragmatists have a research focus skewed towards 'what' and 'how' questions that are based on *intended* consequences. They are driven by what they want to achieve through the research (Creswell 2003).

Creswell (2003) uses the term 'reflexive' when discussing pragmatism. In an MISQ editorial, Weber (2003c) also raised the matter of IS researchers becoming more reflexive. He encourages researchers to make a conscious effort to reflect deeply on the research topic and context, and to look upon ourselves as another (person) might. He summed it up as: 'In short, when we try to understand the assumptions, biases, and perspectives that underlie one component of our research (e.g., the way we have constructed our theory), we are being reflective. Insofar as we try to understand the assumptions, biases, and perspectives that underlie all components of our research and, in particular, the interrelationships among them, we are being reflexive.'

In describing pragmatism, Goldkuhl (2004, p. 22) states 'in the human realm praxis (doing) has primacy over theoria (understanding) because all understanding must be the product of doing: whatever we know (understand) is the product of inquiry, and activity of ours'. This is highly consistent with the principles of AR, especially Mårtensson and Lee's (2004) Dialogical form that is a significant methodological and theoretical influence for the Author's research.

#### Paradigmatic freedom

Pragmatism as a research paradigm is broadly defined and unique in its flexibility. There is no uniform view of the world from a pragmatic standpoint. It is not committed to any one system of philosophy or reality. Creswell (2003) states that 'Pragmatists do not see the world as an absolute unity'. Individual researchers have freedom of choice in terms of research methods, techniques and procedures. They are chosen on the basis of suitability for the research context, research problem and the researcher's personal research style (Creswell 2003). This is affirmed by Tashakkori and Teddlie (1998). Their interpretation of pragmatism is that epistemologically it will accommodate either objective or subjective points of view, and that ontologically it will accept the explanations that best produce desired outcomes. Researchers should use 'whatever philosophical and/or methodological approach (that ) works best for the particular research program under study' (Tashakkori & Teddlie 1998).

Rather than being bound to philosophical underpinnings, pragmatism takes positions from other paradigms such as positivism and interpretivism according to what most suits the circumstance (Goldkuhl 2004, p. 22). The highly flexible nature and mix of positions possible under pragmatism make it such that the doctrine may be viewed as being either 'a

validation of objectively cogent standards, or as a subverter of them.' (Honderich 2005). Kvale (1996) notes the problems associated with 'the extremes of a subjective relativism where everything can mean everything, and an absolutist quest for the one and only true, objective meaning'.

Marshall et al. (2005) argue that, in an IS setting, extremes of relativism associated with interpretivistic approaches may become contentious. They see worth in pragmatism to address this problem in contexts where value judgements about moral and ethical matters cannot be ignored.

In denying universal conceptions of truth and reality, pragmatism instead accepts that 'truth' is what 'works at the time' (Honderich 2005). This means that it is temporal as well as context dependent (Creswell 2003). One of pragmatisms fundamental axioms is 'Be prepared to regard the best that can be done as good enough' (Honderich 2005). As a basis for Peirce's 'cardinal pragmatic imperative never to bar the path of inquiry', pragmatists accept the best available evidence, understanding that it may be incomplete and imperfect. An action is judged as right/correct if it results in the 'greatest good of the greatest number...an empirical claim is correct if its acceptance is maximally benefit-producing' (Honderich 2005). Honderich (2005) sums up the pragmatic position on truth and evidence as 'The characteristic idea of philosophical pragmatism is that efficacy in practical application – 'What works out most effectively in practice' – somehow provides a standard for the determination of truth in the case of statements, rightness in the case of actions, and value in the case of appraisals.'

One of the strongest messages to come from pragmatism is that it eschews what may be viewed as excessive deliberation and debate common to other paradigms. This is evidenced in Creswell's (2003) quoting of Cherryholmes and Rorty: 'Pragmatists believe that we need to stop asking questions about reality and the laws of nature. They would simply like to change the subject'.

Tashakkori and Teddlie's (1998) summation of pragmatism as a research paradigm is: 'Thus pragmatists decide what they want to research, guided by their personal value systems; that is, they study what they think is important to study. They then study the topic in a way that is congruent with their value system... They also conduct their studies in anticipation of results that are congruent with their value system.' This statement appropriately reflects the approach taken by the researcher in this study.

### 3.3.5 The suitability of the paradigm blend to this Author's research

The decision to adopt AR as the research approach is a significant influence on the choice of an appropriate underlying research paradigm. Both interpretivism and pragmatism have been proposed as suitable research paradigms for AR. This paradigm blend is consistent in ideals with AR as it supports the primacy of action as a means of addressing problems and producing knowledge. Furthermore, they share key values including acknowledging the importance of context and an emphasis on 'what works'. These values underpin the intent of the research reported here.

This blend of philosophical underpinnings is deemed most appropriate because it provides a focus on practical relevance and acknowledges that the findings may generate a range of constructions of reality. Rather than having an objective of producing research findings that provide a universal and enduring proof of truth, this research seeks to provide a rich picture that is insightful and instructive. It is seen as providing a basis from which other investigators can further develop ideas and academics might interact more productively with practitioners (and vice versa).

# 3.4 The Action Research Approach

This study follows Baskerville (2001) who notes that AR may be employed both as a broad research approach as well as a specific research method.

#### 3.4.1 Action Research defined

Of the many available definitions of AR, the most appropriate for this research is a fulsome one from Hult and Lennung, as quoted by McKay and Marshall (2001a): 'Action research simultaneously assists in practical problem-solving and expands scientific knowledge, as well as enhances the competencies of the respective actors, being performed collaboratively in an immediate situation using data feedback in a cyclical process aiming at an increased understanding of a given social situation, primarily applicable for the understanding of change processes in social systems and undertaken within a mutually acceptable ethical framework.'

The dual elements of practitioner and researcher interests, are the persistent, fundamental themes of AR, and form the common thread reflected in the many other definitions including those by Kock, and Reason and Bradbury (Oates 2004). AR not only seeks to provide a clear understanding of the problem, and generating ideas to address those problems (theory, growth of knowledge), but also the 'practical application of those ideas in a real world situation' (Mumford 2001b). It is a research approach 'in which the researcher

generates new knowledge about a social system, while at the same time attempts to change it' (Kock et al. 1999).

# 3.4.2 The origin of Action Research

AR arose as a technique in response to the post Second World War upheavals in social science research (Baskerville & Wood-Harper 1996). It is attributed to Kurt Lewin, a social psychologist who sought to develop a general theory to facilitate social change (Baskerville & Wood-Harper 1996; Lewin 1947). A separate group of social scientists at the Tavistock Institute developed a similar research approach (Baskerville & Wood-Harper 1996). This work was built on by others including Susman and Evered (1978) who linked it with systems theory and the notion of researchers intervening in social systems (Baskerville & Wood-Harper 1996). Checkland was one of the most notable early proponents of AR in IS (Baskerville & Wood-Harper 1996; Checkland & Holwell 1998). Despite its origins, AR has not flourished in social science research, but has fared somewhat better in the applied health disciplines (Baskerville & Wood-Harper 1996).

### 3.4.3 The nature of Action Research

AR is cyclic by nature, with iterations continuing until the 'immediate problem situation is relieved' (Baskerville & Wood-Harper 1996). A variety of AR cycle approaches have been proposed.

In its most basic form, AR may be viewed as a simple two-stage process, involving a diagnostic stage, and a therapeutic stage (Baskerville 2006). Lewin's original model identified six stages, namely: (1) analysis, (2) fact-finding, (3) conceptualization, (4) planning, (5) implementation of action, and (6) Evaluation (Baskerville & Wood-Harper 1996). However, the most commonly cited exemplar is the Susman and Evered (1978) five phase cyclic process: (1) diagnosing, (2) action planning, (3) action taking, (4) evaluating and (5) specifying learning (Baskerville & Wood-Harper 1996). They are credited with seminal contributions to AR, especially in their recognition 'that human activities are systematic, and that action researchers are intervening in social systems' (Baskerville & Wood-Harper 1996).

A key characteristics of AR is the active and deliberate involvement of the researcher in the research situation (McKay & Marshall 2001a). AR is best suited to situations where there are benefits expected for both the researcher (through development of theoretical knowledge), and the participants and their organisation (through the solving of an existing, practical problem) (Baskerville 1999). The goals of both parties must be compatible and equally respected (Baskerville 1999). There is an interdependence between the two parties,

to achieve the dual aims of practical problem solving and theoretical development (McKay & Marshall 2001a). This infers a willingness by both parties to share experiences and learning. It is consistent with Mumford's (2001a) approach where she encourages participants to analyse their own problems and develop their own solutions. In doing so, both parties should experience enhanced competencies (Rose & Lewis 2001). Mumford (2001b) claims her first lesson in AR was 'never to underestimate a group's abilities.' Baskerville (1999) describes the relationship between the researcher and the practitioners as one of 'symbiosis', where 'two dissimilar organisms live closely, and mutually benefit each other.'. The researcher must understand the importance of 'getting out' of the project when the job is done to the practitioners' satisfaction. This helps the group to be self-sustaining and avoid over-dependence (Mumford 2001b). Both the Author's reported cases were conducted according to this advice.

Baskerville (1999, 2001) describes AR as an organic process involving systematic and sometimes iterative stages. He identifies four major characteristics of IS action research, all of which are relevant to the Author's research.

Firstly, AR aims to improve understanding of the context and immediate social situation, 'with an emphasis on the complex and multivariate nature of this social setting in the IS domain'. Secondly, AR has a problem-solving focus, whereby it 'simultaneously assists in practical problem solving and expands scientific knowledge'. Thirdly, AR is performed in a collaborative manner. It should enhance the competencies of both sides (practitioners and researchers). Lastly, AR has an 'action and change' orientation that is 'primarily applicable for the understanding of change processes in social systems'.

Rather than being a 'single, monolithic research method', AR is better described as a class of research approaches (Baskerville 1999). Of the four different types identified by Baskerville and Myers (2004), the present study is classed as Dialogical AR. Dialogical AR is the work of Mårtensson and Lee (2004), and is named for the central importance of the reflective dialogues between the practitioner (praxis) and the researcher (theoria). It is a significant influence on this research and was discussed in detail as a component of the APITF in Section 3.2. The specific value of the Dialogical approach is the focus on highly functional communication between academics and practitioners.

AR contributes to learning through improved understanding of 'a complex social-organisational problem'. Although AR is focussed on a specific context, the research is capable of producing knowledge that advances the development of general theory. However, it is not considered to produce prescriptive, universal social laws (Baskerville 1999). Action research, by its nature, challenges the appropriateness of the fundamental

underpinnings of the scientific method, and the related traditional research approaches, when dealing with research involving human beings, such as in IS. The reasoning for this is that human behaviour may affect the context and subject of the research, as well as the outcomes (McKay & Marshall 2002). Hence the 'facts' of the situation are contextually interpreted and cannot be viewed 'value-free'. This in turn requires that suitable criteria are used to judge the research (see Section 3.8). Avison et al. (1999) observe that case studies often report what a practitioner says they do, whereas AR reports what a practitioner actually does.

Baskerville and Myers (2004), Goles & Hirschheim (2000) Kirwan & Conboy (2006) describe pragmatism as the most appropriate underlying philosophy for AR: 'As a philosophy, pragmatism concentrates on asking the right questions, and getting empirical answers to those questions' (Baskerville & Myers 2004). Further, Baskerville and Myers (2004) explore the link identifying four key AR premises that arise from the works of major contributors to pragmatism.

Firstly, 'Pierce's tenet that all human concepts are defined by their consequences', necessitates the theoretical purpose underpinning the action be clearly explained prior to taking action. Secondly, 'James's tenet that truth is embodied in practical outcome', requires that practical action be undertaken in the problem setting. Thirdly, 'Dewey's logic of controlled inquiry, in which rational thought is interspersed with action', means that the action must inform the theory. Fourthly, 'Mead's tenet that human action is contextualized socially, and human conceptualization is also a social reflection', necessitates that the action researcher be an active participant collaborating in the research setting. All four premises are followed in the Author's study.

# 3.4.4 Rationale for an Action Research approach

Many prominent IS academics, including Baskerville (2001), Myers (2004), Mumford (2001a), Checkland (1991), Avison et al. (1999), and Lee (2004), have encouraged a wider adoption of AR. They argue its appropriateness on a number of bases.

Firstly, the IS discipline is described as 'a highly applied field, almost vocational in nature' (Baskerville 2001). Secondly, AR is an appropriate research approach to encourage collaboration between researchers and practitioners (Avison et al. 1999; Mårtensson & Lee 2004). Thirdly, AR is considered to be inherently suitable for delivering rigorous research that has practitioner relevance (Avison et al. 1999; Baskerville 1999; Mårtensson & Lee 2004). These reasons are echoed in other business disciplines such as Management (Perry & Zuber-Skerritt 1992).

Baskerville and Wood-Harper (1996) have done much to encourage a wider adoption of AR within IS. They describe the ideal domain for conducting AR in the IS field as being where the researcher is actively involved and there are expected benefits for both the researcher and the organisation. Further, the knowledge arising from the research may be immediately applied, through the linking of theory with practice.

In a later paper, Baskerville (2006) discusses the suitability of AR for what he terms the 'intractable' problems that beset the IS field. He views intractable problems as fertile ground for theoretical development because their (intractable) nature means that traditional remedies have been shown to have been imperfect, i.e. 'existing knowledge cannot seem to fix'. He sees a great opportunity for new knowledge (theory) to emerge from their successful resolution. He uses the term 'educe' to show that the new theory emerges from the experiences of the problem context, stating that 'the solution was not quite deduced or induced, but simply apparent to observers with the right background and enough courage to act on their observations'. This view of knowledge is consistent with M2K which is discussed in detail in the APITF (Section 3.2) (Starkey & Madan 2001).

# 3.4.5 Challenges and risks in Action Research

Despite its inherent suitability for the IS research context, it is widely acknowledged that undertaking AR presents significant challenges and risks that undermine it as a mainstream research approach. Baskerville's (2001) paper 'Conducting Action Research: High Risk and High Reward in Theory and Practice' is illustrative. He highlights the risks including the hampering effect it has on academic careers. By exposing these risks, Baskerville hoped that it would be the first step toward rallying the IS community to take remedial action. While acknowledging the risks, he nevertheless strongly encourages it as a doctoral research method.

AR is also subject to a number of practical risks that may result in 'outcomes failure' when a project fails to achieve a significant result. Baskerville (2001) identifies two degrees of such risks. Second-degree outcome failure occurs when the AR project achieves a solution to the immediate problem setting without any significant contribution to scientific theory. This has a serious, negative impact on the researcher (Baskerville 2001). First-degree outcomes failure occurs when the practical problem is unresolved at the end of the project. This has a serious, negative impact on the practitioner stakeholder (Baskerville 2001).

Baskerville (2001) identifies a number of specific risks that may result in AR failure. AR projects are at risk of failure through not being completed ('completion' risk) and not being truly collaborative ('domination' risk). They are also extremely dependent on the

researcher's ability and motivation to avert 'detachment' risk and 'abstraction' risk. Kock (1999) reports similarly that conflicts of interest may result from the dual focus of AR. The length of time (both elapsed and face-to-face) required to conduct AR is recognised as a disincentive that may exacerbate other failure factors (Kock et al. 1999). Herr and Anderson (2005) identify determining the 'success' of an AR intervention as a another challenge.

Many proponents of AR note that a major criticism of it is that it lacks methodological rigour (Avison, Baskerville & Myers 2001; Baskerville & Wood-Harper 1996; Holwell 2004). Baskerville (2001) warns that positivists are likely to reject the findings of interpretivist and pragmatic AR because the philosophical bases conflict with traditional scientific values such as generalisation and detached observational objectivity. Kock (2007) identifies two threats that arise from this. Firstly, a 'subjectivity' threat occurs because of the deep involvement of the researcher in the research context. Secondly, there is a 'contingency' threat that, when analysing the findings, makes it is difficult to isolate concepts from the rich research setting, thereby making generalisation difficult. These problems contribute to the difficulty researchers face when attempting to publish AR outcomes (Kock et al. 1999).

Avison et al. (2001) suggest rigour may be improved via three control aspects which, if left unmanaged, may cause project failure. The first aspect is the degree of formalisation of project control. Both AR cases reported by the Author are classed as 'formal', since there was a formal process associated with establishing and reviewing them. This process involved management from both the academic and practitioner sides. Furthermore, university research ethics committee approval was required for both projects. The second aspect concerns determining authority within the project. Despite the collaborative nature of AR, 'client domination' (where the practitioners have the dominant authority) is the most common model of authority. It most accurately describes the authority structure in both the cases reported here.

The third control aspect relates to the initiation processes of an AR project. Of the three control structures, this one presented the greatest challenge for the Author because *'The goal of the initiation process among both the practitioners and the researchers is the discovery of a mutual interest in solving the problem at hand.'* (Avison, Baskerville & Myers 2001).

The nature of the research problem in this study (the academic-practitioner disconnect) is atypical in AR, insofar as it is not a technical IS topic that can be worked on collaboratively by the Author and practitioners. This made it inherently difficult to find a research setting where both parties had 'a mutual interest in solving the problem at hand' (Avison, Baskerville & Myers 2001). Hence it was necessary to find practitioners who had sufficient interest in the relationship with IS academia to agree to participate in the research.

Both the researcher and the practitioners must have a shared interest in the research topic. Operationally, furthermore, the practitioners needed to identify a topic area that was of interest to them and to which the Author could contribute academic knowledge. The 'operational project' would become the vehicle for interactions and provide an environment in which the academic-practitioner relationship could be researched. Topic content itself would not be treated as a research interest and would therefore not be reported in the traditional sense of making new knowledge claims. This is NOT to say that 'new knowledge' might not emerge, but it would not be explicitly reported. The issue is further explained in the respective design and findings chapter of each case (see Sections 4.1.4 and 5.1.1).

Without such an arrangement where both requirements (practitioners with an interest in the relationship and an operational topic) are met there may be risks to the research. Without the 'operational project' the research may suffer from being what Kock (1997) describes as 'iceberg subjects' or 'no client' problems. Moreover, had the research relied on the subject matter of the 'operational project', it may have resulted in what Kock (1997) describes as an 'irrelevant subject', where the AR fails because it does not generate new knowledge. This is reflective of Baskerville (2006) warning that AR may be successful in solving a practical problem, but fail to develop new scientific knowledge.

AR environments are difficult to manage and the control structures of a project are likely constantly to evolve. Kock (2007) identifies the 'uncontrollability' threat as a risk that arises because of the inherent lack of researcher control over AR environments. Changes may occur at any time that could impact the AR project. Avison et al. (2001) advise that tracking and reporting of such changes may well improve the validity of the study. This approach was adopted in the planning and management of both cases reported by the Author. As noted by Kock (1997; 1999), the significant difficulties faced in successfully negotiating a meaningful AR project are among the most serious experienced by the Author in establishing the two AR cases reported here.

One of AR's biggest challenges arises from a lack of guidance and published cases. Discussion surrounding AR approaches has tended to be focused more on the conceptual rather than the practical, operational level (Avison, Baskerville & Myers 2001). There is a dearth of literature describing in adequate detail, with illustrative examples, the quite rigorous and complex processes that are necessary for undertaking academically-sound AR (Avison et al. 1999; Davison, Martinsons & Kock 2004). DeLuca et al. (2008; 2007) note the hampering effect that inconsistent AR terminology has on its progress as a research approach. Whilst calling for more AR to be undertaken, Avison et al. (1999) identify the need for a 'Yin-like' monograph. The work of McKay and Marshall (2006; 1999, 2000a,

2000b; 2001a; 2001b; 2002), has made a great contribution toward addressing these deficiencies especially regarding research rigour (Section 3.8).

Another major risk associated with AR is that it is often critically labelled as merely being 'consulting', rather than research (Avison, Baskerville & Myers 2001; Baskerville & Wood-Harper 1996). Baskerville's quote in (Kock et al. 1999) provides an appropriate defence of this research against any possible charge of consultancy '... there is a great deal of difference between simply acting as a consultant and acting as a researcher in a role where both professional and scientific responsibility are accepted. In the first case, there is no commitment to the advancement of scientific knowledge, either on the part of the consultant or on the part of those whom the inquiry is being made. In the second case, this commitment is fundamental and must be explicitly accepted by both sides. It is this that makes the relationship collaborative'. Mårtensson and Lee (2004) similarly describe how Dialogical AR differs from consulting (Section 2.2.7).

McKay and Marshall (2002) add further to the defence of this research against the consultancy charge: 'We would suggest that consultancy is not dissimilar to the problem solving interest in action research. Action research which is deemed to be just like consultancy may be found to be lacking in its attention to the research interest cycle... However, if we explicitly add and clearly acknowledge the research interest of action research, then action research is obviously not the same as consultancy, and the research interest cycle offers a mechanism for action researchers to clearly differentiate their activities from those of consultants.' McKay and Marshall (2001b) also warn against 'post hoc' AR where a consulting assignment is presented as research, but where the real-world action completely precedes the research interest. This is averted in the Author's work by the explicit planning of the case as a research project. The reported cases were both planned as research projects and included obtaining university research ethics clearance.

### 3.4.6 The state of Action Research in IS

Despite its apparent suitability to the IS domain and growing interest in its application, AR is still not a mainstream method. There is a lack of published cases, and those that exist tend to be published in books (rather than journals) and fostered more in the European IS community. Several high profile IS researchers such as Baskerville and Wood-Harper (1996), Avison and Myers (2001; 1999), and Kock (2007) lament its lack of progress, and actively support the growth of the method. Baskerville (2001) notes that AR is least popular among the North American IS community from where, coincidentally, many of the top IS journals emanate. AR papers, unsurprisingly therefore, form a miniscule proportion of published journal articles.

Despite the early, prominent work by Checkland (1981) and Mumford (1983) in the UK, widespread adoption of the method did not follow. Baskerville (2001) states 'I believe that the academic culture in IS research has led to a level of risk-avoidance in academic careers that is unhealthy for the field. Higher-risk, but potentially higher-reward approaches such as action research are being avoided far more than can be justified'. A special issue of MISQ was devoted to encouraging wider adoption of AR (Baskerville & Myers 2004; Kohli & Kettinger 2004; Lindgren, Henfridsson & Schultze 2004).

## 3.4.7 The suitability of Action Research to this research

The academic-practitioner disconnect may be viewed as one of Baskerville's (2006) intractable problems. It is intrinsically suited to AR as a research approach since it explicitly identifies an interest in both the researcher and practitioner. Furthermore, it is a problem well suited to a research approach which is described as 'strongly oriented toward collaboration and change' (Baskerville & Myers 2004).

The particular nature of the research problem led the Author to explore a wide range of potential research approaches (Darroch & Toleman 2006). Consideration was given to treating this research as Action Learning (Yoong & Gallupe 2001) or Process Consulting (Schein 1990), rather than Action Research. While there are characteristics common to all three of these approaches, the former two both have methodological constraints which do not accommodate the research interest, nor accurately reflect the operation and interests of the practitioners.

Design science was another option that was considered (Gregor 2002a; Gregor & Jones 2004; Hevner et al. 2004; McKay & Marshall 2005, 2007b; Plsek, Bibby & Whitby 2007; van Aken 2004; Venable 2006). This might have been relevant had the research focus been on the operational topics, in this case business analysis and project management artefacts. However, in this study the research focus is explicitly on the academic-practitioner relationship. The operational topics merely act as a vehicle by which to test the efficacy of the academic-practitioner interaction approaches, based on the APITF.

While the Author's interest in the scholarship enrichment implications of trialling academically-grounded techniques (associated with the 'operational projects') in real-world environments is acknowledged, it does not relate to the research objectives and hence is not specifically reported. It should be noted that this interpretation of 'design science' follows Hevner et al. (2004), which relates to the design of new and innovative artifacts. This differs from the conception of IS as a design science which is discussed in detail as part of the

APITF (Section 3.2), and follows the van Aken (2004, 2005, 2007) conception of design science.

Ethnography was also considered, because of the obvious interest in immersion in another culture (Harvey & Myers 1995; Myers 1999; Schultze 2000), as well as autoethnography to allow for reporting the Author's own experiences (Ellis & Bochner 2000; Holt 2003). The potential of case study (Benbasat, Goldstein & Mead 1987; Cavaye 1996; Eisenhardt 1989; Klein, HK & Myers 1999; Markus & Lee 1999), and phenomenology (Creswell 1998; van Manen 1990, 2002) were also explored. However, Baskerville (2001) notes the defining characteristics of AR that set it apart from case study and ethnography include its focus on problem solving, change process, and competency enhancement. All are applicable to the Author's research. The research is interventionist in nature with the researcher being an 'agent of change'. Active testing of the efficacy, and assessment of the impact of two academic-practitioner interaction approaches based on the APITF are features of the research. Hence, AR was judged to be the most appropriate research approach. Furthermore this research meets Baskerville's (2006) ideal that AR has two purposes: '(1) to solve an immediate practical problem, and (2) to develop new scientific knowledge.'

Applicable features from the McKay and Marshall approach are a framework for research quality and rigour (McKay & Marshall 1999, 2000a) detailed in Section 3.8, and the concept of 'mini-cycles' (McKay & Marshall 2000b). Mini-cycles are a process of constantly doing, monitoring, reflecting, evaluating and modifying what is being undertaken in the major AR cycle. This process modifies the course of the research and influences the final and outcome. The application of this is discussed in Sections 4.1.3 and 4.1.5.

Other significant influences include Dialogical AR (Mårtensson & Lee 2004), detailed in the APITF, and Baskerville's (2006) approach of 'educing' theory in AR. Mumford's (1996) and others' (Avison et al. 1999) concern for a mutually acceptable ethical framework for both parties is another appropriate inspiration for this research, reflected in both cases. These considerations are the 'quality of working life', that seeks to encompass opportunities for learning and personal development; and 'freedom in work', that provides enrichment of the work experience through opportunities to exert influence, make choices and operate in partnership.

AR as a research approach ideally matches the Author's personal research style, which is heavily influenced by her dual career in academia and practice, and a desire to integrate them holistically. The research might be expected to result in a win-win situation where practitioners better understand their problem situation and experience improvement in it, and the researcher generates and/or tests useable theories (McKay & Marshall 2002).

### 3.5 Data Sources and Collection

The first of Yin's (2003) three principles of data collection is to use multiple sources of evidence. A range of data sources typical of qualitative research, and suitable for AR, was used in this study. The sources are as follows.

#### 3.5.1 Interviews

The main data source for this research is recorded, transcribed, semi-structured interviews. These include both individual and group interviews. The interview methodology is discussed in detail in the Section 3.6.

# 3.5.2 Corporate documentation and archival materials

As advised by Yin (2003, pp. 85-89), corporate documentation and archival material often provide a rich data source for qualitative research. A wide range of corporate documentation is used in this research, including procedure and policy manuals, reports, technical documentation and methodologies. These resources are variously stored in printed, web-based or electronic form. While they are not widely reported in the findings, they do provide an important base for the conduct of the two research cases.

#### 3.5.3 Email

Emails are an important auxiliary form of data collection. They fulfilled two purposes. Firstly, they were used by the researcher to augment specific areas of data collection. They were especially useful for gathering data from practitioners where the researcher considered that the richness of the data may be improved by allowing the subjects more time to reflect on an issue than would have been possible in an interview where an immediate response is required. An example of this is in the PM Alliance case where the researcher emailed the practitioners requesting them to provide comment on particular academic definitions of research relevance. Secondly, emails initiated by practitioner research participants provided useful insights and information.

### 3.5.4 The researcher's diary

Several authors (Anderson, G, L., Herr & Nihlen 1994; Baskerville 1999; Baskerville & Wood-Harper 1996; Rupino da Cunha 2006) note the beneficial nature of journals and diaries as research tools for capturing reflections and events. They are effective for both managing research and serving as a data source. A research diary/journal was maintained throughout this study. Apart from it being useful in managing the research cases, it also served a wide range of other purposes, including being a repository for field

notes/researcher observations, researcher reflections, meeting agendas, and outcomes of supervision and other meetings. Storing it electronically made it more efficient to use, and ensured it was part of the regular computer backup.

# 3.5.5 Direct and participant observation

Observation is a qualitative research technique which has its origins in ethnography (Montano 2006). Yin (2003) distinguishes between participant observation where the researcher is actively involved in the events being studied, and direct observation where the researcher is a passive observer. Observation can yield interesting insights otherwise unobtainable (Yin 2003). As Anderson et al. (1994) note, observations 'can help demystify what is actually going on as opposed to what one might hope or assume is happening'. Participant observation may be defined as a 'method in which the observer participates in the daily life of the people under study, either openly in the role of researcher or covertly in some disguised role, observing things that happen, listening to what is said and questioning people over some length of time.' (Trauth & O'Connor 1990). Yin (2003) describes participant observations as a 'distinctive opportunity to perceive reality from the viewpoint of someone "inside" the case study rather than external to it. Many have argued that such a perspective is invaluable in producing an "accurate" portrayal of a case study phenomenon.'. Baskerville (2001) lists participatory observation as a data-collection technique suitable for AR.

Trauth and O'Connor (1990) remind us that 'the research problem should drive the choice of methods used'. Both direct and participant observations are relevant data collection methods for this research. Their value as complementary data sources is recognised by Yin (2003). Observations may be made during field visits, including other data collection sessions such as interviews (Yin 2003). Yin (2003) also notes the opportunity that participant observation offers for the manipulation of minor events (such as convening a meeting) that might yield data otherwise unavailable.

The problems associated with participant observation revolve around the involvement and impact of the researcher on the research context and the resultant bias effect on findings (Montano 2006; Yin 2003). The appropriateness of moving between participant and direct observer depends on the nature and context of the research (Yin 2003). Anderson et al. (1994) provide guidelines for conducting and recording field notes that were followed in this study. Researcher reflections based on field notes of observations are an important element of the findings reported in this research.

# 3.6 Interview Methodology

The interview methodology underpins the most important data source in this research. Interviews provide much of the data for the two major research objectives, including the AR component. This interview methodology draws on the work of several specialist sources that variously provide advice and support for the conceptual and technical issues associated with conducting rigorous interview-based research.

Keen (1990) recognises the importance of interview research in IS when he states: 'Researching should be a style as much as a strategy. ... My personal comfort in choice of methodology has been semi-structured interviews... I view the words people choose when they talk to me as revealing and to be respected'.

Kvale's (1996) work provides a comprehensive and rigorous approach to interview research, that covers both conceptual and practical aspects. He uses the title "InterView" to emphasise his perception of the nature of interviews as being the intersect of two peoples' ideas and knowledge, produced in a planned and focussed situation at a particular point in time: 'An interview is literally an inter view, an interchange of views between two persons conversing about a theme of mutual interest' (Kvale 1996).

Again, Kvale (1996) describes the qualitative research interviews as being 'a construction site for knowledge', and emphasises 'the interdependence of human interaction and knowledge production'. He defines an interview as a conversation that has a structure and a purpose, and he recognises that an interview is 'not a conversation between equal partners, because the researcher defines and controls the situation'. It differs from what may otherwise be a spontaneous conversation between those same people (Kvale 1996, p. 6).

One of the perennial issues of concern regarding interview-based qualitative research concerns generalising the findings. Kvale (1996, pp. 98, 101) and others (Siggelkow 2007) argue that the in-depth understanding of a phenomenon that may be gained by focussing intensively on a limited number of cases and subjects is a sound basis for generalisation. He emphasises the importance of interviewer skills: 'good interviews require expertise – in both subject matter and human relations'.

Kvale (1996, pp. 98, 101) notes that, unlike in quantitative research, there are few common methodological conventions in qualitative research communities. He observes that the lack of standardised procedure presents a challenge for interviewer researchers '… requires a high level of skill in the interviewer, who needs to be knowledgeable about the interview topic and to be familiar with the methodological options available, as well as having a grasp of the conceptual issues of producing knowledge through conversation.... I will attempt to steer

between the free spontaneity of a no-method approach and the rigid structures of an all-method approach by focusing on the expertise, skills, and craftsmanship of interview researcher'. Hence, Kvale's (1996, pp. 98, 101) approach assumes a skilled interviewer. This is reflective of Walsham's (1995) views, when he advises that 'good techniques is a necessary but not a sufficient condition for good interviewing. Access to people's thoughts, views and aspirations requires good social skills and personal sensitivity on the part of the researcher, and these are less easily acquired than matters of technique.' Hence, interviewer skill is recognised as having an impact on research quality.

Kvale (1996, pp. 98, 101) provides in-depth coverage of both conceptual and practical aspects of the entire interview research process, including such matters as philosophical underpinnings and validation. His approach is organised around an interview framework that identifies seven stages of interview investigation, namely Thematizing, Designing, Interviewing, Transcribing, Analyzing, Verifying, and Reporting.

Minichiello et al. (1995) provide insights into the semi-structured, in-depth interview that is the style used in the Author's research. Semi-structured interviews are flexible in style and guided by the broad research topic. An interview guide is developed around the topics of interest, where the wording of the questions and their order is used indicatively rather than prescriptively. The type of questioning is more flexible than in a survey-style interview, and also allows for wider discussion. It is designed for situations that seek an in-depth examination of people and topics. Hunter (2006) affirms the use of a range of different question types when conducting semi-structured, exploratory interviews. Walsham (1995) recommends recorded interviews because of the completeness of the record, but warns that sensitive information may make some interviewees feel inhibited when being recorded.

In-depth interviewing may be defined as 'reported face-to-face encounters between the researcher and informants directed toward understanding informants' perspectives on their lives, experiences or situations as expressed in their words' (Minichiello et al. 1995). Minichiello et al. (1995) also claim that in-depth interviewing has three main benefits: it builds rapport and aids in providing a better understanding of the situation; it redresses the researcher-informant power imbalance of survey research; and 'rather than focussing on the researcher's perspective as the valid view, it is the informant's account which is being sought and highly valued'.

The legitimacy of in-depth interviewing is based on the idea that 'the world of nature as explored by the natural scientist does not mean anything to molecules, atoms and electrons. But the observational field of the social scientist – social- reality- has a specific meaning and relevance structure for the beings living, acting and thinking within it' (Minichiello et al.

1995). They claim that in-depth interviewing is consistent with the underlying assumptions of interpretivist research, that is 'the subject matter of the social scientist 'answers back', unlike the inanimate objects studied by the natural sciences.' Kvale (1996, p. 11) also acknowledges the inherently subjective nature of interview data in respect of the interpretation of both the researcher and the reader.

For interpretivist research, Walsham (1995) advises that interviewers strike a balance between passivity and direction. Over-direction prevents interviewees from fully expressing their ideas, and reduces the richness of the data. This richness is the hallmark of interpretivist research. Contrastingly, an interviewer who is too passive and does not follow up on new directions, or offer their own ideas on particular issues, is also not optimally effective. The interviewee might interest of the researcher in the IS domain or their professional competence in it.

# 3.6.1 Group interviews

While much of the methodological literature associates group interviews with Focus groups and Delphi groups, Denzin and Lincoln (2005) identify a broader range of styles, where the format is driven by the interview purpose. One such type, the 'formal field' style, which is characterized by moderately directive interviewer control and semi-structured question format is used in this research (Denzin & Lincoln 2005). Group interviews are conducted in the BA Workshop case because the research focus is the shared experiences of the group and their response to the workshop approach, at least as much as their individual experiences.

Denzin and Lincoln (2005) note the desirability of group interviews for their ability to 'produce rich data that are cumulative and elaborative'. Minichiello et al. (1995, p. 66) point to the stimulating impact they may have on participants 'to react to and build upon the response of other group members'. In-depth, group interviews are recommended for use in AR as a means of informing researchers of 'what is considered significant and/or contentious within that arena' (Minichiello et al. 1995, p. 66).

Group interviews also pose challenges. Minichiello et al. (1995, p. 66) identify three main problems with group interviews: 'group think', domination by an individual group member, and inhibition of participants brought on by the group environment. Greater interviewer skills are required when managing the practical problems that arise from the group setting. This involves preserving a balance between taking directive and moderating approaches, as well as maintaining the flow of the interview by orchestrating the delivery of questions,

while simultaneously keeping track of evolving patterns of discussion within the group (Denzin & Lincoln 2005).

# 3.6.2 Interview preparation and conduct

A series of semi-structured interviews was conducted for both cases following the methodological guidance outlined above and the principles of Dialogical AR as detailed in Section 3.2.2. The timing of the interviews was driven by the AR process. Since one of the research objectives was to gauge the effectiveness of the APITF interaction approach, it was necessary to interview practitioner participants before and after the 'intervention'.

An interview plan was prepared for each of the interviews (see sample at Appendix A). It covered administrative matters and a list of prepared questions, grouped under the above-mentioned themes. A standardised word-processing template was developed which ensured that all appropriate interview details were recorded. The design facilitated the later transcription, as well as researcher data analysis. The semi-structured nature of the interviews enabled greater spontaneity than would have been the case in a more structured interview environment. Prepared questions were used as a guide only, with supplementary questions being used to follow up interesting interviewee responses. The use of open-ended questions also encouraged interviewees to digress along lines that uncovered interesting data. Interviewees are listed in table 2 (Section 4.1.2) and table 3 (Section 5.1.2), and were selected as described in Section 3.1.3. The interview context and the interviewee were the prime determinants of any variation in the selection of questions and their wording. All interviews incorporated a final 'catch-all' question designed to encourage interviewees to raise any additional points they considered interesting/useful.

Interviews typically lasted between 60 and 90 minutes. This duration is optimal for gaining an in-depth understanding of the interviewee's views, while avoiding problems of tiring or compromised work schedules. Interviews were planned and booked several weeks ahead to facilitate reflective preparation (by the researcher) and interviewee availability. Where possible, interviews were restricted to one per day. This helped maintain interviewer performance and provide an opportunity to refine the plan for subsequent interviews. An interview outline was usually emailed to or discussed via telephone with proposed interviewees. Brief introductory background research material was included where appropriate, and sometimes an indication of the interview questions. No invitations for interviews were declined, and no interviews were prematurely terminated.

As mentioned above, group interviews were conducted in the BA Workshop case where it was considered desirable to have team members interact and provide cross-commentary

on the issues and views raised by others. The interviewer avoided dominance problems by stating a question and then prompting each participant in turn to respond. This approach was explained as part of the introductory phase of the interview. Interviews were semi-structured, and follow-up questions and interviewee diversions were permitted. Interviews proceeded without encountering any of the problems identified by Minichiello et al. (1995, p. 66). The most likely reason for this was that the participants were a well-established peer group, participating by their own choice. When making their own responses participants frequently referred to others' responses, hence yielding a richness of data and facilitating delivery of the anticipated benefits.

All interviews were recorded digitally, and stored on a password protected personal computer. This facilitated transcription and review, physical security, confidentiality and computer backup.

#### 3.6.3 Researcher role in interviews

The tendency for the research topic to generate emotive responses was earlier noted in the literature review. A similar trend is evident in many of the quotations that are used as evidence in the later findings chapters 4 and 5. The Author acknowledges the inherently subjective nature of the findings, and that these responses are merely the opinions of the interviewees. Moreover, the logic of some statements may be questioned. It bears emphasis that the supporting evidence has been reported for its potential to provide important insights into the research questions. There is no implication that the Author necessarily agrees with the sentiments expressed. In following this path it is hoped that any response by academia to the relationship with practice will be better informed, and hence more effective.

The Author sought to get a detailed understanding of the practitioners' perceptions, regardless of their 'accuracy' or foundations. This was based on the premise that, for practitioners, their perceptions represent the realities of their relationship with academia, and drive their responses and behaviour toward academics. Hence, it is acknowledged that some of the practitioners' claims may not be generally sustainable. The importance of gaining an uninhibited and accurate understanding of their individual and group perceptions was the prime consideration. In some instances the Author's researcher reflections on an issue are included within the findings.

A related issue is that the Author made a conscious decision not to challenge practitioners in matters of opinion, as it was felt that doing so might jeopardise the free flow of ideas and make participants defensive. In the same vein, the Author did not attempt explicitly to

negotiate with the practitioners on how the broader academic-practitioner relationship should be viewed or evolve. It was considered that doctoral studies are not an appropriately empowered position for such an undertaking. It is hoped that, in both cases, the relationships that were developed with practitioners will provide an exemplar of what might be achievable by other researchers and wider contexts. The Author recognises that part of the process of generalising these findings will be to negotiate realistic roles and responsibilities for both parties. In terms of academia, this may have implications for academic workloads and reward and tenure systems. These matters are reported in the Discussion in Section 6.4.4.

# 3.7 Data Analysis

Minichiello et al. (1995) define data analysis as 'finding the meaning in the information collected.... The process of systematically arranging and presenting information in order to search for ideas'. Kvale (1996, p. 187) advises that data analysis techniques should be chosen to suit the research project, the types of interviews, and the researcher's style. The analysis of the interviews is driven by the themes on which the interview questions are based (Kvale 1996). Grbich (2007) notes the necessity of finding an approach to qualitative data analysis which is consistent with the philosophical underpinnings of the research. She emphasizes the 'boundedness' of the researcher and her/his background, and the resultant impact on the research approach in interpretative studies. This study follows the approach proposed by Grbich (2007), which has two main stages: Preliminary Data Analysis, thence followed by Thematic Analysis. It is consistent with the Minichiello et al. (1995) approach, and is also suitable for data sources other than interviews, such as field notes and documentation.

As part of the data analysis process, the Author validated the transcriptions against the audio recordings. Apart from enhancing the accuracy of the transcripts, it facilitated the researcher's re-familiarisation with the data through verbal cues. Minor grammatical errors were fixed where necessary in the quotations used in the findings.

# 3.7.1 Preliminary data analysis

Preliminary data analysis is a technique designed to be undertaken on data at each stage of collection (Grbich 2007, p. 30). It serves two main purposes. Firstly, it enables the researcher to summarize issues that are emerging from the data. Secondly, it enables the researcher to identify further questions that need to be asked in order to arrive at holistic data. Preliminary data analysis is an ongoing process, carried out each time data are collected. This process of examining what is emerging from the collected data enables the

researcher to reflect not only on aspects that may require further questioning, but also on what those emerging issues are. This might have the effect of refining the questions for subsequent interview, or determine the need to seek extra documentation. It assists the researcher to engage with the data, and facilitates review reflection on where the research is headed (Grbich 2007, p. 30).

Undertaking this preliminary process prepares the data for the more in-depth thematic analysis process, and ensures that the researcher remains close to the data throughout the study (Grbich 2007, p. 30). Early drafting of an electronic template and the development of the interview questions can reduce the overall workload.

While Grbich (2007, p. 29) observes that the process will be idiosyncratic, there are two standard elements involved in preliminary data analysis.

Firstly, a section called a 'face sheet' is inserted at the front of the transcription. This covers housekeeping facts about the interview that need to be preserved. Facts include the name and position of interviewees, location, duration, transcription style etc. Optimally, the face sheet should be completed immediately following the interview.

Secondly, a column is added to the transcribed interview data for researcher comment on matters that arise from the review of the data. This typically covers matters such as identifying preliminary themes arising from the data, and assessing the completeness of the data regarding answers to the research questions. Again, this might result in questions being added or changed for subsequent interviews or follow-up. Optimally, the column notes should be completed immediately following transcription of the interview. Where transcription is delayed, this might be achieved by listening to the interview recording.

Grbich (2007, p. 30) also recommends that a 'summary of issues emerging' (with indicative supportive data) be built up throughout the process of data collection. This advice was followed by the researcher. It not only provided an assurance of a more complete data collection, but also made the task of thematic data analysis more manageable. A sample excerpt of a preliminary data analysis of an interview from this research is at Appendix B. The sample incorporates the thematic data analysis described below.

# 3.7.2 Thematic analysis

Thematic analysis is a technique designed to be undertaken when all the data are collected. It is a process whereby the data are segmented, categorized and linked. Once again, Grbich (2007, p. 30) emphasises the idiosyncratic nature of thematic analysis, such that the focus may be on particular words or phrases, or responses to particular questions. Themes identified may come from either the literature review or the research data.

The specific thematic analysis technique used in this study is the 'block and file approach' (Grbich 2007, p. 30), which builds on the emergent themes described above as the 'summary of issues emerging'. This is done by highlighting specific data supporting a theme, while maintaining it within the context of the more complete portion of interview or observation. The aim is to avoid decontextualisation, hence providing a richer, thick description. This may increase the size of the analysis since some portions of data are repeated and Walsham's (1995) quality requirement of explicating a process that links the data with theory development can be achieved. A sample excerpt of thematic analysis from this research is at Appendix B. The sample includes both the preliminary and thematic data analyses.

# 3.8 Research Quality and Rigour

Research rigour is essential to support the validity of knowledge claims arising from research. Positivist research has long been able to rely on established criteria associated with the scientific method to support research rigour (Kvale 1996). Kvale (1996, pp. 229-231) recounts the historical background associated with qualitative research rigour, especially the highly critical assessment by positivists. Qualitative AR has attracted similar criticism to that levelled at qualitative research in general. Many authors note that issues associated with establishing research rigour in AR have impeded its adoption (Avison, Baskerville & Myers 2001; Baskerville & Wood-Harper 1996; Eden & Huxham 1996; Gronhaug & Olson 1999; McKay & Marshall 2000a).

Baskerville and Wood-Harper (1999; 1996) identify a number of data collection and quality strategies useful for addressing concerns about the rigour of AR, and these are adopted in the Author's research. They advise researchers to conduct research under an appropriate paradigm such as interpretivism, establish a formal research agreement, have an appropriate theoretical basis for the research, plan measurement methods (such as recorded observations, taped interviews, and action experiments), and maintain research diaries/journals as they are also acceptable data sources.

As with other key aspects of AR, rigour is more often discussed in the literature in conceptual terms only, but lacking in practical explanation. Hence, the work of McKay and Marshall (1999, 2000a) who propose a research quality and rigour framework, explicitly to address this issue, is of particular value and is therefore adopted for this research. The framework is specifically designed to cater for AR in IS from the interpretivist perspective.

The inherently subjective nature of AR (as a consequence of researcher involvement), necessitates that it be judged for research rigour according to appropriate criteria. The

framework incorporates and interprets the work of Guba and Lincoln (1989; 1985), who have been quoted across many disciplines (Kvale 1996, pp. 229-231) regarding the four research rigour criteria termed 'trustworthiness criteria' that they propose as parallels to the traditional positivist criteria. Lincoln and Guba (1985, p. 290) describe the importance of 'trustworthiness' in research: 'The basic issue in relation to trustworthiness is simple: How can an inquirer persuade his or her audiences (including self) that the findings of an inquiry are worth paying attention to, worth taking account of? What arguments can be mounted what criteria invoked, what questions asked, that would be persuasive on this issue?'. They developed these trustworthiness criteria in an attempt to address the charges levelled at interpretivistic research, 'that naturalistic studies are undisciplined; ... guilty of "sloppy" research, engaging in "merely subjective" observations...'(Lincoln & Guba 1985, p. 289).

The paired criteria are as follows, (positivist in parentheses): credibility (internal validity), transferability (external validity or generalisability), dependability (reliability), and confirmability (objectivity) (McKay & Marshall 2000a). In addition to the specific rigour criteria, the McKay and Marshall (2000a) framework identifies other quality characteristics that cover the conduct, conceptual significance, practical significance, and presentation of the research.

The following approaches are selected for use in this research, being from Lincoln and Guba's (1985, pp. 289, 301-283, 316-288, 327) proposals to address each of the trustworthiness criteria. For 'credibility', the applicable approaches are having a prolonged engagement, incorporating persistent observation, and building trust. For 'transferability', the applicable approach is the provision of 'thick' description as evidenced in the research findings. For 'dependability', the applicable approach is the provision of an auditable description of the research process, as evidenced in the AR case designs in the respective case chapters. For 'confirmability', the applicable approaches are providing an auditable description of the research process, and maintaining a reflexive research journal. They are evidenced in the AR case designs in the respective case chapters, and evidence from the research journal reported in the research findings of the respective case chapters.

One of the stated purposes of this framework, highly applicable to this situation, is that 'the framework could be used explicitly in the thesis by the student to demonstrate beyond doubt the quality of their work.' (McKay & Marshall 1999). In recognising the duplication that would result from detailing answers to the prompts in the framework, appropriate areas of the thesis are identified on which the quality and rigour may be judged. The framework mapped in this manner is in Table 1 (Section 3.8.1).

# 3.8.1 Research Quality and Rigour Framework

CONDUCT OF RESEARCH	Mapping to thesis and supporting notes	Rating by independent assessor
		Limited Outstanding
Research Method		
Is adequate and appropriate justification made for the use of action research as opposed to other research methods suitable for IS?	Chapter 3: Research Design – Section 3.4.7	data a la Distributa Maria de Granza en esperante presente presenta su escula función de la 
Transparency of Process	aparan di serapa sa kanima pistawa bilan Milandalah da serapa serikalan dan bilan bila	
Are research aims/objectives clearly stated?	Chapter 1: Introduction – Section 1.2	
Are the history and context of the research described and explained in sufficient detail for consumers of the research?	Chapter 4: BA Workshop Case: Design and Findings – Section 4.1 Chapter 5: PM Alliance Case: Design and Findings – Section 5.1	
Are issues relating to the Researcher (R) - Practitioner (P) relationship made clear?  • roles, responsibilities, expectations of P, R  • background of R  • scope of enquiry  • clear understanding by P of R's interest and intentions  • degree of involvement by P	Chapter 4: BA Workshop Case: Design and Findings – Section 4.1 Chapter 5: PM Alliance Case: Design and Findings – Section 5.1	
Are approaches and techniques (and the rationale for their selection) for data collection and analysis stated clearly?	Chapter 3: Research Design – Sections 3.5, 3.6 & 3.7	
Credibility of the Research (parallels internal validity)		
Credibility: applicable approaches are having a prolonged engagement, incorporating persistent observation, and building trust.  Lincoln and Guba (1985)	Both cases are characterised by prolonged, intensive engagements between researcher and practitioners. Evidence that trustworthy researcher-practitioner relationships were established in both cases.	
Is there evidence of an explicit theoretical framework, derived from a review of the relevant literature, guiding the action research intervention?	Chapter 3: Research Design – Section 3.2	

Have attempts been made to evaluate and explain the success or failure of actions taken to ameliorate the perceived problem in terms of the theoretical framework?  Does it appear that there is a match between the constructions of Ps and those reported by R?	Chapter 4: BA Workshop Case: Design and Findings - Section 4.1.6 Chapter 5: PM Alliance Case: Design and Findings - Sections 5.1.6 & 5.1.9 Chapter 6: Discussion - Section 6.4  Chapter 4: BA Workshop Case: Design and Findings - Chapter 5: PM Alliance Case: Design and Findings - Chapter 3: Research Design -	
Is there evidence of verification by P?	Section 3.7  No explicit verification	
Would it appear that R has presented a fair and faithful description of events?	Chapter 4: BA Workshop Case: Design and Findings - Chapter 5: PM Alliance Case: Design and Findings - Chapter 3: Research Design – Section 3.7	
Is there an explicit concern with the generation of theory which emerges from the theoretical framework tempered by the experiences of the intervention?	Chapter 6: Discussion Section 6.4	
Transferability of the Research  (parallels external validity or generalisability)		
(purunes external variation of general submitty)		
Transferability: the applicable approach is the	Both cases findings are reported in	
provision of 'thick' description. Lincoln and Guba (1985)	detail, including extensive quotations from participants.	
Are descriptions of setting, process and outcomes	Chapter 4: BA Workshop Case:	
sufficiently rich to aid the judgements and decisions of other researchers regarding the	Design and Findings Chapter 5: PM Alliance Case:	
transferability of the research to other contexts?	Design and Findings	
Could it reasonably be concluded that the research findings and outcomes could inform other organisational settings?	Chapter 3: Research Design – Section 3.3.3 Chapter 6: Discussion Section 6.4.3 Chapter 7: Conclusion - Section 7.2.1	
Are opportunities for various forms of triangulation exploited, thus providing greater confidence in the transferability of the outcomes?	Not considered applicable to this study.	
Dependability of the Research (parallels reliability)		
Dependability: applicable approach is the provision of an auditable description of the research process. Lincoln and Guba (1985)	Both cases research designs are reported in detail.	

Is the research process auditable?  Are the bases for decision making and assertions / claims explicit?	Chapter 4: BA Workshop Case: Design and Findings - Section 4.1 Chapter 5: PM Alliance Case: Design and Findings - Section 5.1  Chapter 4: BA Workshop Case: Design and Findings - Sections 4.1.4, - 4.1.6 Chapter 5: PM Alliance Case: Design and Findings - Sections 5.14 - 5.1.9.	
Confirmability of the Research (parallels objectivity)		
(puraness opposition)		
Confirmability: applicable approaches are	Both cases research designs are	
providing an auditable description of the research	reported in detail.	
process, and maintaining a reflexive research	Evidence from the research journal	
journal. Lincoln and Guba (1985)	is reported as 'researcher reflections' in the research findings	
International Cuba (1903)	of both cases.	
_		
Is there evidence of an orderly process of data	Chapter 4: BA Workshop Case:	
collection and analysis?	Design and Findings -	
	Section 4.1 Chapter 5: PM Alliance Case:	
	Design and Findings -	
	Section 5.1	
Are assertions / conclusions made about data logical and coherent?	Assessed as satisfactory by co- author of rigour and quality	
logical and conerent:	framework.	
Are findings and conclusions grounded in the	Chapter 4: BA Workshop Case:	
data?	Design and Findings	
	Chapter 5: PM Alliance Case: Design and Findings	
	Chapter 6: Discussion	
	Chapter 7: Conclusions	
Are data analysis and research findings	Assessed as satisfactory by co-	
confirmable (or have they been confirmed) by an outside expert? (researcher bias or subjectivity)	author of quality and rigour framework.	
The state of the s		
Impact on Participants	and and still the same of a superior and state of the superior of the same of the superior of the same	
Does a shared understanding amongst	Chapter 4. DA Workshap Cons	
participants or other organisational benefits	Chapter 4: BA Workshop Case:  Design and Findings	
eventuate as a result of the action research	Sections 4.6.3 & 4.6.4	
intervention?	Chapter 5: PM Alliance Case:	
	Design and Findings	
	Section 5.6.5	
Research Skill		

Is there evidence of adequate skill to manage the action research intervention on the part of R, especially in terms of his/her ability to collect and explore data?  CONCEPTUAL SIGNIFICANCE	Chapter 4: BA Workshop Case: Design and Findings Chapter 5: PM Alliance Case: Design and Findings Researcher skills assessed as satisfactory by co-author of quality and rigour framework.	
Has the significance of the research topic to the IS profession been articulated and justified?	Chapter 1: Introduction Section 1.1 Chapter 2: Literature Review Chapter 7: Conclusions – Section 7.3 Publications by Author.	
Has significant literature in the area of interest been accessed, supporting the selection of an appropriate theoretical framework to guide the research?	Chapter 2: Literature Review Chapter 3: Research Design – Section 3.2 Publications by Author	
Is it obvious that new knowledge / theory has been developed or emerged as a result of the action research intervention?	Chapter 6: Discussion Chapter 7: Conclusions	
Does this action research study lead to questions or issues for future research?  PRACTICAL SIGNIFICANCE	Chapter 7: Conclusions Section 7.4	ZCSKIPAKISHNAH SANGGUSH SANGSA
Would Ps agree that some improvement in the problem situation had occurred as a result of the intervention	Chapter 4: BA Workshop Case: Design and Findings Section 4.1.6 Chapter 5: PM Alliance Case: Design and Findings Sections 5.1.6 & 5.1.9	
Could this research potentially make a helpful contribution to the work of practitioners in the field of IS?	Chapter 7: Conclusions Section 7.3.4	
Does the research help alleviate problems that are evident in the IS discipline?	Chapter 7: Conclusions Section 7.3	
Is the action research presented in such a way that there is evidence of logical rigour throughout the study? Are the links evident between a problem in the IS field, the literature review, theoretical framework, research method and design, and results / outcomes?	Assessed as satisfactory by co- author of quality and rigour framework.	
Has the consumer of the research been identified? Is the action research presented in an appropriate form and style to suit the consumer's objectives?	Appropriate for an IS interpretive AR thesis	
Has publication of the action research (within confidentiality constraints) in an appropriate avenue been sought? Have adequate attempts been made to communicate findings and outcomes to practitioners and other Rs?	Some parts of this study have been published. Further publications will be pursued in future.	

Is the manuscript (thesis, research paper, report,	Assessed as satisfactory by co-	
etc.) of a professional style and standard?	author of quality and rigour	
	framework/PhD supervisor.	

Adapted from McKay and Marshall (1999, 2000a).

Table 1: Research quality and rigour framework

# 3.9 A Closing Comment

This chapter has described the major influences and elements necessary for the conduct of the Author's research. The research approach has been discussed in terms of the many challenges associated with AR, including the selection of an appropriate research paradigm. Details of the research methods and data analysis techniques have been discussed. Finally, the research design has provided a sound methodological basis for the conduct of the two cases as rigorous AR, facilitating the provision of rich findings as answers to the research questions.

The following Chapter describes the BA Workshop case, detailing the specific implementation of the research design principles covered in this chapter.

# CHAPTER 4 BA WORKSHOP CASE: DESIGN AND FINDINGS

The previous chapter laid the foundations for the research approach that is used to conduct the two cases in this research. This chapter has two main purposes. Firstly, it provides details of the specific implementation of the overall research design from Chapter 3 in the BA Workshop case. Secondly it presents the case findings that provide answers to the research questions.

# 4.1 BA Workshop Case Design and Conduct

This section details the planning and conduct of the BA Workshop. In keeping with the dual focus of AR, the case description provides details of both the research and the practice interests of the case.

# 4.1.1 Background to the BA Workshop case

The organisational context of the BA Workshop case is the University of Southern Queensland (USQ). USQ is an Australian regional, public university which specialises in distance education. It has approximately 2,000 staff and 25,000 students. About one quarter of the students study at the main campus in Toowoomba, Queensland. (<a href="http://www.usq.edu.au/aboutusq/facts">http://www.usq.edu.au/aboutusq/facts</a>). It has sophisticated ICT systems appropriate to an institution with a large off-campus population.

The case was initiated by a team of three newly-established Business Analyst (BA) practitioners, who needed access to a relevant knowledge source to assist them in establishing a contemporary, professional skill base contextually tailored to their work environment. An organisational restructure of approximately 100 ICT staff resulted in this new function being established at USQ. The BA positions are senior technical positions at the highest of the four organisational levels available for technical staff. The incumbents, while mostly having extensive software development experience and degree qualifications, had no explicit experience in the BA role. Therefore there was neither an organisational nor personal knowledge repository available from which to base the requisite BA standards, processes, procedures, tools, techniques and methodologies.

Another USQ initiative that impacted upon the BA work environment was the newly-formed Project Management (PM) role. It also lacked an established tradition, and there was a significant overlap in the work environments of the two areas that had not been addressed. These initiatives represented a significant cultural change for the wider university

community and this added further pressure in the BA environment. All of these issues added to the complexity of the research context.

The BA knowledge needs covered a wide range of tools, techniques and methodologies, all of which form part of the Business Analyst Body of Knowledge (BABOK) as defined by the International Institute of Business Analysts (IIBA) (http://www.theiiba.org/am/). The BAs sought the support of the Author (at the time, an IS academic from the same university), to lead a series of professional development workshops. The Author became aware of the situation through professional connections associated with past employment within the ICT division of the university. She was approached for assistance because of her expertise in business analysis, based on past professional background and current academic teaching areas.

Following the approach by the BAs the Author, who had been looking for possible research challenges, recognised the opportunity for this to be a research case. The Author's interest focussed on the opportunity that conducting the workshops would offer for exploring the academic-practitioner relationship. Researching the relationship requires an in-depth engagement between researcher and practitioners. Merely passively observing or recording the practitioners' perceptions through interview would not suffice. Earlier research by Darroch and Toleman (2004) supported the need for the researcher to be immersed in the environment to gain a deeper understanding of the practitioner perspective, as well as an opportunity to attempt an intervention that might improve the relationship between researchers and practitioners.

It was necessary to identify a research setting where practitioners shared an interest in the research topic and would be motivated to commit time to such an engagement. To create such a research context requiring significant amounts of practitioner time and other resources required that the practitioners have a motivation to be involved in the interaction. Since the research topic itself is not something that could 'occupy' the practitioners during such an engagement, something of substance was required on which the two parties could interact, to enable the (interaction) process to be studied.

Preliminary discussions indicated the practitioners' interest in the research topic and an agreement was reached that the Author would conduct the workshops as a formal doctoral research project. Hence the case would provide an opportunity to fulfil both research objectives and address all four research questions (as specified in Section 1.2).

As discussed in the case selection rationale, (Section 3.1.3), the university setting adds an extra dimension of potential data richness as these practitioners have some exposure to academia which enables them to comment in a usefully informed manner. However, in

other respects they may be viewed as exemplars of IS practice, thus facilitating the generalisability of the findings. This claim is based on their professional backgrounds and the ICT environment being 'typical'.

# 4.1.2 Organisation chart and interview schedule

The organisation chart shown in Figure 4 highlights those practitioners who contributed to the research, including the four workshop participants.

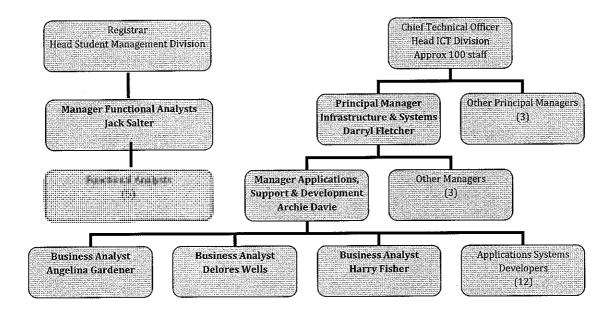


Figure 4: BA Workshop case organisation chart excerpt

Table 2 table identifies the practitioners who participated in the case and who provided data in the form of interviews, and emails. Case participants have been given aliases.

Alias	Job Title	Dates interviewed	Interview type
Angelina Gardener	Business Analyst	9.00 am 15 <sup>th</sup> Nov 2006 1.00 pm 15 <sup>th</sup> Nov 2006 1.00 pm 1 <sup>st</sup> May 2007	Start interview Review interview End interview Workshop participants group interviews
Harry Fisher	Business Analyst	9.00 am 15 <sup>th</sup> Nov 2006 1.00 pm 15 <sup>th</sup> Nov 2006 1.00 pm 1 <sup>st</sup> May 2007	Start interview Review interview End interview Workshop participants group interviews
Delores Wells	Business Analyst	9.00 am 15 <sup>th</sup> Nov 2006 1.00 pm 15 <sup>th</sup> Nov 2006 1.00 pm 1 <sup>st</sup> May 2007	Start interview Review interview End interview Workshop participants group interviews
Jack Salter	Manager Functional Analysts	1.00 pm 1st May 2007	End interview Workshop participants group interviews
Archie Davie	Manager Applications, Support and Development	3.00 pm 8 <sup>th</sup> June 2007	End interview Management group interview (with Darryl Fletcher)
Darryl Fletcher	Principal Manager Infrastructure and Systems	3.00 pm 8 <sup>th</sup> June 2007	End interview Management group interview (with Archie Davie)

Table 2: BA Workshop case interview schedule

## 4.1.3 An overview of the BA case

The BA Workshop case was conducted using the McKay and Marshall (2001a; 2007a) approach that explicitly acknowledges the significance of both the researcher and practitioner interests in an AR environment. This approach aided in the planning and management of the research, as well as improving rigour.

Methodologically, the case was conducted as one large AR cycle, divided into mini-cycles. The concept of 'mini-cycles' (McKay & Marshall 2000b), as an important feature of this AR was noted in Section 3.4.7, and depicts the researcher as constantly monitoring, reflecting and evaluating the research project and its progress, and continually refining it, is inherently suited to this case. This was due to the nature of the delivery via the paired workshops, which offered a natural pause point that enabled the Author to seek feedback

and jointly review (with the workshop participants) the modus operandi. Hence, minicycles comfortably aligned to the conduct of the workshops in pairs which is later described in Section 4.1.5.

As described in Section 3.1.2, while both cases are based on and test the efficacy of the same theoretical framework, the structuring of the cases differs markedly, especially with regard to the academic-practitioner interactions. While this case is conducted flexibly in terms of the BAs preferences for content, it is quite structured in scheduling, format and focus.

The following sections describe the specific design and conduct of the AR.

# 4.1.4 Planning and design

On the research side, meetings were held with the Author's Head of Department, Deputy Dean and Dean of the Faculty of Business to discuss the project and gain approval, as this was a non-standard role for an IS academic at USQ. As the Author was a teaching academic, minor workload relief was negotiated.

From the research perspective, this case is a test of the efficacy of the APITF as implemented in the form of the 'Academic-Practitioner Workshop Approach' to address the academic-practitioner disconnect.

On the practitioner side, the Author held meetings with the BA group and their line manager (Manager Applications Support and Development), in order better to understand their needs, and provide the necessary detail for the research design. The specific objectives of both the researcher and practitioner stakeholders were discussed. At the invitation of the BA team, the Manager Functional Analysts also joined the workshop group as a fourth participant, as they had overlapping work responsibilities. Functional Analysts had been employed within the organisation several years earlier, to perform a business analyst role that was technically less demanding.

The BAs were proactive in raising issues with their manager and approaching the Author for assistance. They were all senior practitioners, experienced and highly skilled in other ICT roles, and therefore aware of and able to articulate their own professional development needs. From the practitioner perspective, the BAs wanted to avail themselves of sources of knowledge and to develop skills in contemporary BA methodologies, tools, and techniques suited to their work environment. This aspect of the case is what was earlier referred to as the 'operational project' (Section 3.4.5), that provided a vehicle for exploration of the academic-practitioner relationship. The Author followed Weyuker's (2001) approach where she states that 'I generally volunteer to do anything reasonable in order for my collaborator to

have the time to be involved'. The 'operational project' needed to be aligned with the Author's academic knowledge areas (business analysis or project management).

The workshop plan was developed collaboratively between the Author, the BAs and their manager. The structure, content, and timing of the workshops was driven by the imperative of maximising the benefit to the practitioners. The research plan also incorporated specific research activities such as identifying data sources and scheduling data collection.

The agreement was for a series of workshops to be run in half-day sessions (four hours), at approximately fortnightly intervals, to be led by the Author. A list of potential workshop topics was drawn up collaboratively. Since the project was 'one-off', and it was difficult to predict how many workshops may be necessary to achieve the desired outcomes, it was agreed that the arrangement needed to be quite flexible. It was agreed that the BAs could determine (and revise), the order in which the topics were addressed. The topics covered a range of analyst techniques including the Unified Modelling Language, tools such as diagramming and Computer-Aided Software Engineering, methodologies such as a Testing Strategy, and system development life cycle approaches such as Adaptive and Agile systems development. The development of templates for technical documents was also included.

The trialling of techniques within live projects was essential to the BAs. They considered that their specific combination of education and consultancy support needs could not be fully met by any one of commercial training, consulting, or the purchase of a methodology. Instead, they favoured a customised approach that would concurrently address all these needs, and would, they believed, be most likely delivered by the Author. The workshops were organised in pairs in order to address both the provision of technical skills, as well as the integration of the technique into live projects and the wider PM workflow.

In terms of the specific AR design, the research area of interest, 'A' (Checkland & Holwell 1998; McKay & Marshall 2001a; McKay & Marshall 2007a), is the academic-practitioner disconnect (the research problem). The focus is on better understanding the practitioner perspective on the relationship and testing the efficacy of the 'Academic-Practitioner Workshop' approach to address the academic-practitioner relationship disconnect.

The practical problem, 'P' (McKay & Marshall 2001a), focuses on whether the 'Academic-Practitioner Workshop' approach can effectively address the knowledge needs of the practitioners (in Business Analysis). Hence, there is a considerable, common interest in the workshop approach regarding what it might achieve for each of the two parties, thereby providing an appropriate 'overlap' as decreed by McKay and Marshall (2001a).

The Author acknowledges an interest from a scholarship enrichment perspective in testing the effectiveness in industry settings of some of the BA techniques related to her teaching responsibilities in the course content of IS degree programs. This was motivated by her industry background and concern for practitioner relevance. This 'operational project' is not related to the research objectives, and there are no findings reported regarding the specific subject matter. However the conduct of the workshops is reported in some detail as it is necessary to provide a clear description of the process. The academic-practitioner interactions are based on the APITF which is being tested for its effectiveness in addressing the disconnect. It also helps provide an indication of the environment in which the academic-practitioner interactions were conducted. This might assist with generalising the findings.

Physical resources were allocated to facilitate the project. The workshops were conducted in a purpose-designed focus group facility within the university. A dedicated SharePoint facility was established to house the project resources and provide a means of sharing information and managing communication.

# 4.1.5 Implementation and monitoring

The research project ran over a period of six months in which time the project was planned, the workshops completed, and the major data collection undertaken. The conduct of the workshops followed closely the proposed plan, with specific dates being negotiated to fit both parties' work commitments. Each pair of workshops addressed an individual topic, which was the nominated priority at the time for the BAs. A workshop schedule is at Appendix C.

The workshops were conducted in two parts (or pairs). Each pair was associated with one major topic area nominated by the BAs. The first workshop session of each pair addressed the theoretical/technical aspects of the nominated topic, an example of which was UML (Unified Modelling Language) Activity diagrams. The researcher was responsible for the provision of materials and learning resources for the session. These were developed and accumulated by the researcher and, while based principally on academic teaching materials, they were customised for the situation and supplemented by other materials from a variety of industry technical sources.

It is important to note that, while this material was academic in nature, it was not particularly focused on academic research. As previously mentioned, there was no intention to produce research outcomes associated with this material. The SharePoint site, hosted by

the university, was used as a repository for the workshop resources. These theory sessions were led by the researcher, and followed a semi-structured tutorial approach.

The latter part of the theory session was devoted to the BAs selecting a suitable pilot project (from their current real-world projects), in which to trial the theoretical material covered in that session. Possible implementation issues were discussed. A period of two weeks elapsed time was allowed during which the BAs considered the theoretical content, how it may be used to best advantage, and trialled it in the chosen pilot project. During this time the BAs loaded the particular pilot project materials as they developed them onto the SharePoint facility. This enabled many of the implementation problems to be addressed through ongoing critique via online interaction between the researcher and the BAs. Occasionally, interim meetings were scheduled to ensure that significant problems were addressed and the momentum of the project maintained.

The second workshop of each pair was held at the end of the intervening fortnight, to address the practical implementation issues of the pilot. These sessions, while coordinated by the academic, were highly interactive with hands-on involvement by all workshop participants. During this session, the BA group reported on the attempted implementation, and reviewed it in collaboration with the researcher. Problems associated with the implementation in the selected project, and any other problems anticipated with the wider implementation of that theoretical element, were discussed. This often resulted in modifications to the application of the theoretical approach to fit the requirements of the specific context. The particular technique or template would then usually become a permanent part of their approach. The practitioners were the sole arbiters of a satisfactory outcome regarding the suitability of the technique and its implementation into the pilot project.

A typical example of how a topic (in this case Quality Assurance) was addressed in the workshops is as follows.

In the first of the pair of workshops (the 'theory' session) associated with that topic, a range of materials covering technical reviews, test types and cases, test plans and test strategy documents, integrity controls, automated test tools and managing QA was considered. The researcher provided the participants with learning resources and led the discussion, working through concepts and learning examples. Toward the end of the session the BAs selected one of their real-world, live projects to pilot the most applicable concepts covered during the session. In the ensuing fortnight the BAs conducted the pilot and produced relevant documents (such as a test plan) for that project.

In the second workshop of the pair (the 'implementation review' session), a fortnight later, the pilot project experiences were collaboratively reviewed by the whole group. A wide array of implementation issues were discussed and resolved, a standard process and procedures were agreed upon and associated templates developed, based on the pilot implementation. The outputs from this process/stage formed the basis for a standard approach to business analysis at USQ, and were stored on the official BA SharePoint site.

The workshop content was largely based on material used by the researcher to teach the analysis component of a final year systems analysis and design course, in which she had been course leader for the prior 5 years. The workshop resources are described as 'academic knowledge' as they draw heavily on systems analysis and design textbooks, such as Satzinger et al. (2004). Supplementary materials were drawn from a range of other sources including a package of systems analysis techniques and associated teaching materials developed by the researcher with the support of a teaching and scholarship grant. A range of 'selected readings' were also used, typically in the form of book chapters by iconic authors (often professionals) such as Brooks' (1995) book of essays 'The Mythical Man-Month Essays on Software Engineering'.

The project was continuously monitored in respect of the workshop. At the conclusion of each 'mini-cycle' the researcher actively sought feedback (verbally and via email) from the workshop participants regarding their satisfaction with the workshop format and content. Researcher reflections were recorded in a research journal. This monitoring offered insight into the progress of the case in terms of answering the research questions.

The Author conducted a series of interviews (Table 2) and other data collections as planned as the workshops proceeded. The main source of data was interviews. Three group interviews were conducted with the workshop participants. All three interviews provided data addressing both research objectives and all four research questions. The scheduling of the interviews particularly took account of the AR aspect of the research.

In terms of these workshop participant interviews, the first was conducted prior to the AR 'intervention' before the start of the workshops; the focus being to establish an understanding of the BAs' overall perceptions of both academia and practice as well as the academic-practitioner relationship. The second interview was conducted at the conclusion of the first workshop, the purpose being to gauge the early response of the practitioners to the workshop-based interaction with the researcher, and to assess the need for modifying the approach. The third interview occurred at the end of the project, following a formal presentation by the BA team of the workshop results to their ICT management. The aim of

this interview was to assess the effectiveness of the workshop approach as a means of addressing the academic-practitioner disconnect.

A further interview was conducted at the completion of the project with two ICT managers. It was a group interview with the BAs' supervisor (Manager, Applications, Support and Development) and his manager (Principal Manager Infrastructure and Systems). This interview provided a management perspective of the impact of the intervention. It also provided insights into the ICT management perception of academic research, the academic-practitioner relationship and the respective roles of academics and practitioners.

Other data collection included observations and participant observations which were recorded as field notes and researcher reflections in the Author's journal. Emails between the Author, the workshop participants, their ICT clients and ICT management provided another data source. Corporate documentation in the form of procedure and policy manuals, reports, technical documentation and methodologies, along with workshop artefacts formed another source of evidence. While the latter is not quoted specifically in the findings, it did play an important role in context of the case.

# 4.1.6 Evaluation and completion

From a research perspective, the evaluation process was focused on whether the data collected offered sufficient evidence to answer the research questions. The content and timing of the interviews was specifically designed to facilitate this. The researcher and workshop participants had spent significant periods of time working closely, hence making it reasonable to assess the effectiveness of the approach. McKay and Marshall (2001a). advise that 'if the research questions can be answered or satisfactorily resolved, or in some way illuminated or even reframed, the researcher exits from the organisational setting'. The Author evaluated the collected data, particularly the recorded, transcribed interview material, and judged it to be largely sufficient to answer the research questions. Some extra points of interest were addressed in a follow-up email.

From the problem-solving perspective, the evaluation process focused on whether workshop participants (as the problem owner) were satisfied with the provision of business analysis knowledge via the interactions. McKay and Marshall (2001a) advise that 'at such time as satisfactory outcomes are deemed to have been reached by the stakeholders to this problem context, the researcher exits from the situation'. The workshop participants affirmed that they were satisfied with the outcomes of the workshop from their perspective. A project review session was held between the researcher and the BAs. It was decided that it would be beneficial for the BAs to make a presentation of the main outcomes from the

workshops, to their management and key ICT applications development staff. The presentation was well received.

# 4.2 An Introduction to the BA Workshop Case Findings

The findings from this case are grouped under several high-level themes which align to the research questions. The findings emerged from the data analysis process, as detailed in Section 3.7. Since transcribed interviews are the main data source, extensive use is made of supporting interviewee quotations. The format of individual findings is in two parts, starting with a summary statement capturing the essence of the finding followed by supporting evidence (italicised and indented) in the form of interviewee quotations, practitioner emails and researcher reflections. The structure of the findings dictates that some quotes are used to support multiple findings. Researcher reflections are included in the findings (refer Sections 3.5.4 and 3.5.5). They are generally based on researcher observations, as recorded in the researcher journal, or the data analysis process of the interview transcriptions. The interpretation and implication of the findings are discussed in detail in Chapter 6: Discussion.

# 4.3 The Practitioner Perspective on the Academic-Practitioner Relationship

The need to form a better understanding of the academic-practitioner relationship has been identified as a necessary element of addressing the academic-practitioner disconnect. This section relates to Research Question 1, and explores the issue with a range of practitioners, including the workshop participants and their management.

# 4.3.1 Practitioners feel disconnected from academia

There is evidence of a long-term disconnect in the academic-practitioner relationship in this case study setting. Archie (the BAs' manager) describes the relationship as he has experienced it. Importantly, he acknowledges that the situation acts to the disadvantage of both sides, and he is keen to participate in addressing the problem.

#### Archie:

'It continually amuses me and it started back when I first started here and management had disdain for the academics. There were academics that were willing to engage with us, who complained about us and would challenge our decisions. So we would think: "you guys don't live in the real world. We're doing the real stuff. We're delivering the real thing, so go away and just read your text books and tell your students the garbage that you're telling them, and we'll fix them up when they come over to us type of thing". And that mentality persisted for a long time and I am keen to break that down. It's why I think this

is an excellent opportunity to do that, because it seems to me bizarre that we teach management practices, programming techniques, and things over there, and yet we maybe do totally the opposite in the workplace in the same organisation. And I still shake my head after 20 years that that goes on here. It's a cultural thing I think.'

The disconnect is characterised by poor interactions and lack of understanding between the two parties. This is essentially a cultural divide. Interestingly, Archie, notes that practitioners may be missing out on valuable academic knowledge.

#### Archie:

'There are certain academics who, although they may have very good academic credentials and maybe very good teachers, I wouldn't want over here because I think they don't trust and respect us. It's evidenced by the way that they interact with us. They tell us what to do. And our response is "well, we can't do that, it's not practical". "Why can't you?" sort of thing. So they are always questioning our professional integrity or our advice. Where's the trust? The corollary response is that we run around like chooks with our heads cut off doing anarchy. We need to respect that you guys are up to speed and have developed a constructive framework that we should be working to... the university doesn't practise what it preaches sort of thing.'

Jack notes how cultural differences are manifested in academics and practitioners.

# Jack:

'I find that when you go on a committee that's mainly academic staff, the differences in the issues that they discuss - it's all theoretical stuff and you think... we are trying to implement a system here, who cares what pedagogy is, and how does that apply to which server we are going to stick it on?'

Notwithstanding the entrenched nature of the disconnect, Archie does welcome the opportunity to address it, and see prospects for positive change.

#### Archie:

'... but because we have got a different group of people now that don't come with some of that baggage, like Fred comes to mind, he does a little bit of teaching. Perhaps I hope, more of that could happen... I've been the guest presenter at a couple of lectures and think that's great ... the point is the opportunity to go out and see the real people and vice versa... The fact that you've worked in the real world with us is the same sort of thing.'

Darryl claims that practitioners do not find value in academic research publications, claiming instead that, from his perspective, active engagement with academics (such as the workshop interaction) is more valuable. The Author accepts that this is simply Darryl's impression, and that it may seem illogical for him to make judgements about the 'value' of research which, he claims, is not read.

## Darryl:

I can guarantee you that most of those papers don't get read by people actually doing the work. But where basically, the real value in a lot of those sorts of things is that academics actually instructively engage with industry, instructively engage in projects a little like you are doing with us now.'

Practitioners see a positive link between strong academic-practitioner interactions, academic consultancy and improved scholarship. Delores perceives that other business school academic fields at the university, such as management, may have a stronger relationship with their practitioners, based on consultancy.

#### Dolores:

"... it seems to me that academics who work in the field of business – like Joan and those kinds of people seem to have a much stronger lead with their business communities. You know they have a good two-way street going where academics in the business field and business practice seem to have a good to-and-fro. Where they go out and they provide consultancy, and also where I guess they are refining what they are teaching so that it is practically based."

Another BA, Harry, also commented favourably regarding academic consultancy.

## Harry:

'If you are doing this, my own preference is to work with someone who is an academic but who is also consulting in it. Because sometimes academics get a bit remote from what they are doing. So therefore I find this appropriate.'

This comment provoked Angelina to comment.

## Angelina:

'Fiona has both.'

When asked by the interviewer if they considered it important for an academic to have the 'dual understanding', Harry affirmed.

# Harry:

'To have that practical background, if you have the time to do research and read and keep up to date, but also to keep one foot in the pool, so to speak.'

Another facet of the academic-practitioner disconnect is that practitioners perceive academics to be out of touch with their (practitioners') knowledge needs. Academics do not know what is important to practitioners. Practitioners perceive academic theoretical frameworks to be inflexible and sometimes inappropriate for use in the real world.

#### Delores:

"...huge software development teams in organisations that follow methodology ...they seem ... to look like they match up with something that you would learn in academia...when you try and downsize those methodologies they don't work so well, do you know what I mean? ... academia needs to acknowledge the variety of sizes of organisations... I wonder how many people go out and work in the small organisations where all those things don't currently fit well. Do you know what I mean? How many graduates work in those kinds of organisations?'

# Angelina:

'It goes back in the other direction too, in that academia should not be divorced from reallife projects in that it's no good for academia to be researching in theory - this works beautifully. Something like System Development Life Cycle methodologies are a bit like that. They go just something fantastic in theory, it's great, but you can't even put it in practice!'

They also lament the fact that academia is out of touch in not recognising the importance of legacy systems which are often a dominant reality in the practitioner world, as noted by Delores.

#### Dolores:

'Is there an issue there that you look at ageing technology? The reality is a huge amount of our current systems, legacy systems, let's face it, you are not going to teach Cobol programming in a uni now because it's outdated technology, but the reality is ... huge amounts of people have back-end Cobol programs.'

Furthermore, practitioners lack awareness and access to academic knowledge that may exist in areas that are of key interest to them. This is raised by Angelina.

# Angelina:

'Similarly, did any university ever pick up like SAP, PeopleSoft, enterprise systems in any significant way? Because that has to be a huge part of the whole world of corporate software ... And that was not something that was taught generally mainstream.'

When discussing with the BAs their perception of academia, Delores referred to academics as wearing 'rose-coloured glasses', and practitioners as wearing 'blinkers'. That they saw a common, or middle ground, emerge as a consequence of the interaction indicates the potential for finding a productive intersect between academia and practice.

#### Dolores:

'I see it as sort of wearing rose-coloured glasses... And we were discussing yesterday, what you may think of as the opposite of rose-coloured glasses... 'blinkers'. But I think the rose-

coloured glasses are on academics ... you get the perfect examples of things. When you go along that path and lo and behold it demonstrates how fabulous this process is that they are proposing that if you follow this process look how lovely everything works out because that's the way they have set it up. ... I think that's one of the flaws in it. On the other hand, I think sometimes industry gets the opposite of that which is... nothing will ever be good. So it's been really good to find the middle ground.'

From a practitioner perspective the main 'glue' in their relationship with academia is knowledge. This is principally manifested in academic programs. Hence practitioners tend to perceive the disconnect in terms of academic programs failing to address industry knowledge needs. The lack of interaction and communication means that practitioners are often unaware of what is happening in academia, as noted by Angelina.

# Angelina:

'I have no idea what the current school of thought is. And I asked "what do you teach students?", because I don't have time to go out there and research. I really needed to find out something about a specific technology and I said "What's an industry-based course I can do?" I'm in the university - there must be something! I need to go and try to find a practical university course that I can relate to. And that's not necessarily easy. I need to know about this, but nobody teaches a course on it!'

However, practitioners do desire closer ties with academia, and recognise that they need to play a proactive role in addressing the disconnect.

## Dolores:

I guess this is just something that we as a group should lead. We know this is the right direction to take.'

# 4.3.2 Trust and respect are essential elements of the relationship

Practitioners identify trust and respect as essential elements of their relationship with academics, the lack of which exacerbates the relationship disconnect. They are fundamental to, and reflected in, the manner of communication between the two parties, as described by Archie,

#### Archie:

"... the two words that come to mind are trust and respect. There are certain academics who, although they may have very good academic credentials and maybe very good teachers, I wouldn't want over here because I think they don't trust and respect us. It's evidenced by the way that they interact with us. They tell us what to do. And our response is "well, we can't do that, it's not practical". "Why can't you?" sort of thing. So they are always questioning our professional integrity or our advice. Where's the trust?'

Archie also notes the importance and beneficial impact that trust and respect from academics has on making the relationship functional. He cites evidence of it in this case in the manner in which the Author communicated with the workshop participants and their manager. He felt that they (practitioners) were listened to, and that their opinions were respected. Consequently it was viewed as a respectful, functional relationship, which contrasts strongly with his experiences over the last two decades.

#### Archie:

'So it's a bit of trust and respect on both sides will go a long way, and that's why you particularly engender that I think because you're sensitive to the dilemmas that we face, that you respect our opinion. You work with us. You listen to what we say. And you provide the expertise that we expect.'

A similar response that focussed on respectful communication by the Author came from Harry, a BA.

# Harry:

"...in this engagement our facilitator [academic] has actually spoken with us, not to us. That is fairly important ... So therefore that is something that we would be looking for in an academic. Someone who is actually a communicator."

# 4.3.3 The relationship and knowledge flows must be 'two-way'

The relationship must be 'two-way' in nature, with academia being aware of the real-world of practice and learning from it, as well as providing a source of knowledge for practitioners.

#### Archie:

"...hopefully it's a bit of two-way sharing."

#### Angelina:

'Bit of feedback both ways.'

As noted by Angelina, it is important that practitioners are actively involved in the knowledge generation and exchange processes so that the practical implications of research are considered,

#### Angelina:

'It goes back in the other direction too, in that academia should not be divorced from reallife projects in that it's no good for academia to be researching in theory - this works beautifully. Something like System Development Life Cycle methodologies are a bit like that. They go just something fantastic in theory, it's great, but you can't even put it in practice!'

The potential for practitioner contribution to knowledge must be recognised. Academics need to be exposed to, and informed by, what is happening in industry where there may be innovations. It is also beneficial to have academic theories examined, especially by interested, senior practitioners who are empowered to influence the adoption of ideas that emanate from academia.

# Angelina:

... 'we are happy to express ourselves and argue a point, whereas if you have somebody less experienced they may take more of what you say for granted – whereas we never let you get away with anything!'

#### Delores:

'I think probably that our having a reasonable amount of experience in a range of areas that has probably been a good thing. We are all coming from a reasonably broad base.'

## Jack:

'But also we have the power to actually implement it. We can actually push this out. Whereas if we were on a lower level, then we would have to convince management, which I think makes it a lot harder.'

The participants felt that their workshop experience embraced an appropriately two-way communication flow of knowledge and ideas.

#### Delores:

'...conveying of information, so you have information that basically goes one way, whereas this is much more facilitation, ...which is quite different to an instruction...'

#### Harry:

"...in this engagement our facilitator [academic] has actually spoken with us, not to us. That is fairly important because sometimes academic rigour and experience tends to, I wouldn't say they think they have a mortgage on knowledge, but they certainly expound it in one direction! And they do not welcome any feedback, or allow any tailoring."

# 4.4 The Practitioner Perspective on Academia and the Academic Role

An important aspect of addressing the academic-practitioner relationship disconnect is to better understand the practitioner perception of academia and the academic role. This section relates to Research Question 2. In what follows, the practitioners' perception of the academic role and academia, as it currently stands, as well as what they think it should be, is

explored. While the Author openly shared an understanding of the academic world, she did not challenge the practitioners' opinions, as she wished to avoid making them defensive and so jeopardise the free flow of ideas.

# 4.4.1 Practitioners perceive there to be two distinct groups of academics

When discussing their perceptions of academia, practitioners made reference to academics falling into two quite distinct groups. They distinguish between the two groups on the basis of an academic's potential to interact positively with practitioners.

Harry distinguished between 'academic' academics and 'competent' academics,

## Harry:

'I'm very happy to have a 'competent' academic, as distinct from an 'academic' academic, facilitate this... An 'academic' academic is someone who basically isn't grounded... to be really grounded, stuff has to come out of the workplace, rather than from ... a student or laboratory environment.'

When prompted regarding whether he thought some academics would not be suited to the workshop style interaction, Harry responded,

## Harry:

'I would have to say yes, because some academics are focused on research for research's sake, and they are not actually grounded. I mean, there's nothing wrong with research for research's sake, but for what we are trying to do here we are trying to actually develop a useful tool, a pragmatic thing based on user practice. Therefore we need someone who can understand the needs of user practice which is active research; "get down and get dirty!"

Jack made a similar distinction between 'pure research-style' academics and 'real-world' academics,

# Jack:

You get the 'pure' academics that are only here to do research and scholarship, and they have a 40-year career, and that's what they're interested in. And then you get the ones like QUT that advertise as 'real-world'. They've got the 'real-world' academics, who've actually got professional experience, and have worked in the industry for years, and they are coming in to share that knowledge. I think there is a big difference in attitude when you talk to those different groups. You get the pure research-style academic and start talking about practical problems in the workplace, to them. They don't want to know about that because it doesn't fit into their nice model. But then you get the real-world ones who actually understand those sort of constraints and actually can adapt to work with you. There's a big variation.'

'I don't think it [workshop style interactions] would work with every academic. I think you have to have that interest outside of academia to be able to support it.'

# 4.4.2 Practitioners perceive academics as having high-level research skills

Practitioners assume that high-level research skills are a core competency of academics. They see this as a feature that distinguishes academia from practice.

# Angelina (email):

'I had excellent access to a great deal of tailored material, which I would not have had the time, (or the research ability) to find otherwise.'

#### Delores:

'The workshop coordinator [academic] was able to feed into the group an absolute wealth of current resources directly relevant to our requirements. The ability of the group to draw on academic specialisation in interpreting what was relevant in particular situations was excellent.'

Practitioners now tend to view the Internet as almost the sole source of information, and focus almost entirely on information that is available without charge. While academics also source much of their information via the Internet, much of it is via restricted sources, especially university library-based databases. Academics also have access to and familiarity with a wide range of textbooks. Interestingly, access does not seem to be the precluding factor in this case, as non-academic university staff (i.e. BA Workshop participants) also have access to these databases, and many of these textbooks are available in university libraries.

#### Delores:

"... and having an academic that has current 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 and thinking "here's a good article", but you don't know what the overall basis of that thinking is."

#### Researcher reflection:

My experience with the practitioners is that they often accept and implement the first resource they find that appears to have promise. Delores did that when wanting to adopt a so-called 'agile' approach to systems development: "I have found the book", she said. Whereas as an academic, I am trained to search for multiple sources which I subsequently review for quality and consistency. I reviewed many textbooks, practitioner books, websites, discussion boards, and academic literature as a body of knowledge/scholarship for my academic course leaderships. Academics tend to look for 'concept saturation' as a precondition to moving on to implementation. This may occur quickly where the

researcher is experienced in that topic, having read widely, taught and practiced in it. This enabled me to aggregate suitable materials for each of the BA workshops relatively quickly, usually in less than a week, as I had taught much of the material for several years. My scholarship was complemented by a practical understanding of from my prior industry work experience.

# 4.4.3 Practitioners perceive academics to be state-of-the-art subject matter experts

Perhaps surprisingly, the findings demonstrate that practitioners see academics as independent, up-to-date subject-matter experts. The BAs were confident that they were being provided with contemporary, high quality, industry-appropriate information.

# Angelina:

'... because ICT is such a changing industry, trends change all the time... we would hope that any academic would give us, at least validate, that what we do is a current trend thing and a current practice, so that we are not falling behind in what we do... So you are looking to academia to point you in the right direction and keep abreast of the way industry is going. Instead of every time having to go out there and review what everyone else is doing.'

#### Delores:

'but if you come back to an academic who can back that up with here's ... current thinking. Professionally, that's such a great base to come from and to work from.'

Practitioners attach significant credibility to academics' knowledge and advice, and perceive it to have a desirable independence (compared to vendors and consultants), as noted by Delores,

#### Delores:

'I think that probably an independence, and also to know that there is a source that says "the current thinking on this from research etc; this is the best way to go for right now, and this takes the best of that". We were talking about methodologies before and the Systems Development Life Cycle and one of the concerns we had was, I think this could be the case in a lot of organisations, where people have bits and pieces and they try to throw it together into a model that has bits of this model and bits of that model and they think that this is going to be better, and in my mind that academia could say: "no, in fact if you do that you actually ruin the process of this particular methodology by throwing other bits and pieces".'

The perception of academics as subject matter experts is also shared by the BAs' manager, Archie,

#### Archie:

'And it's also interaction then with the academic expert here ... So that's where you're coming in with the expertise and guiding them and then they are developing something that's culturally and contextually relevant'.

# 4.4.4 Practitioners perceive academic knowledge as a basis for 'best practice'

The BAs perceive academics as having access to valuable knowledge repositories. They perceive academic knowledge to be a foundation for 'best practice'. Though not explicitly defined by them, they perceive it to be a desirable state and something worth aiming for.

# Angelina:

'We are not just doing this from our own viewpoint, that it is an industry-accepted standard that we are looking at...'

### Researcher:

'OK, so the element of 'best practice', is that an appropriate term? Is it important to you professionally?'

# Angelina:

'Definitely!'

#### Delores:

"... we developed into best practice thinking."

It is highly desirable to have work practices underpinned by academic research and theory, as it increases practitioners' confidence regarding the quality of their work. Angelina (emails) places great store in the academic respectability of the knowledge gained:

#### Angelina:

The workshops allowed me to focus on how to do the job... with a reference to industry (and academia) current research and best practice...' and

'We developed an excellent exchange of ideas, and as we all were working towards the same goal, of producing quality appropriate "best-practice" work; we now had common terminology and framework to do it in.'

Archie, also discussed 'best practice' within the context of the academic knowledge disseminated during the workshops,

#### Archie:

'Best practice invokes the word 'proven' in my mind. So rather than some person who develops a theoretical framework in which to deliver something, or says this is the way

you should do it, code, do analysis, the tools you should use and things like that. Best practice implies to me that people have used it and they have found it effective. So there's a sort of validation of it. Therefore if it's been validated outside, except for certain organisational differences and culture scale, applicability, whatever are the contextual things, then it's important to introduce that. It's a proven framework, so I think you used the right word. Rather than say "we'll do the theory of business analysis, we'll look at the best practice of it, and then see how that applies within the context". Because we should be looking at it... where the best practice comes in from my point of view is that it gives rigour to what they will end up coming up with.'

# 4.4.5 Practitioners perceive academics as different from consultants and trainers

The BAs conveyed a perception of academics as being different from consultants and commercial trainers on a range of characteristics, all of which reflected positively on academia. Academics are perceived to have a desirable independence that sets them apart from commercial trainers and consultants, both of whom are perceived to be tied to a product or service.

# Angelina:

'I also think academia can probably give an independent opinion when you train, rather than when you go for a training course which is usually focused on the product that you have been sold and therefore you get their thoughts, whereas sometimes that's not actually the best plan.'

#### Jack:

'I don't know if there's a huge lot of difference there. Probably the only thing is if you get a consultant in, they are probably going to push their methodologies, and whatever their training is in-house. And they won't be as obliging as to say "well, any variation is not going to work of course". You have that with a consultant.'

Practitioners also identify the importance of contextual understanding, both in the broader sense as well as the specific. They accord this ability to academics, but not consultants or commercial trainers.

Harry (uses the terms 'R & D' environment' to represent academia, and 'production environment' to represent practice),

#### Harry:

'... quite often the consultant's workload and background suggests they may not be able to give us the broader contextual designs that I like to have in there. You get this from an academic or someone from an R & D background, as distinct from production.'

# Darryl:

'When you go away on a training course, you learn a lot of best practice. Then you come back and say "what do you do with it? What do you do within this environment?"'

The workshop approach was seen to be a more collaborative, two-way knowledgefacilitation mode, compared to the more pre-set knowledge delivery mode Delores attributes to commercial trainers.

#### Delores

I think the way it [workshops] was designed is much more facilitation than instruction. I think in the more classic, go away on a training course scenario, talking of comparing it to you before, that conveying of information, so you have information that basically goes one-way. Whereas this is much more facilitation. So you come along as a facilitator and you have a range of information that you present, and then we query it as appropriate, which is quite different to an instructional model. The main difference is the facilitation emphasis.'

Researcher: 'So that model has better met your requirements in this situation?'

Delores: 'Absolutely!'

Furthermore, commercial training is seen to be prescriptive and relatively inflexible compared to the BAs' workshop experience, as noted by Delores:

'I was keen on looking at this presentation rather than going off on formal training, because it would be more 'on the job' and we could work on things that would be relevant to what we are doing at the time.'

#### Researcher:

'Therefore the role of the academic is somewhat different in terms of what the alternative might have been with a training program where you went externally?'

#### Delores:

'Because it means that the content has to be variable. When you come along with content we expect the content that we are not interested in to not be presented. As I said, if someone is preparing a class and says "this is what I will present to you today". We are more equal partners in lots of respects, such that we can say "no, we don't want to learn that today, we want to do this". And that's what makes it more practical I think; a much more rewarding experience, the sensibility.'

Researcher: 'It's important to you?'

Delores: 'Yes, absolutely!'

This distinction regarding trainers, consultants and academics, especially with the advantages of the workshop approach, is also shared by the BAs' manager, Archie,

#### Archie:

'... the original thing that appealed to me was the idea that if we send them to a training course they get the entire curriculum in one bite, then they have to go back and try to apply it independently without guidance ... it also effectively developed the tools that they are using as part of the training, so they are allowed time to debate the theory and then develop tools progressively that they were able to, as part of their training, effectively deliver work-related outcomes. But also that allowed them to digest each component at a time. So there's progressive building of knowledge and tools and rather than all in one big bang. Also that things could be more specified; the order of things could be targeted to suit what they were doing in their workplace.'

Another relatively positive aspect of the BAs' perception of academics is that they attribute substantial credibility to academics based on their teaching role, as noted by Angelina,

# Angelina:

'My perception of business analysis training that is available is that it is very wishy-washy. No one knows exactly what a Business Analyst does, and I was hoping that having someone train us who teaches an academic course in it would take us through things that were relevant to what we were working on...'

Academics' 'passion' and generally non-commercial focus is also raised as being a positive distinguishing feature, as noted by Darryl (Principal Manager Infrastructure and Systems),

#### Darryl:

'... you tend to find an academic isn't going to be involved in a project if they don't feel passionate about it and interested in it - where it has bigger value. I could easily go and get a contractor to go through the same sort of steps you did and have the same sort of material and that sort of stuff and spend some money. And unless they are actually like you, it would probably be more about the money: billable hours and lots of money for accommodation. And that would be the likely focus of the actual delivery of a lot of it. And quite often we get consultants and trainers like that. Every now and then you get a trainer who does and he's an absolute gem and actually really has got the passion for the thing and that's great. You tend to find that more in academia I think. ... It works well because the dollars are something which are just an evil necessity. It's not the primary reason you are doing it all.'

# 4.4.6 Practitioners perceive the ideal academic role to be a holistic one

When considering an appropriate role for academia, practitioners tend to think in terms of a holistic one that incorporates interrelated research, teaching, consulting and community service.

Harry has particular views of the research function of academia, and how it (academia) may operate as a knowledge repository,

## Harry:

"... we are in a production environment, not an R & D environment, so therefore the scope, background knowledge and reading has to be acquired in an R & D environment for any given job. We don't have the time. Therefore we are looking for an academic who, as Delores said, is more R & D environment, to actually have done that background reading, done the research, to present to us a structured presentation based on sound reasoning within that domain - to give us a good broad-spectrum grounding so that we pull up a whole heap of experience in a very short time. And when I say pull up their experience, I mean access through works, not hands-on skills, but the thinking that goes with what we are doing. For me, having an academic in there is a little bit better than having a consultant because quite often a consultant's workload and their background will mean that they may not be able to give us the broader contextual designs that I like to have, which you get from an academic or someone from an R & D background as distinct from production. So therefore I'm very happy to have a 'competent' academic as distinct from an 'academic' academic be facilitating this.'

Practitioners see part of the role of academia as being a service to provide knowledge that will enable them to become more efficient in their daily work. Harry commented,

#### Harry:

'... so what I need from academia is methodology such that when I am working I am not working from first principles as I tend to. I am working with established or semiestablished methodologies which let me process things a lot quicker. What I am looking for I guess is to pick up a level; my broad knowledge is basics in first principles to have to call it second-order type knowledge whereby I have extended my range of useful tools.'

When considering the issue of community engagement, Harry draws attention to the particular nature of the engagement in this regard,

#### Harry:

'The university does learning and teaching, research and community engagement. What I find interesting is that what we have done is go intra-community rather than intercommunity. I think that is probably a significant first somewhere, if not for this place, for other universities, because very few of them even recognise their own qualifications let

alone give support to their own staff. So I think the fact that this has been 'intra' is very significant.'

Darryl expressed the view that the impact of university research in Information Systems has declined in favour of industry-based research. He sees this as negatively impacting IS academia because of competition for research funding and human resources,

## Darryl:

'A lot of the key research and advances in information systems doesn't happen in universities any more. Traditionally it did. ... There's just so much research money being put into private companies and that sort of stuff. ... Academics need to keep up and that's basically their competition challenge, you've got to compete with IBMs and the Googles and the Microsofts who have academic-type staff... a lot of the brain-drain in the information systems.'

Angelina emphasises the need for teaching courses that are attractive to practitioners, through having practically relevant and contemporary content,

# Angelina:

I have no idea what the current school of thought is. And I asked "what do you teach students?", because I don't have time to go out there and research. I really needed to find out something about a specific technology and I said "What's an industry-based course I can do?" I'm in the university - there must be something! I need to go and try to find a practical university course that I can relate to. And that's not necessarily easy. I need to know about this, but nobody teaches a course on it!'

Practitioners view positively academics who have knowledge that they perceive would be useful in professional consulting. They also recognise a need for the academic to balance the workload between professional 'consulting' engagements and other academic roles. Jack made several comments accordingly,

## Jack:

'It's a really good example [these workshops] of community engagement where you're using an academic in a real business situation ... I think if we went out to the community and did that as well, that would be a big boost for USQ as a university. To actually say that we have got our academics in the industry, consulting and advising in the industry at large - I think that's all part of the bigger picture.'

Well I think it needs to be recognised in the workload. I think it also needs to be controlled so that it's not their major responsibility. It gives a balanced approach. I don't quite know what models other universities have that do lots of professional engagement, whether they actually actively market themselves in that role. But it would be interesting to see how they actually structure themselves to do it.'

'I wouldn't like to see academics being employed with the university just to push them out as consultants to do this type of work. I think there has to be a balance between doing their teaching, their research, and their professional engagement.'

The Principal Manager, Darryl, notes the dissonance in value systems and understanding between what he, as a practitioner, values, and what the academic promotion system rewards. He also views publishing in practitioner journals as having greater impact and relevance for him.

# Darryl:

'Yes, someone who churns out twenty research papers that are complete and utter useless rubbish will get a bigger kick along and review than you doing this sort of stuff. Because I think this sort of stuff in information systems is eminently more valuable, like for the broader community. Fair enough, you are probably going to report this, but the more appropriate way for you to report this is like in an article in MIS magazine and these sorts of things because that will get you ten times the audience that a research paper will. That's just not understood in academic circles...It wouldn't count towards your academic career.'

Darryl notes the inherently different cultures of practice and academia, and the difficulty of achieving change.

# Darryl:

'On my side it's fairly easy for us to give it that sort of visibility but basically we have the capacity to be flexible because we are like a service organisation. Academia has, like you know, a different set of rules. It's a different sort of club, and it will be infinitely harder to impress and change.'

# 4.5 The Practitioner World and Its Knowledge Concerns

An understanding of the practitioners' perspective on their own work environment and its pressures is essential in any comprehensive investigation of the academic-practitioner disconnect. This section relates to Research Question 3. Much of the relationship between academia and practice is conditioned by knowledge issues. In many senses they are the underlying substance of the relationship. Matters of concern include the form that knowledge takes, how it is generated and disseminated, and how it may be shared between the two parties.

# 4.5.1 Practitioners perceive themselves to be short of time

Practitioners consistently report that they suffer time shortages in their daily work-lives.

## Angelina:

'I think working on projects and things that we don't have time to read and search the Internet thoroughly.'

### Delores:

'Without the academic's assistance this exercise alone would have been extremely time-consuming.'

The practitioners' focus is dominated by their immediate workload. Being short of time makes it difficult to stay up-to-date in what is a rapidly changing field.

## Angelina:

'...because ICT is such a changing industry and the current trends change all the time. We don't have the time to do research'

## Harry:

'... in production as we are now, ... we don't have enough time... With my limited experience I don't have time to put the polish on what I do...'

Being short of time is related to practitioners' perceptions of suffering information overload, as noted by Harry,

# Harry:

"... because of mental blocks when one looks at the sheer volume of paper and reading that one has to do to take it to something that is actually a viable tool to use ... I have just picked up a great big pile of papers about four inches thick which you have to read. You usually ask "what the heck is going on?"

The practitioners' interest in any theory or academic knowledge is mainly driven by whether they are currently experiencing practical problems in the area of potential application for that knowledge. Implicit in Harry's statement is the perception that academics do not suffer time shortages in the same way as do practitioners,

# Harry:

'... we are in a production environment, not an R & D environment so therefore the scope, background knowledge and reading that has to be acquired in an R & D environment for any given job, we don't have the time, so therefore we are looking for an academic...'

## Researcher reflection:

The 'immediacy of concern' issue is also evident in the selection of topics for the workshops. The researcher proposed a list of potential topics from which the BAs and their manager could choose. The choice was extended to them being able to nominate the order in which the topics would be presented. This was typically driven by their most

immediate needs arising from the particular projects they were working on at the time. This was evidenced by their choice of Testing Strategies as the first workshop, when a more foundational topic such as Requirements Modelling would have been a more logical starting point. On occasions the order of topics was changed for this reason. Furthermore, not all of the topics suggested by the researcher were covered, as the BAs did not feel they had a particular use (application) for them at the time. An example of this is the Joint Application Design technique which is an industry standard for the elicitation of system requirements.

Practitioners do not appear to read very much. In particular, they do not read books. This may be related to their busy work lives and lack of time.

## Researcher reflection:

I observed that the workshop participants did not seem to read many books, even those by practitioner authors. I was interested to see what impact targeted reading might have as a way of introducing them to a wider range of professional influences. During the workshops I had referred to books I thought would be useful, and even borrowed one for them from the library on an internationally renowned business analysis approach. However, these suggestions were largely ignored. After the completion of the workshops, one of the BAs contacted me to ask me about some suitable reading on project management, as she knew that it was another of my teaching areas. She had been promoted into a project management role, which once again was an area where she had limited experience and knowledge. I loaned her my copy of Ed Yourdon's (1999) "Death March", a highly regarded 'classic' on project management, written by a renowned consulting practitioner. This time the referral really seemed to have impact.

## Angelina (emails):

'The book looks intriguing and exactly what I need - Thanks so much!!! I think I'll be reading it tonight!'... and later,

## Angelina:

'Sorry it has taken me so long to get back to you. I thoroughly enjoyed the Death March book, in fact I read it as I would a novel, in a couple of days!!! I also got a lot out of it.'

#### Researcher reflection:

At the time, I reflected on why the response was different to previous occasions. Maybe it was because she was facing an immediate work need, for which there wasn't a similar group workshop available. It also may have been either that her earlier experience in the workshops had altered her perception of academics' advice, or that her learning approach had developed.

# 4.5.2 Practitioners do value academic theory

Practitioners do value academic theory. This appears to be a consequence not only of covering theory in the workshops, but also applying it to the BAs' real-world projects. It is important to them to have the theory to back up their practical knowledge and what they do in their daily work. Angelina equates academic knowledge with best practice and industry-accepted standard,

# Angelina:

'... 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'.

Jack sees it as highly desirable to have work practices underpinned by academic theory.

## Jack:

I am actually combining the two together, I am actually looking at the theory and how you apply it. It's been really good... doing it, you don't really think about the theory... So it was really good to have them both in the same context. To actually be able to see how theories are applied with the techniques that you are using. I found it reaffirming that what we are doing is sound professionally and it can stand up to criticism and 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". I think that has been good too making sure that we are on the right track, sort of thing, with what we are doing.'

This theoretical backing increases practitioners' confidence regarding the quality of their work. This in turn feeds directly into feelings of professional satisfaction. Delores places a great deal of store on the academic respectability of their knowledge.

## Delores:

There is a lot of professional satisfaction knowing that you are looking at best practice based on current thinking.... 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. ... 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.

## Researcher reflection:

At the time of the interview I reflected on how reassured they as practitioners felt about being able to defend their work as 'professional', because of the perceived academic base. It seemed to be an interesting and important finding. I find it somewhat unexpected, a pleasant surprise that they attach so much importance to the academic knowledge base,

especially given the disdain that is sometimes accorded academic 'theory' and the negative perception of IS academics. I am acutely aware of the problems of the past, and therefore very careful in how I approach the practitioners and the claims I make about the academic knowledge base. I choose the tools, techniques etc. carefully and let them make their own impact. It is an important positive for academia being able to contribute to practitioners' professional pride because it is a great opportunity to address the strained relationship.

# 4.5.3 Industry credibility is an important characteristic of knowledge for practitioners

Notwithstanding prior findings regarding practitioner respect for academic knowledge, practitioners value knowledge that is recognised as valid by their peers.

Angelina is referring to the acceptance of their adaptive system development lifecycle methodology (one of the major outputs of the workshops), which had been part of their presentation to management at the conclusion of the workshops. A number of key applications developers (peers) as well as their managers were present,

# Angelina:

"... professionally, the acceptance by everybody else made me feel that what we were doing was actually accepted industry practice. We could prove it, as we said, we had back-up theories to prove it, and it was acceptable, so professionally I think we are on the right track... It really proved to me that what we have been doing has had a sound basis that we could put it out there to a number of other professionals from similar backgrounds and have an overall acceptance of the theory of what we have done."

## Harry:

'From a personal point of view I found it very engaging, I found it very useful... something that stands examination and I've actually gone away and used it and built up enough expertise such that I can present a job or I can do a presentation with it that I am prepared to do in public and can defend. I think that's really good.'

This was echoed by their manager, Archie,

## Archie:

'... an industry standard or a rigorous methodology so that they know they are doing the right thing, not dreaming it up themselves.'

# 4.5.4 Efficiency impacts are an important characteristic of knowledge for practitioners

One of the major impacts that practitioners seek from academic knowledge is improved work efficiencies, as noted by Harry,

## Harry:

"...so what I need from academia is methodology such that when I am working I am not working from first principles as I tend to. I am working with established or semiestablished methodologies which let me process things a lot quicker. What I am looking for I guess is to pick up a level; my broad knowledge is basics in first principles to have to call it second-order type knowledge whereby I have extended my range of useful tools."

When asked to nominate a key performance indicator of the impact of the workshops on their work lives, the main one was the techniques they had learned and the templates they had developed for their work during the workshops. Both of these had resulted in significant efficiencies.

## Angelina:

'I have reused that template three times already... It has taken me less than half the time because I have been given guidance on how to, words on what to write. ... I have reused the Test Strategy last week and literally it was a one-hour job to adapt it to something that I think was expected to take me a day. It was literally a one-hour job to do it!'

## Harry:

'From that I have also picked up some tools which have allowed me to standardise how I think, and also standardise how I present it, and hopefully allows us within the group to be able to communicate much more efficiently because we are using an effective common language.'

## Angelina (email):

'Some of the tools (e.g. Activity and Use Case diagrams) are very practical as a way to organise and document my analysis, and help me structure thoughts more clearly. I am able to produce certain things such as Test Strategies in an extremely efficient manner, knowing that the templates will ensure I address the important aspects.'

The workshops delivered academic content that underpinned efficiencies in the practitioners' regular work. This was reported by all the BAs. From their perspective, this was an unexpected beneficial outcome, as noted by Delores,

## Delores:

'...but the real measurement of that is how many times we get to reuse them, and I think that's a significant thing. An example of that is the Package Diagram... that is something that we have taken from a theoretical discussion when we first started... a conceptual thing, ... I have been amazed at the number or the amount of interest that has generated and also how applicable it is to a whole lot of different activities...'

This was also noted by the BAs' manager, Archie,

### Archie:

T've seen, for example, Harry do requirements document which includes use case models ... and I see the same things being used by the others as well. So they've obviously developed a skill, they understand it, and they understand how to use it themselves, and apply it, and doing so quite consistently. So I suppose that's the key thing, namely the rapid ability to deploy it, and, as well, consistency. Because you have trained a group rather than not individuals.'

# 4.5.5 Context is an important characteristic of knowledge for practitioners

Knowledge must be relevant to the context in which the practitioner is working. To be interested in knowledge, practitioners must be able to see how it applies to their context.

## Harry:

'It's facilitated cutting through the process. Certainly understand the process that was thrown up there by James [in Project Management]. But it has also put it into context for me. ... It allows me to understand that. It allows me to pick out the pieces of that which I need... I am using what has been morphed into the diagrams that we have been using. So I understand where those diagrams and tools and templates come from, but I also now understand how they have been used in context. I have a very good grounding in the understanding of how to use them.'

They also must perceive it to have the potential to solve a (practical) problem that they are facing. This was raised by Angelina,

# Angelina:

"...I was hoping that having someone train us who teaches an academic course in it would take us through things that were relevant to what we were working on. We would just gain a lot more useful information that we could apply every day in our job."

The context of practitioner's work is often what brings greater complexity to it. This is most evident when working from academic theory which necessarily uses simplified models to make a point, but which requires extra understanding to apply it to a real-world problem. Practitioners' contexts are a very important environmental influence when it comes to utilising knowledge. Through applying and adapting the theory to the practitioners' own projects, the 'scalability' problem, often present when dealing with real-world solutions, is avoided. This is described by Jack,

## Jack:

Probably the most important thing is that we look at it in our context. It's all derived around the peculiarities that we have in our structure and policies and procedures, and we have been able to take those into account. And then when we are looking at examples

and working through stuff, we actually look at all projects that we are doing. We are not doing "Mrs Mobb's Bakery down the road", which is all very well in a nice simple situation, but it's not like what we are working on. It doesn't have those same sort of complexities and that sort of stuff, so I think to be able to have something tailor-made to our environment and with our real-life projects is a huge benefit over just going to a training course where everything is delivered as if you are in Utopia, and nothing else happens around you.'

The importance of context was also affirmed by both managers, in response to the Author's question 'So the context for knowledge is really important?'

## Darryl:

Yes, it's the same sort of thing as Archie was saying before. When you go away to a training course, you learn a lot of best practice. Then you come back and say "what do you do with it?" What do you do within this environment?'

## Archie:

'So that's where you're coming in with the expertise and guiding them and then they are developing something that's culturally and contextually relevant'.

# 4.5.6 Timeliness is an important characteristic of knowledge for practitioners

Practitioners' focus is on the immediacy of the work on which they are engaged at a particular time. Hence they are most likely to be attracted by knowledge which can be used straight away in their work environment, as noted by Delores,

#### Delores:

I was keen on looking at this presentation rather than going off on formal training, because it would be more on the job and we could work on things that would be relevant to what we are doing at the time.'

'You talk about the stuff that we think is important.'

The benefits of knowledge that is perceived to be immediately useful and has the potential to have significant work impacts may override other problems. In this case the BAs chose to address software testing ahead of more foundational topics. Though this caused them some problems in lacking base knowledge, as Angelina comments it was the right decision as they had a project at the time where the pressing need was for a testing strategy.

### Angelina:

'... we picked testing because it seemed to be the most logical. It's a bit hard to do the testing without having done some of the background requirements, but that's OK. You

may consider that maybe we picked wrongly... in terms of the, you know, maybe we should have gone for the more logical [topic]. But it doesn't matter!'

This is a consequence of the real-world environment where choices are driven by what is happening in their work at the time. Different work projects bring with them different requirements and emphases, as commented by Delores,

# Delores:

'That's the reality in industry that in your role you come into different projects. You don't always have choice, do you?'

# 4.5.7 Applicability of theory is an important characteristic of knowledge for practitioners

Practitioners do not respect 'raw' or unrelated theory, and this appears to exacerbate the academic-practitioner disconnect. Jack comments accordingly,

# Jack:

'I find when you go on a committee that's mainly academic staff, the differences in the issues that they discuss - it's all theoretical stuff, and you think... "we are trying to implement a system here, who cares what pedagogy is, and how does that apply to which server we are going to stick it on?"

Practitioners' prior experiences of theory that has not worked for them in their real-world problems raises their suspicions and exacerbates the disconnect. Angelina comments,

## Angelina:

'It goes back in the other direction too in that academia should not be divorced from reallife projects in that it's no good for academia to be researching in theory - this works beautifully, just something like life cycle methodologies are a bit like that, where they go just something fantastic in theory, it's great, but you can't even put it in practice.'

As shown in other findings, practitioners do respect academic theory, but it must be shown to have applicability to their situation. They deeply value the opportunity to understand a piece of academic theory and then apply it to a problem/piece of work in their own context. It makes them feel confident in defending the professionalism of their work, as noted by Jack,

# Jack:

'...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."

Both academics and practitioners in applied fields such as IS have much to gain in terms of knowledge through the application of academic theory into real-world situations. Theory successfully applied appears to contribute significantly to the healing of the academic-practitioner disconnect.

## Delores:

'But add the sort of pragmatism that we have added to what we're working on. As a group of people, we're all sitting in the work environment and we can be pragmatic; instead of going off on a tangent and thinking "well in some theoretical organisation this would be a great thing to do". We are actually looking at something which is a professionally high standard, which is applicable to our current work environment in our current projects. To me that's professionally very satisfying.'

# 4.6 The Effectiveness of an Academic-Practitioner Workshop Approach for Addressing the Academic-Practitioner Disconnect

One of the main research objectives of this case is the trialling of the workshop approach (using AR) as a means of addressing the academic-practitioner relationship disconnect. The findings in this section are worded in a manner that might be interpreted as 'general truth'. The Author is very aware that, more cautiously, the findings ought to be viewed as indicative, only, of a broader applicability but not, *per se*, 'proof' of generalised outcomes. Notwithstanding this cautionary note, the evidence gathered is persuasively suggestive of significant generalisation. This section relates to Research Question 4, and has an AR focus.

The findings in this section have potentially serious implications for academic workloads, academic reward systems and even how academia is structured. As previously noted, the aim is to elicit the practitioner perspective, irrespective of the practicality of the implications that may arise from their comments or opinions. This issue is considered in a more critical light in Chapter 6: Discussion.

# 4.6.1 The workshop approach provides an effective forum for linking theory and practice

One of the positives identified by the practitioners is that the workshops are an effective forum in which links between theory and practice can be explored.

Jack (email):

I think the workshops have been very effective in linking the academic theory with the hands-on day-to-day work. I found it useful to learn about the theories behind the practises that we perform on a daily basis.'

## Archie:

'... unless they do a lot of case work within the training which will allow them to make the transition between theoretical and practical as far as a workplace scenario goes.'

## Harry:

'Professionally – from the workshops I appreciate the fact that everything that we have generated out of there has a sound academic background. If you look at what we have done we can justify everything that is in there based on academic theory and pragmatic experience. .. And everything that's up there is justified and can stand examination, so that gives me great confidence in the work that has been done, that's from a professional point of view. I think that it's been a very professional job.'

Through focusing the workshops on relevant theoretical elements and their application to real world projects, led to process improvements in the workplace.

# Jack:

'Process improvement in being able to apply the skills that you are learning in the workshops into the workplace. And also to apply them consistently across different areas...'

## Harry:

'It's facilitated cutting through the process.'

# 4.6.2 The workshop approach facilitates effective dissemination of academic knowledge

The workshops were considered by the BAs and their manager to have been an effective forum for delivering a sound understanding of the academic material.

# Harry (after email)

'At the time I considered that the workshops were important and worthwhile. I still hold that view.'

# Angelina (after email)

'Overall I have found these workshops invaluable; and feel that with a minimum of time commitment, I have updated my Business Analysis knowledge to a level that has given me confidence within the industry.'

## Archie:

'So I found it more effective for that reason but it has allowed them to progressively develop stuff, they develop real workplace elements.'

In many respects the academic material, or 'theory' was used to give the practitioners a framework of reference that would help them better to understand their day-to-day work, and give them insights into how it related to other processes and procedures from other areas of their organisation. This may be seen in Harry's comment regarding his subsequent understanding of how his work fits into the broader organisational project management lifecycle:

It's facilitated cutting through the process. Certainly understand the process that was thrown up there by James [in Project Management]. But it has also put it into context for me. It has given me an overview so I can actually make a decision on what is presented in front of me in that vast... what part of the Amazon Jungle? It allows me to understand that. It allows me to pick out the pieces of that which I need. ... So I understand where those diagrams and tools and templates come from, but I also now understand how they have been used in context. I have a very good grounding in the understanding of how to use them.'

The workshops delivered academic content that assisted the participants to develop an array of practical skills to a proficiency level that enabled them to use them confidently in their jobs.

# Delores:

'...it's only when you look back at it in a different context like we did this morning when we did the presentation, where we went back through all the different things that we had developed and realised what a great amount of material, theory, and practical skills that we had covered that you realise there is a significant body of knowledge that we have learned and we can now take for granted. So I think that's a fabulous indicator of how successful we have been in acquiring skills in a whole range of areas,... I feel we have come an enormous way ... we had really made a significant amount of progress, and to get to that point where we can take that body of knowledge for granted in our day-to-day work.'

## Angelina:

I think the workshops 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 don't know that I actually expected that to happen. I have also found that what we have learned has allowed me even to conceptualise my analysis better and certainly to break it down the requirements better, that when I was at a block I then looked at our template and our tools and they actually did help me to do my job which I probably wasn't expecting it.'

## Harry:

The other thing is the repeatability, the fact that what we have generated we can re-use, especially if we save the templates... the tools that we used have repeatability and also the artefacts from those tools have repeatability. So that to me is great!'

# 4.6.3 The workshop approach is an effective vehicle for developing reflective practitioners

A number of positive staff development outcomes arose from the workshops, some of which are transforming.

Participants reported that their experiences in the workshop environment and interaction with the academic had the effect of encouraging them to become more reflective practitioners.

# Delores (email):

'Thanks to the workshops and being able to regularly take time out to sit back and think about how to approach things, we developed into best practice thinking and cooperative and supportive relationships.'

Interestingly Angelina (email) refers to 'academic research', which in this context may be more appropriately labelled as 'academic knowledge', since the resources for the workshops were largely drawn from academic course materials.

# Angelina:

'The workshops allowed me to focus on how to do the job, and reflect on if I was doing it properly, with a reference to industry (and academia ) current research and best practice. It has also given me the confidence to know that there is academic research that backs up what I do.'

The opportunity and freedom to discuss and reflect on the topics under consideration generated some interesting exchanges. While, on the surface, the tools and techniques used in business analysis may appear to be straightforward in terms of their implementation, there are many subtle environmental factors that present challenges. An example of one such discussion/challenge follows, and it is interesting to note the practitioner's (Angelina's) reliance upon Wikipedia,

## Angelina:

Hi guys - Yesterday when I was carrying on about impedance.... etc.... I was totally mixed up, so I have tried to figure out what I was talking about, and thought you might be interested in the impedance debate (between 00 and relational technologies, but interestingly, on Wikipedia, it is also attributed to UML and Relational type databases....

## FROM WIKIPEDIA

Cumulative Impedance/Impedance mismatch. As with any notational system, UML is able to represent some systems more concisely or efficiently than others. Hence a developer is influenced toward solutions that most comfortably inhabit the intersection of the strengths between UML and the coding language. This problem is particularly pronounced if the coding implementation language does not adhere to orthodox object-oriented doctrine.'

All the workshop participants consistently refer to a growth in their confidence regarding their work and knowledge.

# Angelina (email):

'It has also given me the confidence to know that there is academic research that backs up what I do.'

# Jack (email):

I am probably more confident in my approach to how I tackle tasks. While I have learnt the theory in the past and have had years of hands on practice, in my mind, I had never really linked the two. I now feel more confident in the tools and techniques that I use as I now know the link between theory and practice.'

# Delores (email):

'Having the tools to logically dissect a problem and determine a direction makes all assignments easier. It does come back to confidence - feeling that I have become familiar with current thinking better enables dialogue as required and once again make research and actual tasks easier.'

## Harry (email):

'... probably due to increased confidence as the workshops added to my skill base etc. and consequently affect how I approach, undertake work and draft outcomes of analysis.'

The workshop experience produced evidence of the practitioners' deeper/higher learning beyond the immediate subject matter, influencing how they solve problems and learn in their daily work. This experience positively changed the learning habits of the participants toward becoming more analytical.

## Jack (email):

'I am probably just more confident in my own skills and tools that I am already using. When looking at new approaches to problem solving or evaluating others I tend to look for the academic rigour of the approach. Is there a solid research/theory that backs this up etc?'

## Delores (email):

'I now have more confidence about the framework, strategies and expected outcomes heading into any BA task. I have also recently acquired a modelling tool for the BA team to use. I was able to use the background knowledge to assess the tools and use a case study to evaluate the range of functions it offered. I believe this will make a huge difference to the ability of the group to do analysis, reuse knowledge and present it to clients.'

# Harry:

'From that I have also picked up some tools which have allowed me to standardise how I think, and also standardise how I present it, but allows hopefully us within a group to be able to communicate much more efficiently because we are using an effective common language.'

# Angelina:

'I have also found that what we have learned has allowed me even to conceptualise my analysis better and certainly to break it down the requirements better, that when I was at a block I then looked at our template and our tools and they actually did help me to do my job which I probably wasn't expecting.'

#### Researcher reflection:

The participants appear to have developed skills to continually refine their techniques and processes. This is evidenced by their success in fitting them to their existing projects, and then refining them and converting them into generalised templates for application to new projects. Even the process of converting the first exemplar (test strategies) into a template became a standard for the rest of the template developments.

The impact of the workshops continued for Angelina even after she was appointed to a project management position:

## Angelina (email):

'I do use the adaptive lifecycle method to manage my current project, so I will be in a position to, and would really like to refine some sections of the SDLC in the future.'

## Researcher (emailed follow-up question, after workshops):

'Do you find that you now approach your work in any way differently as a result of the workshops?'

## Harry (responding email):

'I still approach work in the same way but now I document it systematically. The workshops have added to my knowledge base (in an incremental manner) which affects how I approach conceptualising systems.'

Both managers identified beneficial human resource impacts. The workshops had been effective in providing a positive and sustained outcome for the participants. Furthermore, by training a whole team there is sufficient critical mass to ensure that the impact does not get negated or lost.

# Darryl:

'... for me, it's like an HR perspective. Probably the key indicator is the subjective value the actual business gets. Like they came back and said it was positive and that they were happy with it. So I get caught up - you can get that regardless. But when you string that out over a period of time, I think people are probably a bit more realistic about whether it's actually valuable to them. And subjectively it's been quite successful. I think the people involved seem quite happy with it.'

'And from a broader HR perspective, the value you get ... particularly the workshop type ones where you have multiple people do it all at once, it's not just necessarily a benefit for the actual individual, it's how it actually affects how they work with other people and the entire group and the things they learned, the processes that they make. Quite often they can get squelched in the organisation if the other sections around them aren't basically having a similar sort of experience in evolution.'

## Archie:

'... should that be something we should look for in the future when engaging business analysts? For example, is their ability to look at refining the techniques rather than just picking up what we are already using and things like that?'

Some ideas from the workshops had spread wider to applications system developers, who were not workshop participants, but who were affected by the BA processes. This resulted because the BA role naturally has a wide range of organisational interactions, as noted by Darryl,

## Darryl:

'I have had some relatively good feedback from the developers as well. Some good ideas, like we [developers] plug into this sort of framework and try to expand out of there.'

# 4.6.4 The workshop approach is effective for facilitating positive group interactions and morale

The workshop approach was effective in encouraging positive intra-group interactions among the BA team as well as positive inter-group interactions across the organisation.

The workshops facilitated constructive interactions among the participants. The atmosphere was such that it encouraged the participants to explore things in an open, productive, non-threatening manner.

# Angelina:

'... 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.'

## Delores:

'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!'

## Harry:

'Well if I go 'new age', it's dividing a room isn't it? Sometimes you can sit with people and not be comfortable. I have found from the word go that the association I have had with this group has been quite comfortable. I have that found the discussion of ideas has been open, it's been candid, and it has also been debated without being personal. I can't think of what the word is, it's been devoid of personality, and has been devoid of politics and also of agenda which I thought was very interesting.'

Researcher: 'So respect for other peoples' opinion is important?'

Harry: 'Yes!'

The exchanges among the participants were characterised by a desire for constructive criticism aimed at producing the highest quality artifacts.

## Angelina (email):

'Hi - I have added a discussion note on the TEST Strategy as well as a draft methodology diagram. [on SharePoint]

All comments, advice and criticism welcome!!!!'

The workshop approach described incorporated a SharePoint facility which encouraged positive group interactions by facilitating the sharing of resources and ideas. The SharePoint site was initiated by the BAs and it proved to be an excellent resource for the development of the BA work artefacts. Its advanced functionality of organised directories, alerts, and security facilitated the management of shared documents, and the development of ideas and resources. It provided a much more sophisticated service than email alone. An example follows, where Angelina's email regarding 'a product to play with' refers to the successful application of one of the workshop techniques to a live BA project. At the time she was converting it into a template for standardised use. The other BAs would then review it and experiment with it. At the next session the group would review and refine the template.

## Angelina:

'Hi guys - Some more reading.....Its on the BA SharePoint Site, under Brains Trust, Requirements Analysis (link below).

I found this very interesting. It is a white paper from Object Consulting (the company who market 'Process Mentor'); called "How much Requirements Analysis is enough?". I was impressed by the flexibility (e.g. if you can't find a UML diagram that's gets your message across; use any diagram that people will understand), and criticism of Agile & Planned approaches equally.

I will let you know when I have a product to play with.'

The workshop interactions also had a positive impact on the BA team morale. This was noted by both the managers. The positive team building that arose from the workshops has a potential flow-on effect to other work teams with whom they interact.

## Researcher:

'So that in terms of what you were saying about HR issues, then that can be seen to be maybe like a morale boost?'

Archie: 'Oh definitely!'

## Darryl:

'A morale boost is like the flow-on effect, the second order effect, and basically if one section is doing really well and they are doing a lot of process improvements, the other groups is likely to build into that same sort of thing. So they are all coming along as a group and it's good for team building. The BAs I think experienced team building in this session. It's also important for them to influence their broader teams as well.'

Having noted it in the interview with the BAs' management, the Author followed up with the workshop participants via email. These participant responses were emailed in relation to the question: 'Did the workshops have an impact on the BA team morale?'

## Harry (email):

'Yes, I believe they had a positive impact as they gave focus to and solutions to current issues.'

## Angelina (email):

'Yes - we developed an excellent exchange of ideas, and as we all were working towards the same goal, of producing quality appropriate "best-practice" work...'

### Delores (email):

There was a definite positive impact on the BA team morale. We frequently discussed but never quite refined a mission statement, however at the beginning we had a common motivation - do the best job we could. Thanks to the workshops and being able to regularly take time out to sit back and think about how to approach things, we developed into best practice thinking and cooperative and supportive relationships.'

## Researcher reflection:

The issue of a team mission statement was something the researcher had suggested. While the BAs never finalised their team mission statement, they did follow the Author's suggestion to develop a short statement that was published on the diagrammatic representation of the Systems Development Life Cycle approach they developed as part of the workshops, as follows.

# Angelina (email)

'Hi this is the blurb about the SDLC so far. Please critique...

"The SDLC framework is designed to be pragmatic and adaptive; thus promoting a simple transparent process. It will facilitate efficient practice by providing an agreed quality of systems development, maximizing repeatability and showing clear responsibilities for outputs."

The workshops also cemented intergroup relations between the BA team and Jack, the Manager Functional Analysts, who was the fourth participant in the workshops. Whereas the BA team was part of the ICT division, Jack's team was part of the Student Management division. As many of the major organisational system projects undertaken involve staff from both divisions, closer ties and positive intergroup relations are advantageous.

## Jack (email):

'I'm not part of the BA group but it did help develop my relationships with the BA team.'

Furthermore, productivity improvements are likely when both areas are using common tools and approaches, as noted by Jack,

## Jack:

'Process improvement in being able to apply the skills that you are learning in the workshops into the workplace and also to apply them consistently across different areas, and to be able to work cooperatively between the Student Functional and ICT Corporate Development teams.'

The dissemination of knowledge has impacts well beyond the participants in the workshop. Jack refers to the benefits that arise from having an organisation-wide approach to systems requirements analysis. It will affect a wide range of stakeholders such as the functional analysts, applications systems developers and system end users.

## Jack:

I think we are progressing well along the way to get a shared set of tools and techniques that can be put into practice. And ones that are going to work fast. Plus the other areas who use our documents: development areas or functional areas, end users. ... all the stakeholders, because at present they don't get the same outputs all the time. At present, they are not going to know what to expect when it comes to requirements analysis and that type of thing. I think we have really started to make some headway toward getting that and getting a standard across the place.'

## Researcher reflection:

On almost any measure the workshops proved very successful. From a researcher perspective I was pleasantly surprised at what had been achieved on so many fronts. The influence of having talented, keen practitioner participants and a motivated researcher-academic clearly plays a significant role. Furthermore, the opportunity to undertake this assignment was timely.

# 4.6.5 The workshop approach is effective for addressing the academicpractitioner relationship disconnect

In determining whether the workshop approach is effective in addressing the academic-practitioner disconnect there are several considerations. The first of these is whether the approach is effective for engendering improved academic-practitioner interactions.

As part of the 'mini-cycle' approach (McKay & Marshall 2000b) to the AR design of this case (as described in Section 4.1.3), the Author conducted a formal feedback session at the end of the first workshop. It was intended to encourage an open atmosphere from the start of the project, and to ensure that the participants felt comfortable to provide feedback. As the workshop approach was essentially 'theoretical' at that point and being trialled as a live field experiment, it was important to provide a mechanism to implement any changes participants felt were necessary. The session was in the form of a recorded group interview, as the Author considered that it might provide suitable research evidence.

### Researcher:

'We've had one of these sessions. What if anything would you change about running a session like this between an academic and people from industry? Because we can feed this into our next one, that's all.'

# Harry:

'At this point in time I can't think of anything other than I have enjoyed it. The interaction and the freedom of discussion and the way it's been allowed to take off on tangents as necessary and look back when required, because that allowed us to go as deep in

granularity as necessary ... I found that was really good because not having the inside knowledge of both ladies it allowed me to run with the discussion. I quite enjoyed it. The other one being the war stories that you tend to remember - you don't remember the theory but you remember the anecdote and when the discussion goes like that I can remember the anecdote, so I find that really helpful for me. It gives me something to hang things off. And for myself, because we are doing a review stage of the pilot for EASS this Friday and we are going to be doing some work towards a larger evaluation which is more like a test run rather than a pilot at the end of semester 3, and I will start looking at this stuff ... I will sit down and evaluate what we have to do to try and tie in, use this as the gel between the methodology that's in my head and what we do, ...so this will be really helpful ...'

## Angelina:

I'm very happy to interact like that. Like Harry said, I've really enjoyed the freedom to discuss specifics when appropriate, and then be drawn to stay on track. We think it's just general information that you have given us because I've had a bit of a look, and it would have taken me ages - we just can't find as much appropriate documentation. That's really good to go away and look at. We've got plenty to go away and work on I think before next time, and I'm really looking forward to actually putting this into practical use.'

## Researcher reflection:

Meeting room space and style works well. Interactions among peers and academic very comfortable, right from the first session. Workshop format very suited to group interaction, and shared understanding of materials. I am becoming aware that practitioners don't have the research skills of academics. These practitioners had access to the university library.

The following run of dialogue affirmed that the format of the workshops proved successful from the practitioner viewpoint from the start.

## Researcher:

'Just give a bit of thought to where you'd like to go from there. Also, we can change the format of the sessions to whatever you think suits you better.'

## Delores:

'Oh no, I thought that was really inspiring today! I thought it was really good, and we had a discussion about having worked toward higher intent. I was thinking of finding that right balance between having ...[pause] [Angelina (interject): 'Practical!'] Yes, feeling inspired to aim for best practice and then looking at a practical implementation considering the restrictions of the organisation, but in this group I think it was fantastic! And to have that good direction of where you want to get to.'

# Angelina:

'At this stage, definitely it looks good!'

## Researcher reflection:

As a result of the early affirmation regarding the workshop format, approach and timings, I decided against continuing with recorded feedback sessions. Instead at the end of each workshop I sought feedback regarding changes verbally and via email. None were requested. The communication lines were working well.

The second aspect of the success of the workshop approach in addressing the disconnect is whether it is effective for improving the practitioner perception of academia. Part of the process of addressing the academic-practitioner relationship disconnect is to identify ways in which the practitioner perception of academia may be improved. While overall the workshop approach was considered to be a success by the practitioner participants, some believed that it would take considerable change to substantially address the academic-practitioner disconnect. The Author acknowledges the obvious constraint that the evidence arises from only four practitioners and the one academic with whom they were interacting.

Researcher (emailed follow-up question, after workshops): 'Did the workshops change your overall perception of academia? If yes, in what ways; how?'

Interestingly, there are two main points of view regarding this. Two participants responded that the workshop interaction had positively impacted their perception of academia.

## Angelina (email):

Yes - I can see that with meaningful relationships and contact between academia and industry, there is a definite benefit to be gained by both sides. I had excellent access to a great deal of tailored material, which I would not have had the time (or the research ability) to find otherwise.'

# Delores (email):

'I have always found it frustrating that I could be employed in an academic institution and yet the specialist knowledge available within was never utilised. It was gratifying to see an academic representative being prepared to engage in "real" work and managers willing to support this initiative.'

However the other two participants qualified their responses in a manner reflective of the 'two distinct groups of academics' finding.

## Harry (email):

'... not really, there are 'academic' academics and those who are interested in 'real world' outcomes which involves action research'.

Despite Jack's (email) reservations, his statement indicates the promise of using academic knowledge as a means of addressing the disconnect.

## Jack:

'I view these workshops as an exception to the rule. Overall I still believe there are great divides between academia and practice. However, these workshops did help me to understand how it is possible to develop suitable workplace practices that are still based on academic theory and principles.'

There is evidence to indicate that it is possible to effect a change in practitioners' perceptions of academics to one that is positive, whereby they would welcome interactions.

Researcher (emailed follow-up question, after workshops): 'Are there other flow-on effects from the workshops that might impact the academic-practitioner relationship divide?'

All but one of the participants agreed that as a result of the workshop experience they would be more likely to seek out opportunities to interact with academics:

# Jack (email):

I would now be more inclined to contact an academic for input as the need arises.'

# Delores (email):

'I will probably be less reticent to seek assistance from academics when the need next arises.'

### Angelina (email):

'Yes – I will be more likely to go looking for appropriate and specialised "tuition" and advice from academia in future.'

While Harry felt that the interactions in the workshop experience had been very positive, he felt they were not likely to be typical. His response (after email) suggests that the practice of proactive interactions by academics needs to be more widely adopted.

## Harry:

'... not at this time unless academia embraces the practice.'

The main purpose of conducting the workshops was to trial them as an intervention aimed at addressing the academic-practitioner disconnect. Overall, the participants considered that the academic-practitioner disconnect could be addressed by interactions based on the workshop approach. This is evidenced in responses to the following question from the Author (emailed follow-up question, after workshops),

Researcher (emailed): 'There is a widely held perception that there is a relationship divide between academia and practice. Do you think these workshops had the effect of bridging that divide?'

Most view the divide (disconnect) as being crucially conditioned by whether academic knowledge is suitable for use by practitioners:

# Delores (email):

'Absolutely. The workshop coordinator was able to feed into the group an absolute wealth of current resources directly relevant to our requirements. Without this academic assistance that exercise alone would have been extremely time consuming. The ability of the group to draw on academic specialisation in interpreting what was relevant in particular situations was excellent. I think the exercise was mutually benefit and increased the respect and understanding of what is the current body of knowledge being taught in the field and what is being practiced and is challenging in current work scenarios.'

## Angelina (email):

'Definitely - I had previously tried to get academic help to "do my job" properly and had been unable to find appropriate courses at USQ. It was encouraging to see how "current", practical and relevant to industry these sessions were.'

## Jack (email):

I think the workshops have been very effective in linking the academic theory with the hands-on day-to-day work. I found it useful to learn about the theories behind the practises that we perform on a daily basis.'

Once again the issue of practitioners' perceptions of two distinct groups of academics is an important influence.

## Harry (email):

'Yes, but limited, as this is not a 'general' initiative.'

Another indicator of the workshop impact on the disconnect is follow-up contact with the Author by two of the BAs. It appears that they valued the connection, and saw benefit in maintaining contact with the Author in areas of professional interest.

## Researcher Refection:

Some months after the workshops, Delores contacted me to demonstrate a diagramming tool that they had adopted. Discussion at the time revealed that the workshops, especially the diagramming techniques, had provided her with the impetus to follow up getting a suitable CASE (Computer Aided Software Engineering) package that could be used to

automate the use of the diagrams. We met and reviewed the tool and its possible application in the workplace. The modelling tool was later purchased and became the standard within the organisation. Prior to the workshops the BAs had no knowledge about the use of such tools. The issue was discussed during the workshops, as part of the system modelling diagramming techniques.

# Delores (emails):

'... I have recently acquired a modelling tool for the BA team to use. I was able to use the background knowledge to assess the tools and use a case study to evaluate the range of functions it offered. I believe this will make a huge difference to the ability of the group to do analysis, reuse knowledge and present it to clients.'

Thought you would be interested in a modelling tool I currently have an evaluation license for - Holocentric Modeller. I have to say I am loving it so far. Picked up some requirements analysis for Office of Research for their Grants Management, so I have used that for a case study to have a play. This is sample output: <a href="http://www./extrafiles/ict/a-projects/Research">http://www./extrafiles/ict/a-projects/Research</a> It is great for creating flow charts, use cases, general diagrams.... Sales pitch is that you can start anywhere and add detail in any direction. Lots of fields to store stuff, questions etc. And everything links through libraries so that you can reuse stuff. You can generate reports either as word docs or html. Can even version the output.

I'd be interested in your comments.'

## Researcher reflection:

In the period following the workshops, Angelina contacted me on two occasions to seek further professional guidance. The first occasion concerned project management issues (described in an earlier finding). The second occasion was to discuss the potential for writing up of a conference paper based on her experiences in a later work project. She also wanted to discuss a publication the researcher had authored on a topic relevant to Angelina's later work project.

# Angelina (email):

'Are you free for a work coffee sometime? I wanted some advice on a presentation I want to give, and to talk about your paper about WebCT.'

## Researcher reflection:

The later interactions led to arranging for Angelina to do a presentation to my project management class. I had found that students were very appreciative of the opportunity to hear first hand from practitioners about real-world experiences.

# Angelina (email):

'Now, if you would still like me to, I am happy to have an informal "chat" to your students if you think they would be interested! I have attached the latest copy of a project report ...'

This case also demonstrates that, when positive, mutually respectful interactions have been established, practitioners may extend the relationship by seeking academics' advice on matters where the academic appears to have appropriate knowledge. This effectively strengthens the bonds between the two parties, and offers advantages to each. The practitioner gets informed, independent, advice free. The academic has an opportunity to get insights into the issues that managers face.

## Researcher reflection:

The two managers (Darryl and Archie) were considering purchasing a systems development methodology (approximately thirty thousand dollars). Management and the BAs both requested that I review the methodology for its suitability for use by the whole of the Application Support and Development department, which included the BAs and software developers. After reviewing the product and discussing it with both parties, I recommended that they develop their own methodology based on the tools, techniques and so on that the workshop group were working on. My reasoning was that significant resources would be required to implement and administer the methodology, and that most failures result from lack of 'ownership', both of which the workshop approach could avoid. This advice was followed, apparently without regret. Their request came after several workshops had been conducted and a working relationship had been established. The request for advice and the decision to follow it imply trust in academic judgement.

This issue was referred to by Archie at a later interview,

# Archie:

'...as you are aware, there was in my mind a desire not to reinvent the wheel for them to buy in methodology where appropriate. ... But what's happened is really they've avoided the need for it. So I've decided to tell CBT that we don't want their product because what the BAs have come up with is agile, and what was needed. But as well as that the 'neats' are already starting to form around the base. So I guess the key thing is the framework is there.'

The importance of generalisability is recognised, and was explored, while remaining cognisant of the constraints of the situation. Practitioners were supportive.

## Researcher:

'Do you think it's something then that we could use as a role model for other academics and practitioner groups to engage you?'

Darryl:

Yes, I'd agree.'

Archie:

What comes to mind is it could be interesting to think about whether it will work only when there's a new thing or whether it will work when there's intervention in the running process because business analysts are brand new... So it might be interesting to see depending on the topic, if it was already in something that the participants perceived as running smoothly and we thought maybe we need to improve it or for continuous improvement or tweak it a bit or be ready or to change technology. ...people say, well it has been working for five years, why have we got to change it?'

## Angelina:

'Definitely. I think we identified the situation this morning where you take the SDLC development further. It could very well be another group that looks at the design, program code cutting and building, whatever. I think ... any defined topics in a defined group I think you could probably have.'

## Jack:

'It's a really good example of community engagement where you're using an academic in a real business situation ... I think if we went out to the community and did that as well, that would be a big boost...... To actually say that we have got our academics in the industry consulting and advising in the industry at large and I think that's all part of the bigger picture.'

# 4.6.6 The workshop approach is effective for developing scholarship

The workshop interactions were also highly beneficial for the Author, especially in the case of significant scholarship benefits. The Author had an opportunity to 'road-test' academic course content in real world settings. It also generated potential research topics.

# Researcher reflection (recorded at interview):

'And for me professionally, the specific benefits that have arisen from the workshops are that I am very concerned as an academic that what I teach and deliver in a classroom are techniques and tools that can be shown to work in the real world. ... rather than having a theoretical practice of them, there's nothing like putting it out there in the field to work on a genuine industry project. So it's given me the opportunity to improve my scholarship... feeds back into my courses... I can feel confident- a similar kind of confidence to what you described when saying you can say to your peers and your industry professional groups that "what we're doing can be shown to work, can be shown to be theoretically sound." I can say to my academic community "I teach this because I have got evidence that it's working out there in industry". I am also very interested in the process that is gone through to contextualise something. So if we start with something like the Software Development Life Cycle knowledge that we spoke about this morning, there are a lot of different ways that you could implement that, and a lot of them in my view may not be successful... I am very interested to see how groups can pick up this general theory. There is a lot of work that goes into tailoring it for situations, and that is what you people have

done. I've watched you do it and for me that's been personally very rewarding to see that these ideas can be made to work. So thanks for that.'

The potential for the workshops to provide scholarship enrichment for the academic was also identified by Archie, the BAs' manager.

## Archie:

'So that might modify your teaching approach.'

Archie also highlighted the difference for an academic dealing with (otherwise) experienced practitioners, compared to inexperienced undergraduates, and the implications that may have for the material delivered:

## Archie:

'... in a normal teaching situation where you are teaching undergraduates perhaps who come from limited to no experience and they're there to get some framework. But they are not going to apply it immediately. They may not do so for years, if ever. So you have got a different audience, different level of interest, different level of applicability. Their agenda is to pass an exam or do an assignment, whereas here there is a direct relationship for the people...They are potentially more motivated with the subject material, they also want to come to terms with it and evolve it to suit themselves so they can be effective in their workplace'.

This finding also supports the notion that such interactions, to be successful, must be mutually beneficial. For academics, it means that they must be able to explore issues that are of interest to them in their scholarship or research.

# 4.7 Some Ground Rules and Lessons Learned From the Conduct of the Workshops

A number of findings from this case that may be viewed as 'ground rules' or 'lessons learned' which might influence the wider adoption of the approach in terms of the generalisability of the workshop approach.

# 4.7.1 Practitioners must be willing participants, and wanting to learn for successful interaction

One of the ground rules to emerge from this case, and perhaps be applicable in other situations, is that, for successful interactions, practitioners must be willing participants and wanting to learn.

All participants considered the workshops to have been very successful in addressing their knowledge needs and making them aware of the potential for positive interactions with

academics. The success of the workshops in their view had a heavy bias toward resolution of their practical problem, being the mastery of business analysis skills relevant to their work environment. Opinions varied among the participants as to what contributed to the successful nature of the workshops.

## Delores:

'Another significant factor as to why this has been successful has to do with the participants from our side as well. Everyone has been keen, enthusiastic, and probably share a common goal- that is probably not going to be easily replicable in any environment. I think that has been a significant contributor to our success.'

## Angelina:

'But in terms of the concept, I think it's probably more than the 'being willing' aspect. The fact that we want to learn it, that we are receptive to it... I think it doesn't matter what level you are sitting at - if you want to actually know something, if you are motivated to do whatever you were going to do, it's going to be valuable.'

## Harry:

'... all the people here, are here because they wanted to be here, and I think that that has had a good effect on the outcomes.... My own belief is if somebody was told to be here and they didn't want to be here, or they didn't want to contribute, or thought it was a waste of time, or had their own agenda and were here to do something else - that could have been very disruptive and resulted in no outcomes whatsoever. But because the people wanted to be here and were seeking a common outcome for their mutual benefit, and for want of a better word, 'the higher group'. Yes, I think that's very important. It's the attitude that you bring with it.'

### Researcher:

"...you were talking about why you think this group has worked, and this is really important for me from a research aspect because of the generalisability ... what aspects of it might be transferable, even theoretically... you are senior people within your ranks, how much impact did that have on this group having worked well?"

#### Delores:

I think having a reasonable amount of experience behind us in a range of activities has probably been a good thing. We are all coming from a reasonably sound, broad base.'

### Researcher:

'The other characteristic that I attributed to you individually and as a group, is that you are clearly very professionally motivated people. How important has that been to the success of the group?'

## Angelina:

Extremely, because we went away and did our homework willingly, and you wouldn't always get that. We put that into what we were doing and I don't think you can get that normally.'

## Harry:

'We wanted to be here. We were all trying to achieve something and we had motivation and goals, and the goals were common.'

### Researcher:

'So a combination of being senior, being motivated and having a big professional background and common goal has really improved the success of this group's performance?'

## Jack:

'And I think it was also said that we recognise that there's a need for it. We are not just being told to go and sort it out. We know there's a problem. We can do something about it so I think that impacts a lot as well.'

#### Delores:

'And that comes back to that flexibility we were talking about earlier that you have given us the flexibility. You talk about the stuff that we think is important.'

This finding also conveys the notion that such interactions must be mutually beneficial. From the practitioner perspective, that means that the knowledge must be appropriate to their immediate needs.

# 4.7.2 Arranging workshop presents challenges

One of the ground rules to emerge from this case, and perhaps be applicable in other situations, is that arranging the workshop was difficult. This was mainly to do with funding of the project. At the time of the research, the Author was a teaching academic who required approval and workload support from her academic management to undertake the workshops.

# Researcher reflection:

At the time of the research project, I was a fulltime teaching academic. While the workshops represented a not insignificant additional workload, this was tempered by the fact that the materials I used were based on a course for which I had been the course leader for the prior five years. Notwithstanding the fact that other supplementary materials were accumulated to suit the particular environment, it was not necessary for

them to be as refined as they would be for delivery in a formal academic course offering. The workload was roughly equivalent to the face-to-face teaching component (lectures and tutorials, excluding the assessment, consultation and course leadership duties) of a one semester-long course.

The non-standard nature of the arrangement caused organisational problems. While the BAs' management were enthusiastic, the academic management (Dean and Head of School) were less so, as the workshop exercise was not considered to be a core academic activity. Arrangements were finally agreed between the two parties.

# 4.7.3 Flexibility is an essential characteristic of the workshop approach

One of the key characteristics of the workshop approach, as implemented, is its flexibility. This maximised participants' attendance by taking account of the group's differing work commitments, part-time employment, and leave requirements. A series of dates was usually negotiated to cover several sessions at a time.

At the same time the BAs usually identified which topic they would like to cover. That the topic mentioned below by Angelina (email) was actually later replaced by another which had became more immediately useful to them, demonstrates the level of flexibility that was allowed.

# Angelina:

'If we are looking for new topics, I went back to our original list & I like "Methods for Gathering Requirements (interviews, surveys, focus groups etc.)"

What does everyone else think?'

It turned out that this topic was never addressed because, when it was decided that the group would develop their own adaptive SDLC approach, their focus changed. The Author's offer to cover it in a later session was not taken up.

The flexible nature of the engagement is also evidenced in the following circumstance when a workshop was delayed because the BAs all experienced a peak in their workloads and had not finished their 'homework'.

## Angelina (email):

I did have it scheduled, but we [the BAs] are very happy not to have a session. I need some more time to do my homework!'

The BAs felt that the flexibility accorded them in selecting the topics and the order of presentation maximised the benefit of the workshops to them, as noted by Delores,

#### Delores:

'And that comes back to that flexibility we were talking about earlier that you have given us the flexibility. You talk about the stuff that we think is important.

The BAs' manager, Archie, also noted the need for flexibility and the beneficial impact it had,

## Archie:

'But you don't know what you don't know. So when they were to say "I don't know how many weeks it's going to take us to talk about testing" whereas what you would have done is said "well I think it will take two weeks to try that"... So that's a very important point. And the corollary applies in that if the academic came in with a fixed-set, "oh, here's the training course I've delivered the last 25 times. Oh we are going to spend one week on this and one week on that". Well if some of them struggle...'

## Researcher reflection:

The workshop approach relied on maintaining the momentum of exploring topics and experimenting with ideas in between scheduled sessions. This was an explicit part of the design of my approach as I was aware that busy professionals would easily find their focus drawn back to their immediate day-to-day work. Flexibility in communication was required to ensure that progress was maintained. A variety of methods were used. Most common were email and SharePoint, which were often used together as a means of sharing ideas and documents as an exemplar approach was being developed. The group focus of the workshops meant that telephone contact was less common. Occasionally, face-to-face meetings were needed to resolve an issue and keep on track to meet a deadline. They were scheduled at coffee or lunch breaks, as it was difficult to schedule all participants at short notice.

# 4.7.4 Scheduling of workshops is important to their success

One of the main design features of the workshops was their scheduling. The main objective of the scheduling was to ensure that the participants had the opportunity to develop a sound working knowledge of the techniques and be able to implement them confidently within their work. It was anticipated that this would produce the best productivity gains. It also meant that BA work disruptions would be minimised.

The manner of scheduling the workshops is an important element of their success. A workshop schedule is at Appendix C. In particular their duration and spacing was deemed to be highly effective. This was commented on by both managers,

## Archie:

'And the other thing was the model - I think that was the key thing... small, bite-size engagement over a long period of time ... There's something magic about the half-day thing.'

# Darryl:

'I think you will find there's a magic time. I don't know what it is, whether it's a week or a fortnight, but there probably is a sweet spot. It may be too close where the material hasn't been digested, and too far where it's been relegated too much.... if you let them go too long, no matter what it is, they've got to start relearning things.'

#### Archie:

'I think that fortnightly is the outer boundary. Once you get to monthly there would be a lot of rework. I think a fortnight is about it but a key variable on that is whether they are practising it in their workplace.'

Archie noted that a benefit of having a teaching academic run the workshops was an inherent ability to estimate learning times which influenced the schedule,

#### Archie:

The other thing I think you particularly bring to bear on this is the experience of knowing the right scale to run the workshops at. Because you developed a really good set of shared objectives with them. But you don't know what you don't know. So when they were to say "I don't know how many weeks it's going to take us to talk about testing" whereas what you would have done is said "well I think it will take two weeks to try that...".'

# 4.7.5 Interactions may produce 'relevant' research topics

The case provided some good ideas and opportunities for future research topics. By interacting with practitioners for a sustained period of time, building trust and respect, and listening to the issues they deal with, enables researchers to be more aware of practitioners' problems. This is an ideal way of identifying potential research topics. Furthermore, research topics inspired by practice are likely to have bearing upon the problem of research relevance. This case also highlights the importance of the action researcher either interviewing or gathering data on peripheral areas of the research project.

In the post-workshop interview Archie raised concerns about integration of the BA role into an ICT environment. This issue is one that would offer rich research opportunities in a classic IS topic area. It is an excellent example of the type of flow-on effects that might arise from academic-practitioner interactions. Without this interaction the Author would have been unaware of the problem, and its potential for further investigation that might be of interest to both academia and practice.

### Archie:

'...it's been an issue on a couple of projects where the business analyst has gone too far into it, and it has become a pseudo project manager or a developer, or they've overcooked

the requirements definition. Then the technologists get frustrated because they feel like they've got no input at this point because they are given a finished product which they don't like. So what I'm trying to work out is where in the continuum. I think it's not easy to spot, but there needs to be a point.'

#### Researcher reflection:

It is ironic that the BAs are now so competent and feel so confident that it is mildly problematic. This tells me where there are important issues concerned with fitting the BA role into an existing organisation completely and comfortably. Given the relative newness of the BA role in wider industry, it is likely to be an area that needs research.

## Archie:

Just another quick one - about the clients is a problem that I think we have created for ourselves is that the clients are happy to abdicate a lot of responsibility to us. ... we are trying to get the clients to understand that when they go and buy a software product or get us to write one that they are the ones that use it. It's a bit like going to a mechanic to get them to fix the car and then having the mechanic drive the car around all the time. And I'm going through that battle on a few fronts at the moment where the client is just as busy as us but they are just not quite to the stage where they really want to take the system on and we are just the technical people. So it's a battle where clients are trying to push things onto us, and saying to us "No, You do it!".'

# Darryl:

'... we see it quite a lot here but there's a whole bunch of reasons why they want to do it, workloads and stuff like that... They want us to make the decision which binds them. They don't want to necessarily make the hard decisions themselves either. There's an issue there. If they can completely outsource the entire delivery of that system to us and we had to make all the decisions on how it works then we would probably be comfortable with that. And we've done it for them. But they would be uncomfortable with that. It's finding the balance of where they want to put the effort into their outcomes is what it comes down to. And we have seen lots of examples of that recently. But basically they don't engage in the system.'

## Archie:

'There's a whole bunch of reasons – technophobia on the part of the client, oh I don't know anything about that, I just want something that works. Well, we need to show it to you before it's finished to know whether it's right. That's where prototyping comes in... we have seen it so often where we write the thing and show it to the users, and the say "what the heck did you do that for?" We're getting better at handling it. But yes, we have to institutionalise it. If you have got a two-page article from Datamation or Computer Weekly that says "the following are business clients abdicating responsibility", I'll have it, I'll have it copied 35 times so when we go out to a client and they say "Hang on", I'll say "Read this!'

## Researcher reflection:

The relationship between technologists and client users has been a problem ever since computer systems were introduced to business. One of the prime functions of the BA role is to address that. This is interesting because while I included "The role of the Business Analyst and being an ICT Professional (including Position description)" at the top of the list of proposed topics for the workshops, it was not covered in any depth because it was not nominated for inclusion by either the BAs or their manager, Archie. I had suggested it because the BA role is new to the organisation.

This finding also supports the notion that such interactions must be mutually beneficial. For academics, it means that they must be able to explore issues that are of personal interest to them in their scholarship or research.

# 4.7.6 Interactions may produce unintended organisational consequences

This case demonstrates that there may be organisational consequences arise from such interactions which are outside of the specific area of research focus, but which the researcher should be alert to. At the post-workshop interview Archie identified 'boundary' problems that had arisen between his two main areas of responsibility, namely the BAs and the Applications Developers (technologists). While this is clearly a problem for the manager to resolve rather than the researcher, it is important for all parties to be alert to such possible outcomes. It may be applicable to other AR research environments characterised by close academic-practitioner interactions.

### Archie:

'The BAs (with their business requirements document) and a technologist have both gone to the client and talked to them... although perhaps the BA side went a little bit too far .... And I told the BAs to sort it out and come back in at the testing stage. But they also wanted to see, they wanted me to see in the methodology now just what my expectation was. That they will pop in as an expert along the way. In the end the technologist has to feel comfortable that they have been empowered to build it.'

'The other thing that I'm concerned about is the BAs do all this good work, then the technologists come in and say "I talk to the clients, I'll do my own", and they redo it. So I've got rework occurring. So it's about having the timing right. No doubt the people involved will develop a feel for when the right time is. So what I am doing to try to contribute to that is to identify the technologists earlier that they know about these things coming up so they are told where the BAs are up to. So I expect them to say hang on, I think it's about time I got involved in that because you're down doing the architecture for the delivered product.'

## Researcher reflection:

What Archie is describing here when he states that 'the BA side went a little bit too far' is that they (BAs) have strayed into the traditional territory of the technologist, who in the past have undertaken some of the functions that are now being done by the BAs. While this is a problem for him to resolve, it was beneficial for me to be aware of it.

One of the artefacts from the workshops was an adaptive system development lifecycle methodology. At the request of the Manager this methodology was drafted to not only cater for the BAs' work functions (in detail), but also provide an outline for the applications developers work functions. They all belong to the same department and report to the same manager.

# 4.8 A Closing Comment

The findings presented in this case provide useful insights into the practitioner perspective of academia, particularly the academic-practitioner disconnect, particularly since the interviewees have some exposure to academia, enabling them to comment in an informed manner. Despite the difficulties, there is ample goodwill and many positives associated with academia. This indicates that there are great prospects for improving the relationship.

Conducting the workshops provided a clear picture of practitioners' knowledge needs and the type of knowledge they value. The case provides encouraging indications of the potential for academic knowledge to be applied in practice, and demonstrates that practitioners are keen to do so. Once again, the prospects are promising for academia to capitalise on the positives associated with practitioners' regard for academic knowledge.

The case also provides sound evidence to support the efficacy of the 'Academic-Practitioner Workshop Approach' to address the academic-practitioner disconnect. The extremely positive response by all four workshop participants, and their managers, demonstrates how highly functional relationships between an academic and practitioners may result. However, it is essential to understand that practitioners distinguish two quite distinct groups of academics on the basis of whether or not those academics demonstrate an ability to relate effectively with them. Nevertheless, adoption of the approach carries with it significant challenges for academia.

The following Chapter describes the PM Alliance case.

# CHAPTER 5 PM ALLIANCE CASE: DESIGN AND FINDINGS

This chapter, like Chapter 4, is based on the research design described in Chapter 3. It provides details of the specific implementation of the PM Alliance case. Case findings are presented that further contribute to answering the research questions.

# 5.1 PM Alliance Case Design and Conduct

This section details the planning and conduct of the PM Alliance case. In keeping with the dual focus of AR, the case description that follows covers details of both the research and practice interests of the case.

# 5.1.1 Background to the PM Alliance case

The organisational context of this case is the head office of Heritage Building Society (HBS). HBS is Australia's largest mutual building society managing approximately 7.2 billion dollars in consolidated assets. Its head office is located in Toowoomba, Queensland (<a href="http://secure.heritageonline.com.au/About-Heritage.aspx">http://secure.heritageonline.com.au/About-Heritage.aspx</a>).

As discussed in Section 3.1.3, case selection focused on establishing a research environment where practitioners would be able to comment meaningfully on the academic-practitioner relationship. The practitioners in this case fulfil this objective as there are strong interorganisational links between HBS and the local university, which affords them some exposure to academia. HBS is considered to be a 'typical' IS practitioner environment since it has a large ICT division set in a mainstream, contemporary Australian business environment. It provides a full range of typical online ICT functions to a broad internal business community, as well as to many thousands of external customers.

The case was initiated by the Author, who sought to establish contact with ICT practitioners interested in exploring the academic-practitioner relationship. As discussed in Section 3.4.5, the interactions require a base 'operational project'. In this case the Author specifically sought a PM practitioner, since PM is her other main area of teaching and professional interest. The initial contact was with Jamie Star, the Business Projects Manager, which came about through contacts from within the Author's previous faculty.

An informal meeting between the Author and Jamie established that there was mutual interest in exploring the academic-practitioner relationship within the context of PM at HBS. As the case is 'research-driven' (Avison, Baskerville & Myers 2001), there was no predetermined, specific objective relating to PM. While he was interested in exploring the

concept of an academic-practitioner alliance, Jamie did not have an immediate practical PM problem that he wanted to address. Hence, the case is highly exploratory in nature. It was necessary for each party better to understand the other's work environment and imperatives, and to explore potential PM topics of mutual interest on which to base interactions. Once again, the 'operational project' subject area is not a reportable research focus.

Jamie had established the role of Business Projects Management at HBS approximately three years prior. He had recently been given an additional resource of an assistant project manager. His knowledge of PM had been gained through extensive industry experience and commercial training courses. Like many IT project managers he came from a BA background, and had an undergraduate degree in an unrelated field. His background did not include specific ICT skills, nor did he have PM professional accreditation (at that time).

# 5.1.2 Organisation chart and interview schedule

The organisation chart shown in Figure 5 highlights those practitioners who contributed to the research, including the four manager participants.

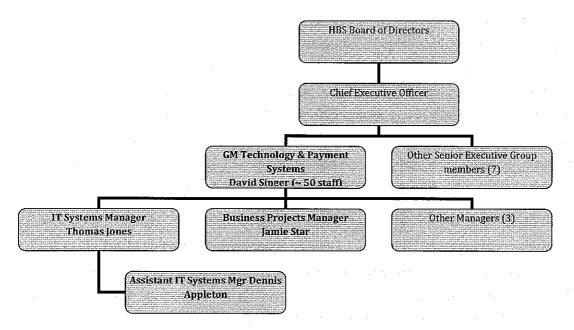


Figure 5: PM Alliance case organisation chart excerpt

Table 3 identifies the practitioners who participated in the case and who provided data in the form of interviews and emails. Case participants have been given aliases.

Alias	Job Tide	Dates interviewed	Interview type
Jamie Star	Business Projects	1.00 pm 28th Sep 2006	Start Phase I interview
	Manager	9.00 am 19 <sup>th</sup> Oct 2006	Phase I exploratory review interview
		11.00 am 15 <sup>th</sup> Nov 2006	Phase I exploratory review interview
		1.00 pm 8th Mar 2007	End Phase I interview
		3.00 pm 23 <sup>rd</sup> Sep 2008	Start Phase II interview
		2.00 pm 25th Nov 2008	End Phase II interview
David Singer	General Manager	9.00 am 18th Aug 2008	Start Phase II interview
	Technology and Payments Systems	2.00 pm 19 Nov 2008	End Phase II interview
Thomas Jones	IT Systems Manager	10.00 am 2 <sup>nd</sup> Sep 2008	Start Phase II interview
		10.00 am 19 Nov 2008	End Phase II interview
Dennis Appleton	Assistant IT Systems	9.30 am 12th Sep 2008	Start Phase II interview
•	Manager	9.15 am 25 <sup>th</sup> Nov 2008	End Phase II interview

Table 3: PM Alliance case interview schedule

## 5.1.3 An overview of the two phases of the PM Alliance case

The PM Alliance case was conducted using the McKay and Marshall (2001a; 2007a) approach that explicitly acknowledges the significance of both the researcher and practitioner interests in an AR environment. This approach aided in the planning and management of the research, as well as improving rigour. This case is conducted as two major AR cycles (herein referred to as Phases I and II).

When using the term 'alliance' in this context it should be considered from the perspective described in Section 3.2.5. While several authors, such as Robey, Markus and Saunders (1998; 1998), use the term when encouraging increased and improved academic-practitioner collaboration, they provide scant detail. Hence, while the literature inspires use of the term, this study will rely on a dictionary meaning: 'A close association of groups, formed to advance common interests or causes... A formal agreement establishing such an association'. (http://www.thefreedictionary.com/alliance). This definition contributes to shaping the role of the Author in this case to be one of collaborator.

As described in Section 3.1.2, while both cases are based on and test the efficacy of the same theoretical framework, the structuring of the cases differs markedly, especially with regard to the academic-practitioner interactions. This case is less structured and more flexible than

the BA Workshop case. This is due to the nature of the case, how it evolved and its highly exploratory nature. It is characterised by more open-ended timeframes and more flexible academic-practitioner interactions. As a result, the PM Alliance case commenced with an inprinciple agreement between the Author and Jamie to develop, collaboratively, a research case exploring the academic-practitioner relationship and how such an alliance might be mutually benefit. The emergent nature of the case made it inherently more challenging to manage.

The following sections describe the specific design and conduct of the two phases of AR.

# 5.1.4 Phase I: Planning and design

On the research side, meetings and communications were conducted with the Author's Head of Department, Associate Dean Research, Deputy Dean and Dean of the Faculty of Business, as well as the university lawyer and the Commercialisation Manager. These approvals were necessary because there exists a strategic, formal partnership between the two organisations (USQ and HBS). Academics from USQ conducting research with HBS had to be aware of the value and importance of this inter-organisational relationship.

From the research perspective, this case was a test of the efficacy of the APITF as implemented in the form of the 'Academic and Industry Alliance Approach' to address the academic-practitioner relationship disconnect.

On the practitioner side, the Author held meetings with the Business Projects Manager, Jamie Star, and his line manager (David Singer, General Manager Technology and Payments Systems), in order to establish the Author's bona fides so that she could be given access to the HBS organisational environment. The proposal was also referred to the HBS lawyer. The research objectives and potential areas of mutual PM interest were discussed.

The alliance plan was developed collaboratively between the Author and Jamie. The structure, content, and timing of the interactions were driven by the imperatives of the workloads of the two parties. The research plan also incorporated specific research activities such as identifying data sources and scheduling data collection.

The agreement was for an initial six month period during which the Author and Jamie were to meet weekly for approximately two hours. As the case was highly exploratory, it was difficult to predict how long it might take to achieve the objectives and it was agreed that the arrangement needed to be quite flexible.

Jamie considered that, with the growing maturity of the PM role within HBS, it was opportune to consider increasing the level of sophistication of the function, and that an

alliance with academia might provide some useful knowledge, ideas and inspirations. He wanted better to understand academia and how it might provide opportunities for cooperative interactions on issues related to PM. He was also interested in having exposure to academic knowledge sources and ideas applicable to his PM work environment.

In terms of the specific AR design, the research area of interest, 'A' (Checkland & Holwell 1998; McKay & Marshall 2001a; McKay & Marshall 2007a), is the academic-practitioner disconnect (the research problem). The focus is on better understanding the practitioner perspective on the relationship and testing the efficacy of the 'Academic-Practitioner Alliance' approach to address the academic-practitioner relationship disconnect.

The practical problem, 'P' (McKay & Marshall 2001a), focuses on whether the 'Academic-Practitioner Alliance' approach can effectively address the knowledge needs of the practitioners (in Project Management). Hence, there is a considerable, common interest in the alliance approach regarding what it might achieve for each of the two parties, thereby providing an appropriate 'overlap' as decreed by McKay and Marshall (2001a).

As the 'operational project' (earlier described in Section 3.4.5) to be used to explore these two interests in this phase was not specifically identified in advance, it was agreed that it would be useful to take a general review of the PM literature, and look for opportunities to apply it to the HBS PM environment. Once again it was appropriate for the Author to follow Weyuker's (2001) stated approach: 'I generally volunteer to do anything reasonable in order for my collaborator to have the time to be involved'.

As with the BA workshop case, this case provides an element of scholarship enrichment for the Author as the 'operational project' is related to her other main teaching area which is Project Management. Once again, this aspect is not related to the research objectives, and there are no findings reported regarding the specific subject matter. However the conduct of the alliance is reported in some detail as it is necessary to provide a clear description of the process. The academic-practitioner interactions are based on the APITF that is being tested for its effectiveness in addressing the disconnect. It also helps provide an indication of the environment in which the academic-practitioner interactions were conducted. This might assist with generalising the findings.

No specific resources were required for the project. Meetings were conducted in a range of locations depending on their particular focus and content. They included Jamie's work office, HBS meeting rooms, nearby coffee shops and the Author's office at the university. Email and telephone contact were used as a supplementary means of sharing information and managing communication.

# 5.1.5 Phase I: Implementation and monitoring

Phase I might be viewed as the 'establishment' phase of the alliance. It ran for a period of seven months (from September 2006 to March 2007), in which time the project was planned, regular meetings were held and a range of collaborative activities and data collection were undertaken.

The engagement was highly collaborative. At each meeting specific aspects of project management, and how they might be applied to the HBS environment, were discussed along with ideas about how academics and practitioners could usefully interact to their mutual benefit. The meetings were informal, and conducted in an atmosphere of cooperation and respectful exchange of ideas and knowledge. This provided an opportunity for each party to build a better understanding of the other.

In between meetings Jamie reviewed aspects of the PM operation with a view to identifying opportunities to apply some of the ideas that arose from academia. The Author reviewed PM knowledge with a view to identifying suitable resources and inspirations for application in the HBS environment. The Author provided a range of PM materials as a base for the discussion, especially innovative or novel approaches such as Thomsett's (2002) 'radical' PM approach. She also brought materials to the meetings, together with ideas as to how they might be adopted. Jamie identified suitable pilot projects in which to trial the ideas. Email and occasional phone calls were used to exchange information and maintain the momentum between meetings.

Apart from this general review of the HBS PM methodology, the main other activity in Phase I was the collaborative design of an introductory in-house PM course. Jamie later reported that he successfully delivered this course to several groups within HBS.

The PM content was largely based on material used by the Author to teach a postgraduate course in information systems project management. These resources are described as 'academic knowledge' since they draw heavily on PM textbooks, such as Schwalbe (2006). They were supplemented by materials from a variety of industry technical sources, often Internet-based such as the (internationally renowned) Tasmanian Government Project Management (http://www.egovernment.tas.gov.au/). The works of a number of iconic authors (often professionals) such as DeMarco and Lister's 'Peopleware' (1987) were also reviewed for potential ideas. The selection of materials was driven by the specific context of PM at HBS. As previously mentioned, there was no intention to produce research outcomes associated with this material.

'Mini-cycles' (McKay & Marshall 2000b) were also applicable to this case because of its exploratory nature. The regular meetings provided a natural pause opportunity that enabled the Author to seek feedback and review the modus operandi with Jamie. The project was continuously monitored with regard to problem solving efficacy. Researcher reflections were recorded in a research journal. This monitoring also offered insight into the progress of the project in terms of answering the research questions.

The Author conducted a series of interviews (see interview schedule Section 5.1.2) and other data collections as planned during this phase. Jamie was the sole interviewee in all four interviews. These interviews provided data that addressed both research objectives and all four research questions. The scheduling of the interviews took particular account of the AR aspect of the research. The first was conducted at the time when the 'alliance' formally commenced; the focus was to establish an understanding of Jamie's overall perceptions of both academia and practice as well as the academic-practitioner relationship. The final (fourth) interview occurred at the end of Phase I; the aim was to assess the effectiveness of the alliance approach as a means of addressing the academic-practitioner disconnect. Two interim review interviews were conducted, the purpose being to review Jamie's response to the interaction and to assess the need to modify the approach.

Other data collection included participant observations that were recorded as field notes and researcher reflections, recorded in the Author's journal. Corporate documentation in the form of procedure and policy manuals, reports, technical documentation and methodologies, along with PM artefacts, formed another source of evidence. While these corporate documents are not quoted specifically in the findings, they did play an important role in establishing the context of the case.

## **5.1.6** Phase I: Evaluation and completion

From the research perspective, the evaluation process was focused on whether the data collected offered sufficient evidence to answer the research questions. The Author and Jamie had spent significant periods of time working closely, hence making it reasonable to assess the effectiveness of the approach. McKay and Marshall (2001a). advise that 'if the research questions can be answered or satisfactorily resolved, or in some way illuminated or even reframed, the researcher exits from the organisational setting'. The Author evaluated the situation (including the data that had been collected), and judged it to be useful, though perhaps not fully sufficient, to answer the research questions.

From the problem-solving perspective, the evaluation process focused on whether Jamie (as the problem owner) was satisfied with the provision of PM knowledge via the interactions.

McKay and Marshall (2001a) advise that 'at such time as satisfactory outcomes are deemed to have been reached by the stakeholders to this problem context, the researcher exits from the situation'. While Jamie was satisfied that the interactions had provided him with some useful PM outcomes in several topic areas, he also felt that extending it would be beneficial from his perspective.

Phase I had been successful in establishing a good basis for academic-practitioner interactions. Hence both parties considered the Academic-Practitioner Alliance approach to be an appropriate means of improving academic-practitioner relations, and providing mutually beneficial outcomes. However, both parties agreed that, with certain amendments/refinements, it would be of mutual interest (and probable benefit) to conduct a further trial phase. It was felt that making the interactions more 'in-depth' would be likely to improve the approach. This would necessitate spending considerably more time on the engagement and collaborating on a more specific, significant 'operational project'.

It is important to note that, had a second phase of the project not been possible, then both parties would have accepted the outcome of Phase I to have still been worthwhile and, at least in part, satisfactory. Since a second phase with more in-depth interactions was possible it was agreed to proceed. Furthermore, Phase I was considered by both parties as a necessary establishment step, and it would not have been feasible in the circumstances to have moved directly to the second phase.

# 5.1.7 Phase II: Planning and design

Discussions were held between the Author, Jamie, and David concerning options for Phase II. It was agreed to extend the case and explore the potential of the Academic-Practitioner Alliance in greater depth in the context of a more organisationally significant 'operational project'. David's decision to support this phase was a direct result of the success of Phase I that, had, in a limited way, demonstrated the efficacy of the approach.

The research and practitioner interests remained essentially the same in Phase II. The main difference was the increased level of interactions, whereby the Author spent one complete business day per week at HBS premises. The 'operational project' in this phase was the development of a Programme Approach to Project Management. This was a new PM technique for HBS. At the General Manager's suggestion, it was agreed that this programme approach be piloted in an ICT project called 'Reengineering Heritage Software Architecture'.

This approach introduced three more managers into the immediate research environment. It considerably improved the potential for a deeper understanding of the practitioner perspective, as well as understanding of the implications of dealing with multiple parties in

the alliance. Having an 'operational project' with greater organisational implications also increased the potential for richer research findings. Furthermore, these interactions provide a potentially different and complementary perspective from the BA Workshop case. Whereas those interactions were dominated by senior practitioner interactions, the current case's interactions are focussed on senior management.

Overall, Phase II tended to be more structured and had a more definitive plan and focus than Phase I.

# 5.1.8 Phase II: Implementation and monitoring

Phase II ran from August to December 2008, wherein the Author regularly spent Tuesdays at HBS head office premises. A work space was provided in the ICT area which ensured good access to the practitioners. Resource requirements were limited as the Author provided her own laptop computer and did not require access to HBS computer systems or networks. Documentation and other information required for the project was provided in hard copy or via email.

During this period the project plan was refined, the operational project executed and data collection undertaken. In this phase the Author collaborated extensively with all four managers. Development of the programme approach was undertaken with Jamie, as it related to his area of work. Development of the specification of the reengineering projects was undertaken with the other three managers, as the subject matter related to their areas of work responsibilities.

The programme approach to PM is essentially a way of managing a group of closely related projects. Programmes (of projects) are inherently complex and usually have significant implications for organisational outcomes. It is an advanced level of PM that addresses the commonplace problem of an individual project's outcomes negatively impacting others. It has become common practice in large organisations where PM is viewed as an integral part of the strategic management of an organisation. The Author collaborated with the Business Projects Manager to develop a programme approach that is contextually suited to PM at HBS. This was in part a research role, aimed at finding out relevant information about the programme approach. Most of this information was sourced from the Internet, textbooks and trade publications. As part of the process the Author collaboratively produced a draft template for programme documentation. This was incorporated into the formal HBS PM Methodology.

The 'Reengineering Heritage Software Architecture' initiative was aimed at developing a strategy for HBS ICT to migrate from a legacy-dominated systems environment to one

characterised by more contemporary system development tools, technologies and approaches. This was considered to be important as it underpins HBS' ability to maintain a competitive edge in the provision of products in the financial services marketplace.

The Author collaborated with the ICT managers in developing a programme definition that identified a related group of potential individual projects, each of which focussed on a particular technology (such as data warehousing) or approach (such as Service Oriented Architecture). This was in part a research role, aimed at finding out relevant information about individual technologies and approaches, and how they might work together. A significant part of the technical detail had already been accumulated into an internal report. Individual project descriptions required only high-level information. Again, much of this information was sourced from the Internet, and textbooks.

The Author also acted in a facilitation/liaison role that entailed conducting individual and group forums (with the four managers). Overall programme objectives could be discussed and priorities determined for individual projects and how they might be managed under a programme. As part of the process, the Author collaboratively produced a draft programme definition document based on the above-mentioned template. As a result of this project, David invited the Author to participate in a business and systems alignment exercise that was being conducted for HBS by IBM.

As planned, the Author conducted two sets of interviews where all four managers were individually interviewed (see interview schedule section 5.1.2). These interviews provided data that addressed both research objectives and all four research questions. The scheduling of the interviews took account of, in particular, the AR aspect of the research. The first was conducted at the start of Phase II; the focus being to establish an understanding of each manager's (especially the latter three) perceptions of both academia and practice, and the academic-practitioner relationship. The second set of interviews (with the same interviewees) occurred at the end of Phase II with the aim being to assess the effectiveness of the alliance approach as a means of addressing the academic-practitioner disconnect.

Other data were collected as described in Phase I.

## **5.1.9** Phase II: Evaluation and completion

From a research perspective, the evaluation process was again focused on whether the collected data offered sufficient evidence to answer the research questions. In this phase the Author had spent significant periods of time interacting with a wide range of HBS ICT,

especially the four managers who were interviewed. The Author evaluated the data collected and judged them to be sufficient to answer the research questions.

Just prior to the end of Phase II, the Author conducted a final meeting with all four managers to ensure that all aspects of the project were satisfactorily completed. This provided them with an opportunity jointly to discuss the programme approach and the software reengineering initiative. Feedback and decisions from this meeting formed the basis of final amendments to the project documentation by the Author.

From the problem-solving perspective, the evaluation process focused on whether David and Jamie (as the problem owners) were satisfied with the provision of knowledge via the alliance interactions. Jamie was satisfied with the development of the programme approach and considered that it was a beneficial addition to the PM approach at HBS. David was satisfied with the reengineering programme definition and considered that it was a useful basis for the development of a renewal strategy for HBS systems.

# 5.2 An Introduction to the PM Alliance Case Findings

The general comments regarding the analysis and presentation of findings from the prior case apply equally to this one (see Section 4.2). In many respects these findings provide a complementary perspective on the research problem to those findings reported in the prior chapter.

While this case is conducted as two phases, the findings presented here are not structured according to the two phases. As with the BA Workshop case, they are structured around the research questions. When reviewing the totality of the data during the data analysis phase it became apparent that they would be more meaningfully presented in this manner. Separating the findings into two phases would add complexity to the reporting without adding any further beneficial understanding. While Phase I has a longer elapsed period, the findings are dominated by Phase II data. This is a consequence of the greater intensity of the engagement, the increased number of practitioner participants, and a more clearly defined purpose regarding the 'operational project'. Where appropriate, the reported data do contain references to a specific phase.

# 5.3 The Practitioner Perspective on the Academic-Practitioner Relationship

The need to form a better understanding of the academic-practitioner relationship has been identified as a necessary element of addressing the academic-practitioner disconnect. This

section relates to Research Question 1, and explores the issue with all four ICT managers involved in the PM Alliance case.

## 5.3.1 Practitioners feel disconnected from academia

The four managers in this case study provide a variety of perspectives on the academic-practitioner relationship. While there is evidence to affirm the current troubled state of the relationship, there is also a desire better to understand the academic perspective and share efforts to improve the relationship.

When discussing the issue with the Author, David appears surprised at the attention the issue attracts within academia.

#### Researcher:

'...The IS academic literature has pondered the academic relationship with practice over a period of decades, and lamented the lack of it etc. [David: Oh, OK] ... special issues of top journals devoted to it. [David: Oh, OK] Research relevance and the relationship with practice.'

#### David:

'I haven't had any visibility of that, so I didn't know that had even occurred.'

Thomas has a very business-like view of the relationship:

#### Thomas:

'Practitioners only worry about it [the relationship with academia] from their own selfish point of view I think. At the end of the day, if we take a situation of you're a manufacturer of widgets, I don't really care what your problems are as long as you give me the widgets I want.'

Despite long-term, formal linkages between the local university and the HBS head office, the relationship between academics and practitioners remains limited. David views the current relationship disconnect as a lost opportunity, where there is potential for greater levels of interaction He is keen to engage in a more functional relationship.

## David:

'Yes, I think they [academics' and practitioners' interactions] can be important. I'm not sure they are important, are not being used as well as they can do these days. But I think corporates and businesses would certainly get benefit from that.'

David perceives academics to have a 'take', rather than 'give' focus in the relationship. The Author followed up on his response: 'when you say 'these days', do you think the situation was previously any better?'.

#### David:

'No. But it could be better. ... It seems to me that the academics are more interested in industry people assisting them rather than the other way around. ... to give you an example, academics are very keen to have advisory boards and advisory committees for their faculties and schools. They're very keen to involve industry in the promotion of the degrees in which they have a focus area. But rarely do the academics actually come into the work environment to provide an assistance back the other way.'

I don't know about detrimental [lack of interaction], but certainly I think there's opportunity for us to do a better job at what we do by having some input and interaction with academia.'

'As I said, essentially the interaction has been mainly one way. It's about academia. They like to put an industry spin on their degrees so that they are relevant to the real world, so to speak. And hence they like to have past students and people within the industry promoting and supporting the degree programs and the specific university itself. So the main interaction which I've had is from a marketing and support back to the university rather than the university having a particular focus area where they might want to come to us and assist us. I suppose, in saying that, we have not necessarily gone and asked them for that either.'

'The only other interaction which I'll mention where the universities have provided some assistance is where we are searching for employees and when the employment market is so tight at the moment we've sometimes gone to the university and asked for recommendations about high-quality students which we might be able to take on board prior to finishing the degree. So that has been of use to us.'

Despite the situation, David has an open attitude regarding wanting better to understand academia:

#### David:

'I'd like to really understand it [the relationship] from the university's perspective. I don't know whether it's something which they have now got to have, to have their degree programs, support their degree programs, or whether it's something that they want to have. I'm a little uncertain about that. Certainly in the meetings I've had with, I do it for both Faculty of Science and also the School of Information Systems in the Business Faculty, so I do it for two faculties, I'm just not sure yet, it's only early days, but how much value the university is actually getting out of that and, as I said, whether it's something they have to do rather than something that they want to do. I'm uncertain.'

Thomas describes the entrenched, troubled state of the academic-practitioner relationship. From his perspective, the disconnect is characterised by poor interactions and lack of understanding between the two parties. This is essentially a cultural divide. It seems that if practitioners are not exposed to academia, then they will form independently their own views about academics.

#### Thomas:

'Very minimal [interactions]. Probably because I haven't seen a lot of value in it. My contacts with academics in the past have tended to be not a lot of value because they are on, I wouldn't say a different planet, but they're certainly in a different country from what I am in terms of my needs. I probably don't understand what they're on about in terms of what their needs are and they certainly don't understand what I need from a business point of view. I must admit I've had very little interest in talking to them because we're wasting each other's time.'

However, Thomas considers that academic-practitioner interactions are important for the whole field, and the lack of such interactions negatively impacts on practice.

## Thomas:

'Yes I do because the academics at the end of the day are turning out the people that I then have to turn into workers for me. ... So if you guys are not in touch with what I want then ultimately I've got a lot more work to do. So, yes, I think it is important and I don't think it's been addressed enough, or at all, from my perception in the past.'

Despite the poor state of relationship, Thomas' message is that that academics need to get out and visit practice. He is clearly welcoming, as seen in the Author's case.

#### Thomas:

T've been in this organisation for 23 years. I'm a senior manager in the IT department. We've sourced something like 30 of our 50 staff from the local university, which is a sizeable university. How many academics from that university have I seen in here in the last 23 years? Probably one, you!'

'I don't recall an academic coming in and talking to us about "what can we do for you? How could we adjust our curriculum?" etc., etc. In fact, most of the contact has been oneway with us talking to the university saying "can you recommend good students to us, can you do this and that?" etc, etc. I am highly critical, for example, of the way the local university turns out educated students who are completely incapable of putting together a letter of application that is coherently structured and that addresses the issue. I have made offers in the past that I will go out and talk to the students about that sort of issue but, you know, again there's not ...'

Interestingly, Jamie sees addressing the relationship disconnect as a shared responsibility. He talks about his prior lack of contact but demonstrates his willingness to explore the issue in the upcoming alliance.

## Jamie:

'No. And I'm thinking it's probably my fault because I should have I suppose.... I'm not sure. I haven't gone and talked to a lot in academia about these sorts of questions. It probably was a fact that it's never really come to my attention that there's a great deal of value there. Not to say that there is a great deal of value. So I'm not in a great position to say either way until I find out. But by the end of this I might say "yes I was right. I'm glad I didn't go to academia because they didn't have anything for me." I can't establish that at this stage.'

But having seen some of your articles I thought that they were magnificent so I might have to do some more reading on that. ...'Do you have lots of practitioners coming to you?'

The disconnect as it exists in this case is exemplified by the occasion of the 2007 ACIS which was hosted by the local university at its main campus, and where HBS was a major financial sponsor. The CEO of HBS was a keynote speaker. David's staff were invited to attend. The geographic proximity of the two organisations meant that transport, commute time and parking were not inhibitors. Rather than being an opportunity to strengthen the relationship, it appears to have further undermined it, particularly notable in Thomas' response.

## Thomas:

'Yeah, I went out to one of the [academic] keynote addresses, and it was painful. Didn't understand what the guy was going on about most of the time. Again, it had no relevance to the real world from where I sat. ... But it was such an academic presentation, I think of myself as a reasonably intelligent person and obviously I have a lot of IT experience, but I didn't have a clue what he was talking about most of the time.'

Another facet of the disconnect can be seen in Thomas' remarks, when he uses the terms 'typical academia' and describes himself as having a 'typical prejudiced view':

## Researcher:

'Had that been a better experience, do you think you might have felt motivated to go to some of the others [paper presentations]?'

## Thomas:

'Yes, probably would have. ... I just thought it was a complete waste of time, quite frankly. I went as a representative of Heritage but I came out shaking my head. I must admit, and you've gathered that I have a typical prejudiced view, but I came out thinking, "typical

academia", because to me it was a lot of academics getting together each proving how they could come up with something more esoteric than the other one. And at the end of the day find they were having a wonderful little game, and in the meantime I needed to get back to the real world and do some real work, sort of thing.'

Thomas comments on the conference theme: 'The 3 Rs: Research, Relevance and Rigour – Coming of Age'.

## Thomas:

Yes, well I had a good laugh about the relevance thing because I felt the whole thing was totally irrelevant to the real world.'

David also comments on the ACIS, which he was unable to attend. Clearly his ICT staff did not view it as a wonderful opportunity to immerse themselves in emerging IS research.

## David:

"... I did send my staff. One or two of my staff.... I got next to no feedback from them about that."... "It was viewed a bit as being theoretical sessions that didn't apply. That was the general comment that I received."

Jamie did not view the ACIS as a great opportunity or priority either.

## Jamie:

'No, I missed out on that one. I think I was otherwise occupied... I was sort of like... most of my diary was so chock-a-block by the time I realised it was on, but that would probably be the only barrier that kept me away.'

#### Researcher reflection:

Our alliance was already underway and I had discussed the upcoming ACIS with Jamie. I felt that his comment about a 'barrier' was a way of avoiding offending me, as I had personally invited him to attend, reminding him that I would be delivering a paper and participating in a panel on research relevance. Furthermore, he was never too busy to partake in other equally time-consuming interactions that I had suggested, including a campus tour, attending guest lectures at the Toowoomba campus, and delivering guest lectures at both the Toowoomba and Springfield campuses (the latter in his own time on a weekend).

Dennis was also non-committal about the ACIS. His comment about using personal time is peculiar since the conference was on during business hours.

## Dennis:

"...I know that David did mention something. I don't know if it was that event or not."

I think, looking at those sorts of things, business needs to support their staff in doing those. If business doesn't involve their staff in participating in that then it makes the onus on the staff person to do it in their own time in their own goodwill or nature. So, from a business point of view, we don't probably do that enough and when we start cutting into our personal time that's not work-related. So separating work and personal life is an important part, especially for me, but also if I was to walk around and talk to everyone in my team they would also have the same point of view. So these sorts of things are good but if businesses, if academic people want to talk to business people, maybe the forum should be within the roles. What is the driver for me as a person to do it outside of my job role?'

Despite the currently poor relationship, practitioners do desire closer ties with academia, and recognise that there are potential benefits for them, and that they need to play a role in addressing the disconnect. Both Jamie and Thomas, in recognising that their organisation has the resources and potential, welcome the opportunity to play a 'service' role, that might assist closer relations.

#### amie:

'If invited, I think we would be more than happy to share our knowledge with people as part of the role of practice. But we're not often invited to do that.'

## Thomas:

'There's no reason why an organisation of our size can't provide service to the tertiary institution as well.'

Thomas responds positively to the Author's approach, and is hopeful of helping establish better relations.

## Thomas:

I think it's good... It's refreshing to see someone actually thinking about that relationship because it's only when academics like yourself think about that that we might get some change in what the universities are turning out.'

Thomas' use of the term 'partnership' clearly shows that he is willing to participate in building a stronger, more meaningful relationship.

## Thomas:

'... it is a synergy and it's a partnership, if you want to use that term as well, and I think ongoing partnerships between, particularly in our particular case, a large university here and one of the biggest employers in the area would be nice but doesn't happen all that much.'

David also has a positive view of the potential role academia might play in a relationship characterised by meaningful levels of interactions.

#### David:

'First of all, I think it gives an outside view or outside perspective of a particular issue or problem. Internally, when you're looking at a particular issue then you tend to, you don't know what you don't know. And if you can bring in an external view then sometimes I think that it can bring new and fresh ideas ... likely to be more up to date than many of our own internal staff are about new initiatives that might benefit us.'

However, not all practitioners desire a closer association with academia, as made clear by Dennis in his response to the Author's question: '... we've covered quite a few different things this morning about how academics' and practitioners' world views operate. Are there any other thoughts that you have? Any comments that you'd like to make?'

## Dennis:

'The academic world isn't interesting to me so I'm not looking to them to provide me with what I need.'

# 5.3.2 Good communication and interpersonal skills are essential to the relationship

The importance of good communication and interpersonal skills was discussed in the interviews. While their necessity might seem obvious, their existence should not be assumed. That they are essential to good academic-practitioner interactions was affirmed.

#### David:

'You need good interpersonal relationships, you need communications...'

Jamie, when referring to the Author's engagement with HBS.

## lamie:

'Good communication is regular communication and clear roles and responsibilities. Once we knew that it's Tuesdays, it's every Tuesday, "Where's my desk? This is what I'm going to be doing next Tuesday." That's the communication we're probably looking for because we're built like that and we have to incorporate those things into here.'

#### Thomas:

'Good communication is absolutely essential otherwise the two people are sitting in isolation with their own agenda and neither is listening to the other. Good interpersonal working relationship are also essential. That's a given in our work environment. I work

with everybody within the organisation that way and I'd expect to have that same sort of relationship.'

An open-minded communication style and focus is vital. Thomas' repeated references to the need for academics to 'listen' to practitioners, demonstrates how crucial it is for academics to understand and embrace the business imperatives. Moreover, his comment about listening implies that it will lead to positive outcomes.

#### Thomas:

"... it's been refreshing to have someone, an academic, come in and be prepared to listen, to discuss, to make suggestions, to modify your findings and so on. To not try to mould us to what you've come up with but rather to come up with your findings as being relevant to what we need."

'Well if other academics adopt your approach and your attitude to involvement in the real world ... if the academic is listening, will provide input to him or her to take back to adjust the curriculum etc, etc. '

Written communication is also an important issue in terms of dealing with the academic-practitioner relationship disconnect. Academic language and writing styles act as a barrier, and exacerbate the disconnect, as noted by Thomas.

## Thomas:

"...I can remember particularly when I was reading, Australian Computer Society used to solicit academic papers years ago and it used to publish it in it's glossy magazine, I can remember reading those magazines and, in some cases, having no idea what the person was talking about and yet it was supposed to be relevant to Australian Computer Society members and I felt that you probably had to have gone through the same university course and studied some extremely arcane areas in order to have understood the terminology."

Jamie, especially, had been given a range of academic research papers by the Author and commented on their sometimes overwhelming nature and resulting loss of impact.

## Jamie:

I would say that just as a general theme business practitioners have very short, sharp singular thoughts about things and make them clearly articulated. Academic people can have 50 thoughts within the one paper, all nearly as powerful as that one practitioner thought, and it loses it and you're just hitting them right between the eyes with 50 different things that could be life changing to them. I would say that academic papers should be a lot shorter, sharper, more succinct and right to the point ...That's where academic papers can start to fall down.'

David identified specific qualities that he considered necessary in an academic seeking to establish an alliance with practice. He emphasises that the role requires highly developed interpersonal skills, and the ability to interact with senior business people.

## David:

'Pragmatic. They've got to be pragmatic about what they're doing with us, and it's got to be relevant to us.'

They certainly don't want to be too, don't want to use the wrong words here, I was going to use the "nerdy" word. They need to be able to communicate from a business perspective with us, so I don't want some people that are too theoretical. It needs to be in an appropriate industry context or appropriate focus so it's more about pragmatic outcomes rather than applying theory as such.'

'And I think to be able to get the best benefit out of it as well they obviously need to be able to communicate reasonably well. So, for a particular project where we're going to bring in some academia to assist us, they're going to be talking with reasonably high-level people about high-level issues so I think that they need to be reasonably comfortable about communication.'

# 5.3.3 Trust, respect and credibility are essential relationship elements

The importance of respect and trust in the relationship is also fairly obvious. However, these qualities should not be assumed in the relationship, and are not easily gained. It is therefore appropriate to explore them in some depth in the context of this case.

Thomas identifies a link between respect and credibility.

#### Thomas:

'Well trust is important in any human interaction. I would probably use the term respect in preference because if I don't have any respect for the academic's credentials in terms of understanding my environment then that academic, irrespective of how many letters they have after their name, is not going to have much credibility in contributing to real world solutions that I need. So if I've got that respect, if they've got the runs on the board and have been there, done that, or are at least prepared to listen, ask questions and immerse themselves, then that gives the respect and, I guess, out of that comes that kind of trust that you were talking about.'

Jamie identifies mutual respect as an underpinning element of the relationship. This builds goodwill and gives rise to the commitment of time (and resources) for meaningful interactions.

#### Iamie:

'I would say that's a big driver. Spending time in mutual respect mode with another institution is the most valuable thing that you've got to contribute. That shows a lot of commitment on both sides.'

Interestingly, David comments that he does not think that the academic-practitioner relationship suffers from lack of respect.

#### David:

'That seems to be more at a personal level, I think, rather than a skill level. My view of personal relationships, you always treat people with respect and I haven't had any case to think that academics are disrespectful in any way in return. So I think the respect part's probably always been there. Where you may not have respect, it probably comes back to a personal thing rather than an educational thing or a capability thing.'

Credibility is an important issue in academic-practitioner interactions. It cannot be assumed by reason of academic qualifications alone, and some academics might lack credibility. Credibility and trust arise out of the relationship-building process, and are earned through the value of the knowledge that is shared, as viewed by the practitioner. David cites how the current engagement with the Author contrasts favourably with a prior experience regarding the development of trust and credibility.

## David:

I do think it's important. We have had some engagements with academics in the past who have been undertaking some research, and it might even be in a field which is related to our business. So I recall some research which was done some while ago on e-commerce. I suppose, to be frank, I questioned the academic's intimate knowledge about e-commerce in a real-world sense. They knew about it obviously at a technical level, at an academic level, but in a practice sense then I suppose, from my perspective, I lacked a little bit of trust about the value of that engagement.'

'So I think that trust is an important factor. In our particular engagement, as we've progressed further along the path I've become increasingly more trustworthy of the view and the opinion that you have portrayed. Not that I'm saying that it was poor to start with, but as we've gone through I could probably see the value that you've added, and therefore the trust has built.'

'And credibility goes beyond just credentials, if you know what I mean. So it's the actual credibility of the knowledge and the value that they add rather than the qualifications which they hold.'

Jamie adds a note of serious responsibility to the issue of credibility.

# Jamie:

'And if you're supposed to be the expert on something and they have to trust you on it then you have to be very, very sure of that.'

When discussing mutual trust, Jamie points out that, in an alliance such as this one, the researcher has to earn the trust of many individuals. He also links trust to delivering value in the sense that the organisation has to have confidence that, if they give an academic organisational time, some value will be delivered back.

# Jamie:

'... but not necessarily two parties. In your case you had to get the confidence of many parties. When you say two parties it's like you're talking about the organisation and you, when in fact that's not right. The parties you got involved with included me, that's one, Thomas Jones, David Singer, Dennis Appleton, our legal people, people reviewing everything... So when you say parties, I think that's a bit narrow. It implies like USQ to Heritage..., and the then Fiona to Heritage level...

Yes, you have to have trust in all of that. In fact if you'd met any of these people on the way that didn't... they each have to build trust. Just because I trust you doesn't mean that everyone else will do so. They will all test you out, and they will all say "Well are you adding value?" That's a test every time.'

Importantly, Jamie notes that, by establishing high levels of trust in this engagement, the Author got a much more committed response from the practitioners. This in turn resulted in richer research outcomes.

#### Iamie:

'Credibility, yes, but they're trusting also that you have a good aim in mind and that has to be put up in a convincing fashion. If it is purely academic and there's nothing in it for them, that's fine too, but they might accept that and say, "Fine I want to get involved in an academic exercise and it won't take me anywhere." They have that option. But if you don't have the trust you will get half answers, less answers, pat answers, generics, you know. But once you get the trust, if you develop the trust you will get deeper answers, challenging answers, differences, if you know what I mean? Like Thomas' response to your email is a good example. "Thanks for the definition, here's my go. Boom!" If you weren't trusted they probably wouldn't even bother.'

# 5.3.4 The relationship might be viewed in terms of a customer-supplier model

Thomas proposes that the relationship between academics and practitioners might be viewed as a customer-supplier one, where practice is the customer and academia is the supplier. That a manager sees the relationship in business-like terms might be seen as

natural. The Author reiterates that this is simply Thomas' subjective view. Thomas notes that his view of the relationship incorporates unequal responsibilities.

## Thomas:

'I'd probably see less responsibility on the practitioner role than on the academic. That may sound a bit unfair, but realistically the business person is there to run their business. Their supplier is the university. I see the responsibility of a supplier in the supply chain to make sure that the needs of the end customer are met. I don't necessarily see it as a role of the end customer to try to desperately understand the problems and hand-wringing challenges of the supplier and adjust his business to suit the supplier. ... I think my job here is to run a financial business and to produce quality software. A university's job is to supply me with people who are business ready. I think it's up to the university to fit itself into an environment where it turns out people with those sorts of qualifications.'

Thomas sees it as the customer's role to provide product feedback, and the supplier's responsibility to fix any problems identified by the customer.

#### Thomas:

'Now if I can supply input to the academics to aid them in their deliberations in adjusting their courses, then I'd say that's fine. I would be happy to do that and provide them input, for example, on the quality subject. But I don't see beyond that... unlike what I am saying is the academic responsibility to become familiar with the business environment, I don't necessarily see it as a responsibility of the business person to become familiar with the academic environment, because I don't care what the academics do quite frankly. At the end of the day I'm only selfishly interested in what sort of people [graduates] they turn out. How can I use them? How ready are they on day one when they hit the floor running? And how much hand-holding and education do I have to do for them?'

Practice does provide academia with advice and a 'product' feedback service, in addition to marketing support of academic programs, as noted by David. However, whether that feedback is heeded by academia is not certain.

## David:

'If I just talk about what the practitioner can do for the university or academia, I think what we're doing now I think is good. I think providing advice, providing support, helping them market their programs, I think that's all good work. I think ultimately that's a benefit for us as employers. If we can direct people into degree programs that support our own work environment, ultimately, years down the track, that's got to be beneficial for us. So I think that engagement, from, as I said, what the industry or what practitioners provide to the university, is good.'

'... providing the advice [re: academic programs] but not sure that it was really taken on board seriously.'

# 5.3.5 The relationship and knowledge flows must be 'two-way'

Practitioners believe that the relationship needs to be more two-way in nature, with more active involvement of academia. David views as desirable greater academic involvement in practice.

### David:

'So I think that from an engagement perspective, as I said, what the industry or what practitioners provide to the university, is good. What I think we don't get is back the other way. So I'd like to be able to see universities offer their services, maybe paid or unpaid, to assist us with our particular business problems. And certainly we've had a look at some of the postgraduate programs in the past where the students are looking for some research, but it tends to be very long-running.'

David feels that the relationship is somewhat one-sided, where the flow is from practice to academia, but lacking in the other direction.

#### David:

'It seems to me that the academics are more interested in industry people assisting them rather than the other way around.'... essentially it's been mainly one way. It's been academia requesting, I don't know if it's requesting or needing, to have industry involvement in advisory boards and advisory committees. ... not that I begrudge what I do for the university, I quite enjoy that, but it does seem to be a little bit one-way. So the university is looking for industry participants to go and sit on those boards and provide them some input about course structures and so on like that. The university wants to come and do research surveys with us and sit down with us, in the past, for a couple of hours and talk about my view about e-banking or e-commerce or whatever else like that. But there doesn't seem to be much back the other way.'

To give you an example, academics are very keen to have advisory boards and advisory committees for their faculties and schools. They're very keen to involve industry in the promotion of the degrees in which they have a focus area. But rarely do the academics actually come into the work environment to provide assistance back the other way.'

#### Researcher:

"...if you think about the knowledge that's generated and disseminated, is that also subject to that one-way ...?"

#### David:

'I think so. We get to hear little, I suppose, about the research that's undertaken by academia and hence it's relevance to us as well.'

Perhaps not surprisingly, closer academic-practitioner relationships would foster a two-way flow of communication and ideas. Thomas points out how he thinks this would benefit academic programs.

## Thomas:

'I believe it could be a two-way street.... Another thing that universities are quite fond of, and it's understandable, is teaching the latest languages that are out there. That's fine in theory. In practice, the people that are graduating then go into the real world where often times organisations, particularly ones our size that have been in business for a long time, do not necessarily develop their software in the language that was invented yesterday morning, or something like that. ... But the universities sometimes say, well, we're not going to teach that language, that's yesterday's language, etc.'

When discussing an ideal of the academic-practitioner relationship, Jamie describes it as symbiotic, where the knowledge flows are two-way. He questions how 'new' things can be developed in academia in isolation from practice.

## Jamie:

'What do they call that one where you each learn from the other - symbiotic or whatever? Because if it's all one way, and note I didn't say which way... I have to question "how can an academic create a brand new project in practice that will work in the real world?" ... I would be interested for you to answer that question. If I am asking that question, and it's in the back of my mind, then maybe that's one of the barriers to practitioners going to academia [for information] in the first place.'

Approaches from academics while novel are nevertheless welcome as they will generate a more two-way exchange. Interestingly, Jamie considers that academics might view practitioners to be out-of-date in terms of their knowledge.

## Jamie:

'... academia has never asked me before, and academia probably would say that my stuff is out of date... I would be chuffed to be invited to give my point of view'.

#### 5.3.6 Practitioners are considerate of the researcher's needs

The Author noted that the practitioners showed genuine concern that the engagement would produce suitable opportunities for research outcomes. This was reflected in the early interview with David, the senior manager, who it transpired was keen to change the underlying engagement project that was to be the basis of the interaction in Phase II. He felt that the Data Quality project, which had been earlier agreed, lacked the potential for making a significant impact on practice. However, he only pursued the change in project after

gaining explicit assurances from the Author that the research objectives would not be compromised, hence demonstrating goodwill.

### David:

'I'm interested in the particular focus area that you're looking at. So you're going to be working with Jamie on data quality, is that correct? ... And you're satisfied that's going to produce, for you, the outcomes that you want for the research?'

## Researcher:

'Because what I'm interested in is the academic-practitioner relationship, it wouldn't particularly matter what project I am assigned to, so long as I'm working with practitioners I'd be able to investigate that.'

At this point David suggested a change in project to one where he thought more business value might result.

#### David:

'The other thing I was concerned about, from a data quality perspective, I'm not sure what academia can bring to bear that would assist us with that process. We've done some work already, we're moving down a path, we've had some bright people internally looking at our own internal issues. I'm just not sure that academia can provide an enormous amount of benefit.

So if I was going to look at a consulting engagement then ... It might be more around our software architecture. For example, how do I move from our legacy environments now into something that's more modern to increase that efficiency about our overall departmental software development output? And part of that, an auxiliary project, is that we tend to get reasonably poor specifications from our business. So how do I go about doing a better job of getting better specifications without being too onerous on the business? What is the engagement or interaction model between IS and the business about being able to produce that? I think that our business would benefit from an external view about some of those topics more so than they would about data quality. ...It's just something to think about. Whether the data quality stuff that Jamie's suggested adds the best value from a research perspective about what the benefit that practitioners can get from academia?'

Researcher: 'I quite understand what you're saying. ... I'm totally flexible about that ...'

### David:

'OK, so you haven't done too much work looking at the data ... .And as I said, in the particular research topic we're trying to work out how academia can assist us. As I said, I think there's greater value there and greater input, and hence greater interaction, than what there would be on the data quality side. ... As long as we're not mucking you around.

It might even be worthwhile having a think about that early now. To say, "hey look, is this really the right path we want to go down on the data quality side and shouldn't we ...?" ... And you're satisfied that's going to produce, for you, the outcomes that you want for the research?'

That David considered it appropriate to have academic involvement in a strategically important project is a vote of confidence in academia. It demonstrates that there are opportunities for academics to be involved in organisationally significant engagements which have the potential to produce rich research outcomes.

## Researcher reflection:

Following my interview with David, I discussed the issue of project selection with Jamie. He commented that as a result of the establishment phase of our alliance that I have established my credibility and am perceived to be capable of providing useful input to this more strategically important and challenging project. I feel that the hard work and elapsed time setting up the engagement is becoming worthwhile. That the topic is interesting and challenging one heightened my commitment. I notice and appreciate the general concern shown me throughout Phase II of the engagement where I am assured of access to the people and corporate resources needed for my research.

# 5.4 The Practitioner Perspective on Academia and the Academic Role

An important aspect of addressing the academic-practitioner relationship disconnect is to understand better the practitioner perception of academia and the academic role. This section relates to Research Question 2. In what follows, the HBS managers' perception of the academic role and academia, as it currently is, as well as what they think it should be, is explored. As in the prior case the Author avoided challenging the practitioners' views, as she wished to facilitate the free flow of ideas.

# 5.4.1 Practitioners equate the academic role with teaching academic programs

That practitioners' perception of academia is dominated by the academic teaching role and academic programs is perhaps surprising only in terms of how overwhelmingly so it is. In almost every point of discussion with Thomas his commentary related back to academics' teaching role and the content of academic programs. This might seem obvious given practitioners' lack of exposure to academic research. However it is a key difference, particularly in view of the relative importance many academics place on research rather than on their teaching role.

Thomas sees the academic role almost exclusively in terms of producing graduates for the ICT industry. When asked about why there is a lack of useful interaction between academics and practitioners, he comments.

#### Thomas:

I think, to be blunt, a lot of academics are very happy to sit in the universities and be academics and fail to keep sight of the fact that they are turning out people to work in industry, in business, ... some of them have worked very little in the real world, and sometimes I think that reflects in their academic approach to the exercise, where they're forgetting what the purpose of university is.'

I think it's good to, it's refreshing to see someone actually thinking about that relationship because it's only when academics like yourself think about that that we might get some change in what the universities are turning out. Don't get me wrong, I don't think that USQ, for example, turns out bad people. We've got very, very good people but it just takes me longer to get them up to scratch. For example, when interview students I ask questions about quality control.... And I ask: "What sort of testing methodologies have you used?" Their eyes glaze over. They don't understand what I mean. ... "How do you test?" "Oh, I just test it." So, you know, there's something missing there.'

Even when discussing the academic 'service' role, Thomas came back to the production of graduates. The issue of graduate scarcity has become a problem that should unite both academics and practitioners, given its negative impacts on both parties.

## Thomas:

'...service, to me, is not just providing me with academic papers, it's giving me what I need. And what I need out of the university, as well as some relevant research, is often people I can employ. I find that sometimes it's pushing it uphill to find the right people. Particularly these days where IT students are becoming fewer on the ground.'

'I would love to be able to contact key people at the university and say "OK, who are the best students you've got there?" And, in fairness, we have done some of that. But we probably had to push it hard, and certain faculties have been much more cooperative than others.'

Dennis also perceives academia strictly in terms of being a producer of graduates.

#### Dennis:

'So when I think, this is me thinking academic world, I think you create the resources that we can use to leverage ourselves. So I think about the students that come out of university. When I think academic world, that's what I think.'

The academic-practitioner disconnect is also evident in the academic curriculum. When discussing the issue Thomas lamented the lack of focus on teaching mature technologies.

#### Researcher:

'So there really is quite a divide in terms of the [Thomas – oh definitely!] curriculum base?'

## Researcher reflection:

I found Thomas' comment at the time of the interview to be interesting as he appeared to assume that academic-practitioner communications within the university environment would be effective. I did not advise him that in fact ICT practitioners in my other research case at the university had made the same complaint regarding alignment of the university curriculum with industry needs.

Thomas sees a need for close interactions and committed actions to address in detail problems associated with course content. He sees wider impacts that stem from the issue, and notes that the problem is a general one, not restricted to the local university.

#### Thomas:

I would like to think that given that we are a fairly significant employer of talent from there, that USQ could take the time to sit down with me occasionally and say, for example... I'm making this comment to you about quality control but nobody at USQ has ever asked me that question. "What are the deficiencies in our course? You employ people we're churning out all the time. When they get to you, how well fitted are they to the role?"... but nobody takes it on board because that would mean changing something out there. And I'm not sure anybody's really interested in changing that...'

"...at the end of the day, it's how university graduates translate into the real world and obviously that's got to impact on society in general and industry in general ... industry is wasting a lot of time introducing graduates to the real world after they come out of university. ...

The need for non-trivial academic-practitioner interactions, providing a feedback loop to academic scholarship as it relates to course content, is seen to be an important element of a functional academic-practitioner relationship. The feedback might come either from academic research conducted in practitioner environments or, simply from academic-practitioner interactions.

Thomas is especially concerned about the lack of effective feedback in the current environment and the deleterious impact it has on practice.

Thomas' perception of the idealised academic-practitioner relationship is one that is mutually beneficial. Thomas:

"...If the whole thing is a circle, if you give to the real world and the real world gives to you which goes back into your students who then come in and join me and so on,... then I've got usefulness on both sides."

## 5.4.2 Practitioners are unfamiliar with the academic service role

Practitioners are apparently unaware of the 'service' element of the academic role, which in this context means that element of the role which might be described as 'service to the profession'.

## [amie:

'I don't know whether I've ever seen academia do service. I don't know of any instances. I might be wrong.'

#### Thomas:

'It's interesting that you should rate those three things as the role of academia because if you had asked me before this interview "what are the roles of academia?" I would have said teaching and research. I would never have thought of service as being a role of academia. So it's interesting that you have introduced that concept. The fact that I don't recognise it maybe says something about the fact that academia either is not into service, or certainly keeps its light well hidden under a bushel in terms of not getting out there and being seen to be of a service-orientation, shall we say.'

While it might be useful to integrate the service and research roles as a means of addressing the academic-practitioner disconnect, Thomas emphasises the importance of appropriate attitude and motivation. The Author notes that Thomas was aware that this case was to be used for doctoral research purposes.

#### Thomas:

lamie:

'It would depend, for me, on the attitude and the reasons why an academic was prepared to get involved in the IT world. I'm yet to be convinced, present company excepted because I do recognise that what you have done has had relevance and has had a service component to it, but my past experience of academics was that their involvement with the real IT [practitioner] world was essentially self-serving in that they needed it in order to do a thesis or whatever. Any relevance or benefit to the IT world was almost incidental to that particular target. So I'm yet to be convinced that academics have a service ethic when it comes to getting involved in the real application of the theory that they teach.'

Interestingly Jamie sees the alliance as honouring a service-type role on the part of practice.

'I think what we get out of it is a sense that we've involved someone outside and we've benefitted our 'town and gown'.'

David's view is a strongly business-oriented one when discussing the possibility of paying academics for their service.

#### David:

'If I could just add to that, if it is a dollar driven thing at the back end about funding for the university and research dollars and stuff like that, it might come back to a part of the service component which we spoke about before where there's a fee for service that's an additional income stream for universities that they may not currently be tapping into as much as they could do. That might assist with that income stream.'

'I don't pretend to understand how academics are measured for their performance, if research is part of that, but if you had a more financial focus, if they were measured about the return, the revenue which they generated against their salary, for example, and they were able to do X number of lectures, teach this many students in this many courses and that returned so much dollars. They were able to do some research and if that got some research grant that will also return so many dollars. If they then went out and did engagements like what you've done and returned a service fee back to the university as well, that also goes back into the number of dollars which is used as revenue for that particular human resource and then looked at the return they get from that. I don't know. That's fairly simplistic.'

# 5.4.3 Practitioners are sceptical about academic research

Another way in which practitioners feel disconnected from academics arises from their perception that academic research is motivated toward impressing other academics, rather than being concerned with improving practice. While the logic in these statements might be questionable, it is important to understand this perception exists. The issue is further considered in Chapter 6: Discussion.

#### David:

'A lot of my view about research, and don't take this the wrong way, it seems to me a lot of research is done to impress other academics. I'm not sure that research is done necessarily to make a difference to the people using it.'

#### Thomas:

'If research doesn't change the world in some way, what's the point of it? If it doesn't change people, if it doesn't change the world, if it doesn't change society or business, then it's just academics trying to impress each other, isn't it?'

Perhaps not surprisingly, David has a return-on-investment view of academic research, challenging academic management about their expenditure of resources on research and raising questions about its value.

#### David:

'... my involvement with the advisory boards and committees within the universities. I'm on the advisory committee or board for the Faculty of Sciences, and also on the advisory committee for the School of Information Systems in the Faculty of Business. Certainly, as part of that, I've realised the importance the academic staff place on the research and the value which they get out of that. It's interesting that when I've been talking with those groups I understood from those conversations they spend roughly a third of their time doing research and two-thirds doing teaching and learning. ...

So I actually posed the question of the university to the university staff as part of the board "if a third of your costs are going into the research component, where are you getting a return out of that. So if I just put that straight from a business perspective .... But if you're spending one-third of your time on research, where's the return come? Where does it come back to the university as a financial benefit? So I still don't know what the business equation there is, but I understand from that process what the approximate split of time is.'

'I didn't quite get a response. I think my question initially was a little challenging. I suppose someone from the outside asking "well why are you doing this research stuff? Where's the value?" I think all academics believe that there's great value in research. I was just looking at it straight in a dollar and cents term saying "how do you get a return for that?"

However David does acknowledge that there are other ways of looking at research.

## David:

The research role has always been a little confusing to me. Sometimes I struggle to see where the immediate business value is from the research. And perhaps that's just what research is because some of it's research that doesn't turn into anything. It's a little bit like innovative ideas where you might generate 50 ideas but you only implement two of them. And research might be a little bit like that where you go down a fair amount of research paths and directions looking for opportunities but then they ultimately may or may not turn into something.'

Whereas some practitioners voice their concerns, even cynicism, about aspects of academia and academic research, others such as Dennis have no interest in exploring the issue.

## Dennis:

'I'm unfamiliar with what happens in academia'... That might be me not looking but I've never gone out looking for academic research....I haven't had a need to go looking for it in the sense of, how would that research help me. So I don't appreciate what is happening there and what that research is trying to deliver.'

# 5.4.4 Practitioners perceive that academics benefit from real world experience

Perhaps not surprisingly, practitioners believe that academics benefit from having practitioner experience and being business savvy. Furthermore, such characteristics in an academic facilitate their interactions with practitioners, consequently assisting the process of addressing the relationship disconnect.

Thomas in particular commented on the desirability for academics to have business exposure.

## Thomas:

I'm going to take a simplistic view and say that an ideal academic is someone who can turn out students who are business ready... I don't see how you can turn out people who are business ready if you don't have business savvy yourself. And I don't see too much option other than having had a reasonable amount of experience. Now I know that probably goes against the grain for some academics to suggest that they get involved...'

'Ideally I think academics need to be sourced from the real world and then become, in most other contexts I guess, you get to be a teacher when you've done it and then you get to teach others to do it. Academia, in some cases, engenders an environment where you may never have done it, but you get to teach it purely because you learnt from someone else who also never did it but he taught it as well.'

Thomas also acknowledges the importance of academic qualifications.

#### Thomas:

'...in an ideal world then I think academics should have done it. Been there, done it, and then come in and teach it. They obviously need the academic qualifications on top of that to make sure they've got the theory. But then they can apply the theory to real world examples and understand that application.'

Thomas considers that the academic role should include an understanding of business imperatives, and that it is always appropriate to reward it.

## Thomas:

'I wasn't aware of that. It's probably a mistake I would think... Which confirms my view that academics tend to be too academically minded, and they forget the business imperatives that come with their role. I'm making sweeping generalisations here. There are academics like yourself who have worked in the real world and the very fact that you've picked this particular PhD subject shows your interest, but I just don't see that generally...'

Jamie notes that, to interact effectively with practitioners, academics must be able to deliver appropriately, and that prior practitioner experience is likely to improve the academic's credibility and performance. The relationship and interactions come with responsibilities and expectations.

## Jamie:

'If you're pitching yourself as a PhD candidate, a senior practitioner and an academic of some note... If you pitch yourself as that, there's a different level of respect I suppose, and then tolerance and expectations also rise as well. Suddenly if you don't start to deliver they think "Well, gees, you know, that's not very good. How did they get up there? I wonder why they're in that position?". ... if you came in as a student fresh out of uni doing a PhD, for example, I think you would find it much more difficult to actually get your way through to the right questions. You wouldn't be able to challenge us as much and I think that that's where you get the mutual respect. If you can challenge people to think differently then you're away around here. If you're just saying, 'Nod, nod, wink, wink, yes, that's good, it's good' there's no challenge there, there's no dialogue starting to develop, there's nothing new here. We want new, and new comes from experience probably, and asking the right questions and challenging people.'

In considering appropriate roles for academics, and means of addressing the relationship disconnect, the issue of a Boundary Spanning role in academia was discussed. Thomas sees merit in it. He makes clear that superficial attempts will not suffice. It is important to note that the Author acknowledges that the motivation for undertaking the engagement was as a research basis for her doctorate.

## Thomas:

I have some reservations. It would depend... 'The cynic in me says where do you find such a person because I don't know too many academics with that sort of mix... I have said before that I think you are that rare person who has the background as a practitioner yourself and that you also are prepared to come out of your academic tower and relate. The very fact that you have spent regular times here at Heritage for whole days at a time, familiarising yourself with our environment.... So if it was a person with the right sort of practitioner background then I could see that as being of some value. But if it was purely an academic tinkering at the edges then I would say they're more likely to get in the way, quite frankly.'

Jamie also showed interest in the boundary spanning role.

#### Jamie:

'I think that in a lot of ways your role has showed off the boundary spanner if you want to call it that. Someone who has been in practice and then gone to academia but keeps characteristics of both. I think it's important that people are either practitioners or

academics; that's valid. But there's also a place I think for people who like to span the boundaries and hence there becomes a conduit between the two and who can understand the terminology in both. So as a role it is quite good and in that sense it wouldn't matter whether you were living in the practitioner world or the academic world, if you've been exposed to both then I think you have an advantage over someone who was isolated in either.'

# 5.4.5 Practitioners perceive academics as different from consultants

Practitioners' perceptions of the nature and relative roles of academics and consultants is useful when forming a view of the academic role. Having noted that the issue of consultants was a recurrent topic in conversations and interviews, the Author followed up the issue via emailed questions. The two responses demonstrate that, while there are some overlaps in roles and characteristics, practitioners perceive them to have quite distinctly different identities. Overall, the picture of an academic is a comparatively positive one.

Question: 'How do you (as a professional practitioner) perceive the role of a consultant?'

## Dennis (email):

I perceive a consultant as a resource that can provide a skill, service or expertise that we do not have available internally or the business case is best addressed by not using internal resources (or lack of).

## David (email):

'A consultant can provide expertise and specialist knowledge in areas where an organisation lacks this knowledge. However, there are some significant issues:

- The cost for consultants is generally speaking "daylight robbery"
- Consultants can sometimes be used for the wrong jobs. If there are used for specialised knowledge that is fine. However, often the skills of the consultant are no better (and sometimes worse) that in-house skills. The use of consultants to "review your business or process" is a waste of money. It's like paying someone to tell you what you already know (or at least should know).
- Many vendors supply "consultants" that are really no more than a low level technical resource trained in a piece of technology (e.g. a router, software application, etc). The skills of the "consultant" are obtained by completing a 5 or 10 day course and then some practical experience. These people are then billed at consultant rates.'

Question: 'How does this differ from the role of an academic?'

## Dennis (email):

I associate the role of an academic with higher education and research. When thinking about a business case that requires a consultant, then an academic could be an option if the academic could add value to the business case or reduce costs of the business case.'

## David (email):

'It depends on your definition of a consultant. High end consultants are not dissimilar to good academics - intelligent, broad experience and knowledge, analytical, good communicator, etc. Consultants can have a broader experience and industry knowledge than an academic. The technical consultants mentioned in the 3rd dot point of the previous question are often not even tertiary qualified and hence are "miles away" from the skills of a good academic.'

Question: "There is a perception among academics that practitioners revere what consultants do, and what they have to say. Is that true? If so, why is that?'

## Dennis (email):

I think of it as a business proposition. If an academic can deliver what we need more effectively and within similar cost constraints then I would consider that option. The consideration of risk may play a part assuming that contracts are normally surrounding contract work and deliverables.'

## David (email):

'I (and my executive colleges) view consultants negatively. They are overpriced and often do not deliver value. The consultants we do find valuable are good people to deal with, charge reasonable rates, have specialised skills and several are former academics. I believe (in the majority of cases, not all) that my staff have the intelligence and drive to produce a better result quicker, and with less cost, than a consultant. We only use consultants when we have to.'

Question: 'Do you (as a professional practitioner) think academics should be more like consultants? If so, in what ways?'

## Dennis (email):

'Consultants are limited to a return on effort --> profit. Academics need to have less boundaries and their focus should not be all about profit. Knowledge, discovery and innovation align well with education and research. If the business needs to just run the business, an academic may not add value. An academic may add value by thinking outside the box to support business in going beyond just running the business, that is, supporting and advising on how to apply new research that align with business objectives.'

## David (email):

'As mentioned above, I don't think is a lot of difference between good consultants and good academics. I don't think academics should operate at the technical or application

level. Their value is at the high-end. However, Academics do have a couple of issues to address:

- Responsiveness. I perceive (and I think it is true) that academics lack a speed of response. Academics have a fulltime job already and the ability for them to respond in a timeframe that matches the business requirements is not quick enough. Even the use of post-grad students is difficult from a business perspective. For example, the post grad student is limited by when they can undertake a project but also how long they can spend on a project. e.g. 2nd semester for 13 weeks. That just doesn't suit the needs to most businesses.
- Many academics lack recent industry experience. Although their knowledge levels may well be higher than consultants, their application of that knowledge is probably less than a consultant. It is the real world application of practical solutions that businesses are looking for.'

Question: Why do practitioners consider it worth paying consultants, and maybe not academics?

## Dennis (email):

Return on investment - Consultants are paid to provide deliverables. When under contract, there are costs involved to the consultants in providing those deliverables. Does the academic have infrastructure around them to instil confidence in the practitioner? Are there risk mitigators that can be provided by academics? For example, backup human resources that ensure a project deadline is achieved, or insurance in place in case of contract issues.'

## David (email):

'I don't think it's a value issue. There is certainly a perception (and I think it is real) that academics do not offer a consulting service. It is also because academics don't market themselves. As an example - I'm not aware that USQ academics are available for consulting. No one from USQ has seriously ever approached me about using academics in a consulting role.'

When discussing the Author's academic role in the alliance, David draws a comparison with consulting that is flattering to academia.

## David:

'I think we've welcomed your outside view. It's almost like consulting, if you like, but probably at a higher intellectual level I think. And certainly I think that by bringing the academic viewpoint, but also understanding pretty clearly what our practitioner-level problem has been, I think that's been a real benefit.'

When describing his perception of academia Jamie also drew comparisons with consultancy.

## Jamie:

- '... Academia is potentially more wide ranging and the fact is that the consultant wouldn't go and look for something that's outside their scope.'
- "... And you have more flexibility in asking them for wider things as opposed to specific things....You don't bring on a consultant for wide things, unless you really have deep pockets....it's in this way that academia is underutilised."

When discussing the range of different interaction possibilities and the consultant-type roles that are proposed in the academic literature, the Author asked whether there are circumstances in which practitioners would consider it appropriate to pay for services from academics in those sorts of training or educational consulting roles.

## Jamie:

'Yes, I can see that happening. ... How you actually get that into the organisation is an interesting one. ... Once again, you're back to the business case. ... But if you look at the long term, there should be like a cell within every large university that people can draw on. Like the Gartner Group. ... That means because you're an academic you get that breadth of experience. How you actually share that experience, whether it's paid or unpaid.... Why shouldn't you share that expertise with a group within a company on a paid basis, for example, doing a two day workshop?

## David:

'Oh, absolutely. Absolutely. I think certainly I could pick a topic like evolving payment mechanisms in a banking sense where Joseph Lyons there has done some good work I think in payment work. Or I could look at internet payment security where there's a straight, direct correlation about the services that we provide where we could get some benefits about leading edge research into internet banking security as an example. So I think organisations are quite happy to pay for that work as long as, as I said, it's very relevant. So whether it be consulting or it could be training even or it could be a particular piece of research then I think organisations would be happy to pay.'

# 5.4.6 Practitioners perceive academia as a potentially valuable knowledge repository

Notwithstanding issues of research relevance, practitioners perceive that academia has the potential to be a valuable knowledge repository. Interestingly, practitioners acknowledge that academics are likely to be up to date subject matter experts, perhaps more so than practice, especially in leading edge technologies. David noted this when discussing what academic interactions might bring to practice.

#### David:

'...I think that it can bring new and fresh ideas ... likely to be more up to date than many of our own internal staff are about new initiatives that might benefit us....'

This is also reflected in Thomas' comments when discussing the academic curriculum.

#### Thomas:

'... what universities are quite fond of, and it's understandable, is teaching the latest languages out there. ... So for example, students come out versed in object-oriented stuff....

Furthermore, practitioners acknowledge academia as having the requisite high-level research skills to be a serious knowledge provider. It is interesting to note Jamie's reliance on freely available material via Google in contrast to the internet-based resources available to academics. As Jamie notes, this is a competitive advantage for academia.

## Jamie:

'... if you go Googling you will only get the sites that pay to be at the top of the Google, and after about the first page it's actually already referencing things that aren't to do with your search at all, no matter how good your search is. ... you guys are good at searching through the disciplines, for example, if there is a project management discipline within each of the places of academia, you've actually got a mortgage on the market.'

'... there will be a lot of good stuff that you have been able to get through your research that I would never be able to touch or even know existed. ... and that to me would be a great advantage. Because I don't have time, in fact there's a perception that you actually have time to do all of these sorts of things, and that your aim in life is to do these sorts of things, and you are good at it. Now if I don't take advantage of your ability to do that and search through things and seek out the best things, it's madness on my part. So I am hoping to really be advantaged by that.'

David also acknowledges that academia has access to a valuable and broad knowledge base.

## David:

I think that the value you've brought to us is that you probably have a very broad range of research sitting behind you. But what you've brought to us is that you've filtered that to provide it in a relevant sense to our particular issues. So all the other complicated, difficult to understand research, you've managed to be able to collect all of that stuff but then provide the filter mechanisms and communication mechanisms that's transferred that knowledge to us.'

This is echoed by Jamie.

Jamie:

'What else is out there?' So academia can actually come up with that richer view because we're head down, tail up, focussed on delivering ... So that's a real advantage for academia because you are able to look across 50 cases.

Another distinguishing characteristic of academic research understood by practitioners is its perceived rigour, which Jamie identifies as a responsibility of academia.

## lamie:

In our situation I think that academia has probably been underrated and its role could well be a conscience on project management where for example some people come out and say things like 30% of projects fail or 50% or 100% of projects fail. When academia takes a disciplined approach to that data... they might actually have a different approach because the academic could well be the point of difference in terms of rigour, around the sensational claims for example. '

The ability of academics to draw together networks of expertise and knowledge was raised by Jamie as another competitive advantage.

## Jamie:

"... I think what we lack is good forums, and academia are good at enabling people to get together, enabling people to discuss issues, capture issues, sort through issues... academia has virtually got the world at their feet and should use that as a point of difference where you can actually leverage off all the contacts within your own places of interest and say "what's the latest on this?" you can actually create an income stream out of these sorts of things rather than be a charity. And no one else is doing that."

## 5.5 The Practitioner World and Its Knowledge Concerns

An understanding of the practitioners' perspective on their own work environment and its pressures is essential in any comprehensive investigation of the academic-practitioner disconnect. This section is relevant to Research Question 3. Much of the relationship between academia and practice is knowledge-related. Matters of concern include the form that knowledge takes, how it is generated and disseminated, and how it might be shared between the two parties. While KM is not the prime focus of this research, a significant part of addressing the disconnect is concerned with understanding how better to manage academic knowledge for practitioners.

## 5.5.1 Practitioners' focus is on their immediate and busy workload

The world of practice is busy, and practitioners are very much focussed on their immediate workload, as noted by David.

## David:

'... we get lots of requests for things like vendor-related surveys and things like that. ... They're just a nuisance to your everyday life. Businesses, well in our particular environment, it's very busy, very intense number of projects, we're fairly focused about where we spend our time and what we do.'

David observes that timeframes in business are shorter than those of academia.

#### David:

'... And certainly we've had a look at some of the postgraduate programs in the past where the students are looking for some research, but it tends to be very long-running. We're talking over a period of two years. In a business sense, to be able to do some research over a two year period, we're normally much shorter focused than that, not so much focused, but we're looking for outcomes in a much shorter sense. So I'm not working currently on any projects that are two years out. All of my projects are somewhere zero to twelve month timeframes. So when you're trying to engage with academia, the length of time the engagement is over, it doesn't suit the speed at which practitioners need to operate at.'

Practitioners do not consider reading and researching to be a significant part of their role as they are too busy, whereas they do see it as a regular part of the academic role.

#### David:

'... In fact, I'd be one of the few people here that even sees the ACS (Australian Computer Society) journal. Most people don't involve themselves. And I think some of that's about, because they are a practitioner they're here for 40 hours a week doing what they're doing, when they get away from here they're not necessarily interested in reading research journals. ...Whereas in academia, reading research journals is part of what you do in your 40 hours.'

Jamie comments that academics have the time to do research, whereas practitioners do not.

## Jamie:

'we're head down, tail up, focussed on delivering'

'... I don't have time, in fact this is a point... there's a perception that you actually have time to do all of these sorts of things, and that it is your aim in life is to do these sorts of things, and that you are good at it...'

The Author noted that practitioners seem not to read many books, and that they adopt the first one that they find which seems relevant. This might be attributable to their busy and immediate work focus.

#### Jamie:

T've been to a library probably about three and a half years ago and looked once at a book and I bought it. It was called Leading Strategic Change and it's the best book I've

ever read on strategic change and I am never going to read another one because I think it works.'

#### Researcher reflection:

I found that when I referred Jamie to books, always highly relevant Project Management references by leading practitioner authors, I got very little feedback or debate. I came to think that maybe practitioners don't read widely, and that other means of introducing them to ideas are necessary.

## 5.5.2 Practitioners source their information from other than academia

Practitioners predominantly source their professional knowledge and base their inspirations for business directions on information they get from their main technology providers, in this case IBM. Other sources cited include commercial training, prior employment, practitioner conferences and consultants, but not academia.

## Jamie:

"...it's mainly been places that I have been on courses. Like I went to a Prince 2 course and that material has been very useful. I've also done a lot of my own work in terms of building up a methodology but I got some of that from places like XXX Consulting, I got parts of it from XXXX."

'... I would really like to see where the leading-edge people like IBM that we're seeing next week see Programme Management. So when you're in their presence, talk about programmes and academia.'

## Thomas:

'...from where I sit as a business manager, I need to be updated on technology and so on. I get my information from going to seminars and conferences, run by suppliers like IBM and people like that. Why? Because they present stuff that is practically useful to me. And do I think of asking USQ to supply me with that sort of information? No. Maybe I should but I'm just not convinced they're in touch enough with what I need.'

Dennis sees the sourcing of information as a choice between academia and technology supply companies, the latter being his clear preference. Large suppliers such as IBM represent an enormous knowledge repository, accessible by their customers, and with high levels of perceived relevance.

## Dennis:

'If I look at the academic world and the business world, e.g. IBM, those two people are competing for me to use them. So which one is going to provide me what I need to do my job better? Which one's going to help me solve the business needs that I have? So what is it that the academic world's going to offer me compared to the companies that are out

there trying to make money out of selling solutions and technology and knowledge? So if I have a problem, do I look in the academic world or do I go out and look at the business world?

#### Researcher:

'... when you're faced with a significant business problem that you want to address, where do you turn to get your new ideas and the information to support that? ... for instance, Service Oriented Architecture is one of the major components in your paper. Where did you go to research that?'

## Dennis:

'I think the internet is probably where I often find things. That probably came about from the technology that we use now. U2 University, which is provided by IBM, and what they do is they talk about how they're leveraging and developing all of their new technologies. ... Things that we can leverage off. ... Our core system is an IBM product so when we look at what we've got most things leverage off that. So it's a good starting point.'

'... Just browsing as many different resources about SOA. IBM is an extreme advocate for SOA and they have a huge amount of information on what SOA is. Then they've got all the business case examples about how it's been done. They talk about how it's been done. I've been to a few presentations that IBM have provided on it. Then again, looking at what the other websites or what the larger companies are doing. So picking case studies from our competitors, what they've done, what they've done a few years ago, what they're doing now, maybe what they're thinking about moving towards.

'...it's a good knowledge source. With IBM having 2,000 odd products and 360,000 people ... I can leverage them ... So I can ask them a question and they can potentially ask 360,000 people...'

## 5.5.3 Practitioners perceive that academic research lacks relevance

The previous finding identified that practitioners rarely source their knowledge from academia. One of the main reasons for this is a perceived lack of relevance. While resolving this complex problem is beyond the scope of this research, gaining the practitioner perspective on it is an important and necessary contributing step.

David describes his exposure to academic research. His comments indicate the lost opportunity resulting from the lack of relevance.

## David:

'Some [exposure]. I'm a member of the Australian Computer Society and they produce a journal and that's largely about research on specific topics. Not the normal monthly magazine or whatever. They have a research journal that comes out every quarter ... It's probably fair to say, from my perspective, I don't read that a lot. It's very theoretical, very

mathematical in many cases. Even some topics that have been of interest to me and I've seen the table of contents and I've thought, "Gee that's really interesting!" And started reading it, and I get lost in the complexity of the issue which they're researching. But other than that I probably don't see any academic research or journals.'

T'm sure the research they've done is brilliant research and highly valuable. It's just that I can't use it.'

Thomas had much to say about the research relevance issue, especially noting his disappointment at the lack of applicability. He firmly believes that academic knowledge should be relevant to practitioners.

#### Thomas:

'From time to time I've seen, come into contact with papers on this and that etc. I'd have to say that a lot of them, I'm not talking about dozens of them, but the ones I've seen have been a, here's my cynicism again, a typical academic exercise that hasn't borne much relationship to the real world and therefore wasn't of much interest to me or value to me in terms of it's application to the environment that I was working in.'

I'm responsible for software development in a sizeable institution. So anything that academia does has to have some relevance to the kind of things that I do and my life is built around rapid development of software and quality control and getting the right people to do the right job and so on. So those are the things I'm interested in. I'm not interested in the airy, fairy, academic fine points about things that tend to interest academics but at the end of the day are not going to make any difference to when I get the software out the door and the quality of it and how I serve my customers and so on.'

Thomas sees research relevance to arise from close cooperation between academia and practice. He explicitly ties it to the potential value of academic research to practice.

## Thomas:

'Well if other academics adopt your approach and your attitude to involvement in the real world... if you give to the real world and the real world gives to you which goes back into your students who then come in and join me and so on, then I've got relevance...'

'Again, cynical view, and you'll find that cynical word from me. Research has to be relevant to me for it to be of any value. I've been in IT since 1964. I have read my share of academic papers in one context or another. I can remember particularly when I was reading, Australian Computer Society used to solicit academic papers years ago and it used to publish it in it's glossy magazine, I can remember reading those magazines and, in some cases, having no idea what the person was talking about and yet it was supposed to be relevant to Australian Computer Society members... So, to me, that was an exercise in pointlessness from the point of view of the relevance to the world.'

'So I come back to that whole point and the use of your word 'relevance' in reference to your studies. To me that is the key thing. It doesn't matter how wonderful your research is, how brilliantly written it is. If it makes no difference apart from impressing a group of academics, no offence, then you might as well all go and sit in the university quadrangle and pat each other on the back, because you're not making any difference to the world.'

When discussing the potential value of academic-practitioner interactions, Thomas reiterates that relevance must be the prime driver.

#### Thomas:

'... All I can do is speak for the environment that I work in and I would see, provided the word relevance is the keynote, then I would see value there.

The Author was interested in gaining a more in-depth understanding of the practitioner perspective on research relevance. Two definitions from the academic literature were emailed to the practitioners, as follows: "Benbasat and Zmud define relevant research as 'one that is potentially useful for, as well as accessible by, its intended audience'. This is complemented by Fallman and Gronlund's definition of relevance as 'the act of making efforts into research issues that is of concern to a perceived audience'". It seemed useful to gain feedback from the practitioners whose interests the definitions are proposed to serve. Excerpts of emailed responses follow. They offer some useful practitioner feedback on the academic position (bolding of text is respondents' own).

## Jamie (email):

'Would it also be appropriate to add the dimension of actual use of the research into your definition. I see the words 'potentially useful', 'accessible', 'of concern'. Does this mean because it is of concern that it is therefore used? If so, then I like the last one better because it implies that the perceived audience seems to have set the tone or topic in the first place. I'll have a go then......

"Relevant research provides concrete results for the audience accessing and applying it."

Perhaps Dennis' (emailed) response carries a more general and important message for academia.

"one that is potentially useful for, as well as accessible by, its intended audience". 'Useful' needs to be stronger. The research would need to be important and relevant to achieve the objectives of what we are working towards or the issues we are addressing; otherwise it becomes 'interesting'.

The next quote is too hard for my little brain. Maybe this is about being too complex and intellectual. Does a practitioner need research to be simple and short? I like things simple and easy. I like different mediums for acquiring knowledge - face-to-face, visual, sounds, touch.

## Thomas (email):

I like the first definition, so will briefly comment on that. (The second is less comprehensible (to me, anyway!))

"potentially useful for ....." This, to me, is the Achilles heel of most academic research. Much of the usefulness is more correctly worded as "has the potential to get me my higher degree". A cynic might ask, "How would the academic judge usefulness to an environment in which he/she has little relevant, and/or recent, experience?" Of course, that problem can be mitigated by getting out and talking to the practitioners in depth, but how often does that happen?!? (Present company excepted, of course - you're that rare breed of academic who (a) has the practitioner experience; and (b) is prepared to escape from your learned tower.:-)

".... as well as accessible by ....." As a practitioner, I'm not necessarily guaranteed that access; it may be freely available on the web, it may not. If not, how would I find it?

".... its intended audience" Again, much academic research, I cynically suggest, has an intended primary target of <u>other academics</u>, even if practitioners are the notional audience. Even the arcane wording and terminology of much academic research seems designed to impress rather than to educate.

## 5.5.4 Legacy systems are an important part of the practitioner world

The reality that the bulk of computer applications systems currently running in 'production' in business computing environments are 'legacy' systems is an important issue in terms of practitioner knowledge needs and the academic-practitioner disconnect. Legacy systems are those for which newer technology solutions are available, but which are deemed to perform satisfactorily from the organisation's perspective.

## David:

'In our own particular case, we're in a banking environment, we're using essentially legacy applications and legacy development mechanisms, so when we take a tremendous leap forward and look at some of the new and very innovative development methods these days, they can't be applied necessarily in our business. So sometimes we've just got to make sure that the benefits from an academic perspective they understand where we're at from a maturity point of view with newer technologies.'

Thomas laments the fact that academia appears not to understand the curriculum imperatives that result from the widespread use of legacy systems.

#### Thomas:

'Another thing that, universities are quite fond of, and it's understandable, is teaching the latest languages out there. That's fine in theory, but in practice, the people that are graduating then go into the real world where often times organisations, particularly ones

our size that have been in business for a long time, do not necessarily develop their software in the language that was invented yesterday morning, or something like that. Inevitably major corporations have legacy code that's been written years ago, etc, etc. But the universities sometimes say "well, we're not going to teach that language, that's yesterday's language, etc." So for example, students come out versed in object-oriented stuff, but not necessarily in lesser technologies.'

'Now you may say "well that's your fault as a practitioner in that your systems aren't up to date". But the practicalities are that many, many sizeable organisations, unless they were started last week, work with technologies that are yesterday's technologies. I'm not suggesting for a minute that universities teach Fortran or something like that, but there could be an opportunity to mix today's languages with some of the earlier technologies because that's the real world. Certainly when we recruit, we never expect to get anybody with any relevant education in the kind of environment that we have.'

'... we still have some COBOL code here ... but I've read figures, and depending on who you believe, a fairly substantial amount of the world's code is still written in COBOL and still runs and yet universities don't turn people out who've ever seen or even heard of COBOL...'

## 5.5.5 Practitioners find qualitative research more intuitive

Interestingly, David raises the point that the quantitative analysis most common in research papers is unnecessarily complex and tends to be unintuitive.

## David:

'Academic research, in the past, I've considered to be highly technical, very formula driven, mathematical research papers. That's how I've largely viewed ... [Researcher: Quantitatively based?]. That's right. I subscribe to the ACS, I get their journals and read the articles. But in all the years I've been doing that there's probably only one or two articles that have struck a chord with me. Most of the others, the mathematical and quantitative analysis associated with the research, I'm sure is totally valid but I don't have time to sit down and read and understand a formula that covers the width of a page and try and relate that to my own environment. I'm sure I could do it if I really wanted to but the researcher's done that. I've struggled with research articles in the past because quite often the audience, they're written for is an academic audience, not a practitioner audience.'

#### Researcher:

'My research has been qualitative, which is why I'm conducting interviews instead of getting you to plot things on Likert scales, and things like that. I'm not saying that there's no place for that in certain research issues, but it seemed to me much more appropriate to have a qualitative approach. But part of what influenced me to undertake Action Research, which incidentally can be quantitative but is generally qualitative, is that I felt it would serve the interests of this project better, and it has been promoted to improve

research relevance for professional practice. [David - yes] So it's quite interesting that you raised that point of your own volition.'

Interestingly it was not lack of mathematical skills which motivated David's preference.

#### David:

I come from an engineering background so I'm quite used to long, difficult, complicated formulae.... But when I get into research papers it becomes exceptionally complicated and difficult to understand.'

## 5.5.6 Managing academic knowledge for practitioners is a challenge

While knowledge management is not the prime focus of this research, a significant part of addressing the disconnect is concerned with understanding how better to manage academic knowledge for practitioners. The Author recognises that the fundamental role played by knowledge in the academic-practitioner relationship means that many of the other findings in this case (such as research relevance) also relate to the knowledge management issues considered here. For instance the findings relating to the research relevance issue have implications for all three of these knowledge management processes.

While aspects of knowledge management were discussed with all the practitioners, it was with Jamie that the Author explored the topic in a more practical sense. It is clear that since practitioners generally lack ready access to academic research, they are not in a position to assess its usefulness, or to apply it.

One of the recurring topics of discussion in Phase I (conducted exclusively with Jamie) was the issue of making academic knowledge readily accessible to practitioners, and in a form suitable for their needs. Hence it is essentially the transformation and dissemination of academic knowledge. Many of Jamie's suggestions revolved around a 'knowledge broker' type service. His business focus results in a proposal that is a paid service, and will give academia the motive to provide a high quality and responsive service that will attract practitioners.

## Jamie:

'... but it also then needs to be divided up into specific topic areas, like, for example, I go to a project site...'Agile tasks, within an IT framework within project management.' 'Oh, OK. I will go and get them for you. That will be \$100.' 'That's OK. I've got my subscription with you and you've delivered every time. I give you a four-star rating on the last stuff so that if anyone else wants it you can sell it quicker' and they will still give you the \$100 but you've already done all the work.

Jamie made suggestions regarding dissemination.

## Jamie:

'Paid, on the internet. Subscription ... If they're a member, they pay less. But if they come in off the street, they pay more.'

'you will soon find out what people really want because they will pay for things they really want, ... like this huge database of stuff in academia that never ever get accessed, and never will be because no one wants it. So you've got to find out a way to get the things that people want. You have to use the market forces for that. Don't just do it by random, do it by choice. ... then suddenly your academic research is payable ...'

Jamie also believes academia's 'non-threatening' nature advantages data collection. Academia might then reward the contributor with free access to the aggregated information.

## Jamie:

"... "I'm from the uni"- you're not threatening when you ring up. You're just after some information... and thank you for doing this, and by the way, if you answer the question every year you get a copy of the report for free.'

An alternate idea of merging the 'knowledge broker' and 'boundary spanning' roles was also explored. While showing interest, David questioned how it would work.

## David:

'I think that's interesting. I don't know how that person would necessarily do that. I assume that they would be a university employee that would be there largely just as an interface to try and facilitate. I think that could work. I don't know if the universities would sponsor such a person to be able to do that role. That'd be interesting. I suppose it would have to be a business outcome for the university itself to have that person on board to be able to facilitate that.'

David notes that practice is prepared to pay for research, but with consideration of returnon-investment. He highlights the need for research to be information that suits the business, in a suitable form and readily accessible, thus covering all three knowledge processes.

## David:

'...quite often organisations will pay for research. So they'll pay Gartner or Butler or whoever it might be to go and access a particular piece of research that's been done, obviously on a topic ... Those researcher organisations tend to be not so much theoretical but they're very practical in the research that they produce, whereas universities probably tend to be a little bit more theoretical. If university research produced more Gartner-like documents then I think that it would be a higher relevance.' ....

'...if there was a better online means of accessing research information then certainly I think that would assist practitioners.'

'If you're going to pay \$50,000 a year for just some research, then you've got to do an ROI calculation and work out where am I going to get my \$50,000 plus a bit more back on the other side. Sometimes I've struggled to see where I can get that.'

When discussing the knowledge broker idea with Thomas, he identifies a range of issues that touch on all three knowledge management processes.

#### Thomas:

'If I can come back to that question on the knowledge broker, perhaps the knowledge broker needs to be involved, not just in disseminating the information, but also in injecting that element of relevance before the paper is written. So that person really needs to perhaps get the academics to write the right sort of papers. So what I'm saying is don't get involved as a salesman, get involved as a production member in saying, look guys this is the kind of issue that's a burning issue ... Service Oriented Architecture is a burning issue out there and people are facing this sort of problem and that sort of problem. Why doesn't somebody produce a paper on that? Then I'll find it easier to push it out there because people will say yes, that's relevant to me, I'm addressing that problem right now. But if the academic makes a call on relevance sometimes in an environment with, to be kind, the academic has had little recent exposure, then his or her definition of relevance may be not the practitioner's definition.'

Thomas reiterates that if academia wants their knowledge used by practice, then it must be driven by the practitioner's problem and context. He cites these two drivers as a defining aspect of the success of the programme management exercise undertaken with the researcher in this case.

## Thomas:

'Yeah, I keep coming back to this point of relevance. I will read academic stuff if it means something to me and will make a difference to my perception of a problem or provide a guidance towards a solution etc. The reason I have been more than happy to read your documents [on programme management] is because they have been written with our environment in mind and with the solutions being addressed as per the problems we espoused. If there's an academic paper that's written about a theoretical thing that has nothing to do with the real world here I have no motivation to read it at all beyond the fact that I'm a masochist and I want to really understand some esoteric new technology or something like that. But I keep coming back to that question, if this knowledge broker exists, at the end of the day just pushing a whole heap of academic papers onto practitioners because "guys these are available and you really should read them", I need to be able to understand what's in it for me from a selfish point of view. And if the paper is relevant to me and is not some theoretical exercise by someone trying to impress other

academics, (I keep coming back to that cynical view), I'm not going to read that sort of thing. It's got to have some payoff for me.'

Thomas' reflections on the research role address similar issues. He proposes a consulting-based approach to academic-practitioner interactions to disseminate existing academic knowledge to practice.

#### Thomas:

I think research academics have got to be looking at some of the bleeding edge technologies in coming up with some of their papers, otherwise we don't progress as an industry or as a community. Though to be used by practitioners it needs to be much more practically based and outcome based for a particular task or project within the organisation. ... and perhaps the other interaction with practitioners should be at a more, I don't know if research is the right word, but more a consulting environment rather than bleeding edge research perhaps.'

David's raises an interesting point which has implications for access to and the value of knowledge.

#### David:

'... I suppose, I'll ask the question the other way. Is it publicly available? So these documents are not covered under privacy or confidentiality in any way? They're a publicly accessible document?'

Thomas' collaborative view of knowledge, where it is co-created by academics and practitioners, challenges traditional views. It epitomises the ideal of how knowledge flows might operate in highly functional academic-practitioner relationships.

#### Thomas:

I come back to that analogy of the loop, the circle, really. If we have the image that all truth starts at the university and disseminates outwards then I don't think that works. It really needs to be that loop where business provides input to the university which then puts stuff out to the business which increases knowledge there and the loop continues.'

# 5.5.7 Context is an important consideration in the application of academic knowledge

The business context is critically important when considering the applications of academic knowledge.

David emphasises the importance of understanding the legacy-dominated system environment in which their business operates.

#### David:

"...There's an example where I think academia could assist us, for example, in looking at our software architecture and providing new and fresh ideas but remembering that we're coming off a legacy base. And hence there's a conversion mechanism that's required to move from that legacy base across into any new environment."

Thomas notes how the Author's attention to the specific business context positively contributed to the success of the project undertaken in this case.

#### Thomas:

'...it's been refreshing to have someone, an academic come in ... modify her findings and so on, not try and mould us to what you've come up with but rather to come up with your findings as being relevant to what we need. So, yes, there's been value there.'

David similarly draws attention to the importance of the researcher being informed and guided by the practitioners in order better to understand the context and business priorities.

## David:

- '... The business issues. I think because we run the business we know what those issues are better probably than the academic does. And I think if you had just came in and looked at our environment you may not have appreciated some of the business issues if we hadn't articulated them across.'
- ' ... A high level of engagement so they understand our business better and can provide a focused approach ... if they had a better understanding of what our business was'

Jamie comments on the need to test the efficacy of academic knowledge in contemporary business contexts.

#### amie:

Things move quickly in the practitioner world and some things that I used to use two years ago, I don't use any more... it's the same with academia. There could be a lot of theories out there that are just dead ducks but people are still going around and talking about and hoping that they actually work but they probably don't and no one is actually proving it because they're only talking to other academics... So there isn't anything that can stop that person believing that their thing actually works. They're not challenging themselves... it would be a cruel place initially for anything academic that is probably over two or three years old'

Jamie describes how he sees the ideal of generating knowledge by having academics and practitioners working together in real-world business contexts.

#### amie:

".... That's a great concept. How can I put that into practice? It sounds pretty hard. But if an academic said "Here's the concept and this is how it might work in your organisation because this is the way we see it rolling out. Would you try that for us?" Because if you [the academic] think that's going to work, that could be a big break through for you. The practitioner may say "Well, yes I don't mind doing that. That will be proof of the pudding. But I tell you what, I wouldn't implement it that way, I would do it this way." ... then you get on this nice 'ladder' of things. It has to have momentum, it has to have applicability.'

# 5.6 The Effectiveness of an Academic-Practitioner Alliance Approach for addressing the Academic-Practitioner Disconnect

One of the main research objectives of this case is the trialling of the alliance approach (using AR) as a means of addressing the academic-practitioner relationship disconnect. This includes exploring how the major elements of the APITF, including Design Science, Mode 2 Knowledge and Boundary Spanning Theory might guide both the relationship and the development of knowledge appropriate for practitioners. As part of the engagement the Author explicitly discussed these topics (theoretical framework elements) with the practitioners and provided them with information. This section relates to Research Question 4, and has an AR focus.

As acknowledged in the previous findings chapter, the Author is aware that the wording of findings regarding the effectiveness of this approach may imply 'general truth', when instead the claims are more appropriately viewed as being indicative of possible broader generalisation. It is also previously stated (in Section 3.4.5) that the topics about which the knowledge was developed (Programme Management, Service Oriented Architecture etc.) are not the research focus, and therefore no claims are made about them in the traditional sense of academic research. However, they do provide a real-world problem context for exploring the elements of the APITF, and satisfy the practical needs of the practitioners in the case.

As with the BA case, these findings have potentially serious implications for academic workloads, academic reward systems and even how academia is structured. As previously noted, the aim is to elicit the practitioner perspective, irrespective of the practicality of the implications that may arise from their comments or opinions. This issue is considered in a more critical light in Chapter 6: Discussion.

# 5.6.1 Action Research effective research method for addressing the academic-practitioner disconnect

The action orientation of the research had a significantly positive impact on the practitioners' perception of academic research and greatly assisted the formation of a good

research relationship. When asked whether they had any comments about the appropriateness or otherwise of the AR method that was used in the engagement, three of the managers enthusiastically supported it.

David identifies the AR approach as being extremely important to changing his views, demonstrating its effectiveness as a basis for academic-practitioner interactions.

#### David:

I think that that particular approach has been the thing that's probably changed my view about the usefulness of an academic input into a business-related problem. So I think it's extremely important. You've been able to grasp our particular issue and understand it fairly clearly, both from your own academic background but also from your own practitioner background as well. You've understood our problem quite quickly, and I'll say easily. You've grasped it quite easily and I think then you've been able to apply your academic knowledge to that problem and I think that's been very useful.'

## Thomas:

I see a passive role as relatively little use. Again, you well know that I have a somewhat cynical view of the academic-practitioner relationship, that I've made no bones about that because I haven't seen a lot of relevant academic work in my 40 years in IT. So, yes, it's been refreshing to have someone, an academic, come in with a practitioner background and then also be prepared to listen, to discuss, to make suggestions, to modify her findings and so on, not try and mould us to what you've come up with but rather to come up with your findings as being relevant to what we need. So, yes, there's been value there.'

#### Jamie:

'My gut feel is that the action research way of doing things is great. I would much prefer that to a survey. I would much prefer it to someone coming in after the fact. Because it's immediate, it's happening, it's fresh. You know those sorts of things get underrated I think. From Action Research you can actually see things happening, the people you interview, the circumstances. The context is also important. A survey can live in isolation, a case study can live in isolation, but when you are talking and walking and getting involved with the actual people in the industry itself while doing your research, I think that adds another dimension to it.'

David held a contrasting view of research methods where the researcher is not-involved, considering them to be far less valuable to practice.

## David:

'Oh, I would have thought that that would have been of far more value to you from a research perspective than it would have been to us [if the researcher was following a passive research approach, such as case study]. So I think the value that we've obtained

out of it has been much greater. You may have obtained the same or similar value but I think the value which we've obtained has been far better.'

'We get lots of requests for things like ... surveys and things like that. ... They become almost painful. They're just a nuisance to your everyday life. Businesses, well in our particular environment, it's very busy, very intense number of projects, we're fairly focused about where we spend our time and what we do. So to be, I use the word 'waste' but that's probably a bit cruel, but if we waste our time doing surveys that don't add value to our business then it becomes a fairly negative outcome for us.'

# 5.6.2 A Design Science approach is effective in developing academic knowledge for practitioners

One of the background theories of the research approach is to view Information Systems as a Design Science. Generally there was strong support for it, except from Dennis, whose opinions were frequently at odds with the other three more senior managers.

When discussing the ideas behind positioning Information Systems as a Design Science with Jamie has some thoughts.

## Jamie:

'I just think it's about time. ... it was to these design principles, which are standards, and are useful and have worked. That's why medicine works, that's why engineering works. Why can't we do the same with information systems? It's because they're too random. Because there's too many excuses.... It's the only way to go.'

At the 'end-of-Phase II' interviews, comments were sought on the appropriateness of two Design Science characteristics, and whether they were evidenced in the case.

Firstly, the alliance interaction demonstrates that a Design Science approach is effective for developing knowledge appropriate for professionals to use in solving their real-world problems. Interviewees responded to the question: '... one of the key characteristics of a Design Science is that it should develop knowledge that is appropriate for professionals to use to address their real world problems... Can you comment on that with reference to the project that we've undertaken?'

#### David:

'Oh, absolutely. Absolutely. I think we've had a real world case... I think the input you've provided to that has been valuable, not only at a very technical level, but also at a management level. So you provided us some input, for example, about how we would even structure the project around this particular piece of work. Your views and opinions on that I think were very clearly articulated to us, and I can see the value of the approach

which you proposed. So not only as a I said, at a more technical level, but also even as a program approach level or project approach level I think that's been valuable.'

#### Thomas:

'I think we've made a good start. ... the documents that you have written have been coherent and have been relevant, if I can use that term that seems to be around a lot. I think you have clearly understood the environment that we have here and you have come up with some logical pathways, I guess, for a way forward that will help us in our future deliberations.'

### lamie:

'I would say yes, especially the Programme Management approach that we developed .... We've also got a theory on how we better present business projects to our main stakeholders.'

Dennis held a contrasting opinion.

#### Dennis:

'Specifically to what we're doing? In that example, I don't think so. Nothing that was not already covered. We haven't broached anything new.'

Secondly, the alliance interaction demonstrates that a Design Science approach is effective for developing knowledge that improves human performance. Jamie affirmed it and Dennis stated that he did not know. Interviewees responding to the question: 'Design science proposes that is focuses on developing knowledge that improves human performance. Within this context is that evident?'

## David:

Yes, I think so. I think it's created some more broader or lateral thinking about some of the issues which have faced us by your engagement. So I think from that perspective it's been useful from a human viewpoint, rather than a straight technical viewpoint, to be thinking more widely about the issues and problems and perhaps even the solutions which might be applicable to us.'

#### Thomas:

'One of the key aspects of this whole exercise has been improving developer performance in terms of software creation. So I guess, yes, that's implicit in it that we want to make software, to be more quickly developed, to be better tested, we can get more product out the door and so on. And, yes, I think that's been the target.'

# 5.6.3 Mode 2 Knowledge effective in developing academic knowledge for practitioners

Another of the background theories of the research approach is the concept of Mode 2 Knowledge. The underlying concepts were explained to the practitioners. Generally, there was strong support for it from them.

Jamie agrees with the concepts of Mode 2 Knowledge. He emphasises the serious problems of practitioners attempting to implement untested theory.

## Jamie:

'I like it because I think if you called it knowledge and you were isolated and in the ivory tower of academia it's not actually knowledge, it's a theory without practice. If you're actually out there and doing it, then it's practice, and I think that's knowledge. So when you're at the academic-practitioner interface you've got the best of both worlds because you're interacting theory and practice. That's real knowledge. That's the way I see it because it works.'

'Like, that didn't work, oh my God. Or, gee, we'll try this, we'll try this. That didn't work. Well try this. We can't afford that. You've already tried three times... So when you're at the interface you say "well we tried this, and it didn't work because there were so many extraneous factors in the real world that would knock it down, you know". It happened in a vacuum, but it wouldn't happen in a breeze.'

'... it's a different thing when you have to make it work.'

David also saw merit in it, especially on the notion of knowledge being produced cooperatively between academics and practitioners.

#### David:

'Oh, absolutely, I think that's true. I think practitioners put a perspective on some business issues that academics wouldn't necessarily always think about. So things like wonderful internet banking security and gee, academics might say "why aren't you doing that?" Well we're not having any losses in fraud so the actual business return, albeit wonderful technology and I'm sure very secure, I can't build a business case for it, as an example.'

In the end-of-Phase II interviews comments were sought on the appropriateness of three characteristics of Mode 2 Knowledge and their evidence in the case.

Firstly, the alliance interaction demonstrates that a Mode 2 Knowledge inspired approach is effective for developing knowledge that is applicable to practitioner problems. Interviewees responded to the question: 'Would you describe this research as being focused on solution-oriented knowledge?' While Dennis stated that he did not know, the others affirmed it.

#### David:

'Yes, I think it has. It has helped in some other areas as well. It's helped us not only think about the solution, but about what the problem is as well. So I think that it's provided some broader thought about the scope of the problem and provided a perspective on that as well as on the solution.'

#### Thomas:

'Essentially your research has been practically oriented. I haven't gained the feeling that you've been doing a paper just to do a paper. You have been actively looking at the issues that we have here and trying to come up with practical solutions. So, yeah, I'd have to say it's been solutions-oriented.'

#### Jamie:

'I would say for sure, solution-oriented.'

Secondly, the alliance interaction demonstrates that a Mode 2 Knowledge-inspired approach is effective for developing knowledge that can solve a complex and relevant field problem (in this case the programme management approach). Interviewees responded to the question: 'Would you describe this research as solving a complex and relevant field problem?'

#### David:

'Oh, absolutely! No doubt about that.'

## Thomas:

'It's both complex and relevant, yes. It's complex because it goes to the very heart of the design of our software architecture and our development methodologies and some of those are so fundamental to what we have been doing and therefore what we need to change in the future that inherently it's very complex. And it's certainly relevant because we recognised, even before you came along, that this was something we needed to address in the medium-term at least in order to see where our development methodology would be in five year's time and ten year's time.'

#### Jamie:

'Definitely. I think this particular engagement, especially in the last three months in the programme of work... it is on the edge of project management and moving to a programme management approach which seems to be a theme or a groundswell that is just sort of arriving, where I've been living anyway.'

Thirdly, the Mode 2 approach (as implemented in the academic-practitioner alliance) is a suitable approach for interactions in a professional discipline. Interviewees responded to

the question: 'Would you describe this research approach as being suitable to a professional discipline such as Information Systems?'

## David:

'Absolutely, yes... I'd agree with that.'

#### Thomas:

'Definitely. I mean, that's the whole context of what we're working with here. ... we're very much a professional IT organisation and any solution needs to be done with that in mind.'

## Jamie:

'Definitely. I think we've been careful to structure it the right way and I think we've also been looking at it as a real working task, so in that sense it's professional.'

## 5.6.4 An academic-practitioner alliance is effective in addressing research relevance

The lack of relevance of academic research to practitioners seriously exacerbates the academic-practitioner relationship disconnect. This research finding does not claim to have resolved the complex problem of research relevance. Rather, the Author took the opportunity to explore the issue beyond simply gathering the practitioners' thoughts on it as reported in the finding in Section 5.4.3. Hence it is done in the spirit of indicating what might be possible if academics approach the problem guided by the four pivotal questions posed by Benbasat and Zmud (1999) in their often-quoted paper on IS research relevance.

All interviewees were asked the four questions. Given that most practitioners have almost no exposure to IS academic research, it might appear illogical for them to comment on any aspect of it, including relevance. However, their perceptions are useful when trying to understand how academia might best respond to the situation. Despite the apparent obviousness of research relevance, the unresolved, negative impact it has on perceptions of academia means that it is raised repeatedly in the academic literature.

The format of the questions was modified to suit the discourse of the individual interviews. As part of the AR approach, and judging the effectiveness of the alliance for addressing the academic-practitioner disconnect, the questions were asked in both the 'before' and 'after' interviews in order to gauge any change in perception. The volume of evidence necessitates summarising the responses.

The following summary of responses from the 'before' interviews clearly demonstrates that research relevance remains a serious problem a decade after Benbasat and Zmud (Benbasat & Zmud 1999) published their questions.

1 Does IS research produce the knowledge that today's IS professionals can apply in their daily work?

Only David responded beyond a simple negative.

#### David:

'Obviously there are ranges there. Obviously it depends upon the context in which the article and the research is done in. Some I've seen has been useful. Some stuff Joseph's [an academic at USQ] done that I've read and I can understand. It's not too theoretical and it's not too mathematical, it's quite practical in its application. That's easy to understand. In that particular article he was talking about some payment mechanisms, and because I'm in industry I largely knew about all those anyway. So there was nothing new in that particular piece of work. In other cases I think it does become too theoretical and I can't see how it applies in our environment.'

2. Does it address the problems or challenges that are of concern to IS professionals?

All responded in the negative, though Jamie was hopeful.

#### Jamie:

'I can't see why it wouldn't... No, I haven't sourced anything from academia, that's just the way that it is.'

3. Does it focus on current technological and business issues?

All responded in the negative

4. Are IS research articles accessible to professionals?

All responded in the negative. The issue was pursued with Thomas whose cynical attitude toward academic research is evident.

#### Thomas:

'Frankly, I don't know because I never try. I could probably have contacted someone at USQ and say "can I have access to some of your research". I guess my jaundiced view is that given its academic nature, it will have little relevance to my world. So I guess I'm not motivated to go look for it...I don't know how I'd research it, or access it. I would naively probably go to the USQ website and see whether there was anything I could get at through there. I don't know whether there'd be papers available there.'

While Jamie has a more positive view of the prospects than Thomas, many of his responses were "I don't know, and I'm not sure". The Author followed up his opinions regarding the problem and whether academia had a responsibility to address it. His 'honest broker' suggestion which relates to the dissemination of academic knowledge is discussed in more detail elsewhere in these findings.

## Jamie:

'It suggests to me that I need to be exposed to academic research to make a judgement. ... 'Academia obviously doesn't push itself out as being a source of that. But possibly it's because I've gone and found out for myself what I think I've needed, and that's been available through other channels apart from academia.'

I think academia could review all its material and say whether it's up to date or not.... and say whether it gets the academic tick. That would be like the 'honest broker' again. You would say "look this material has come out, we should be doing reviews on all of the project management books that come out and you should be part of that circle... suddenly you are endorsing things, and that means you obviously know these things. As an academic you get a good name, it's just so easy.'

Despite the acknowledged limitations of this research, the following summary of responses from the 'after' interviews clearly demonstrates that the 'academic-practitioner alliance' approach taken in this case has promise in terms of addressing the problem of research relevance.

These responses relate to the programme approach project undertaken in Phase II of the HBS case. As emphasised in Chapter 3: Research Design, PM issues are not the research focus here, and therefore the material that underpins PM, while it is described as academic in nature, is not detailed as part of the literature review. Therefore it is explicitly acknowledged that the veracity of the claims arising from these findings is limited. However it is considered that they might provide a useful indicator of what can be achieved. The Author felt that despite these drawbacks it was interesting to take advantage of the opportunity to pursue those lines of investigation, albeit tentatively and in a 'theoretical' manner.

1 Does IS research produce the knowledge that today's IS professionals can apply in their daily work?

The positive responses while encouraging, note the limited impact on the broader problem.

### David:

'Yes, in terms of our engagement. That's obviously reasonably narrow about the whole broad range of research and I imagine the research you've done in the particular area

where you've assisted us may be only a subset of the total research you've done but, certainly, there is value. Yes.'

#### Thomas:

'The answer to that is yes, in what you have done. If you're asking for an all-encompassing question, then we've made a tiny nibble at world peace. But in terms of what you've done, yes, I would agree. I feel quite positive about that.'

2. Does it address the problems or challenges that are of concern to IS professionals?

All responses were positive, but without detail.

3. Does it focus on current technological and business issues?

All responses were generally positive. David's response highlights the crucial importance of the researcher closely interacting with the practitioner in order to properly understand the business problem context.

#### David:

'Certainly from the technological issues, yes. The business issues I think because we run the business we know what those issues better probably than the academic does. And I think if you just came in and looked at our environment you may not have appreciated some of the business issues if we hadn't articulated them across. So I think much more on the technology side. Certainly a component of business but not all.'

Thomas' response reflects the importance of the practitioners nominating the project.

## Thomas:

'Yes, very much so because that's what the whole exercise was about.'

4. Are IS research articles accessible to professionals?

It is important to note that the issue of accessibility here is limited to the fact that the interviewees were asked to respond only on the basis of this case where the Author had made knowledge available to them as part of the exercise.

All responses were generally positive. Thomas' comment demonstrates how an AR setting might improve accessibility.

## Thomas:

'Yes, well you certainly made all of your writings accessible to us and asked for comments and so forth. So, yes, in the case of the exercise you've done then I'm, again, positive about that.'

Jamie's response importantly raises the issue that accessibility should be treated an ongoing issue.

## Jamie:

'Not really... Well, you will be busy in the next little while and I see accessibility as an ongoing regular thing.'

# 5.6.5 An academic-practitioner alliance is effective in staff development and process improvement

Close interactions between academics and practitioners might encourage certain aspects of staff development. This was evident with Jamie who was the principal contact throughout the two years of elapsed time of the alliance.

## Researcher reflection:

In conversations with Jamie about the professional practice of project management, he mentioned that one of the benefits to him of the alliance activities that we undertook in Phase I was that it addressed some of his staff development KPIs set by his manager. One of these related to the development of an in-house project management workshop in which I had assisted him. Another was that it encouraged him to get his professional project management accreditation underway. As with many project managers, Jamie's undergraduate qualification was in an unrelated field, in his case a Bachelor of Economics.

## Jamie:

'I am just about to embark on an advanced diploma of project management and become a registered PM at some level and join the AIPM.'

The benefits of accreditation and formal qualifications not only provide a sound knowledge base, but might also provide a confidence boost to practitioners.

## Jamie:

'I think a practitioner like myself who has not come up through any great structured methodology and doesn't have any advanced diploma in whatever, it would be difficult for them to stand up in front of anyone or even give advice.'

In reflecting on the benefits of the alliance at the end of Phase I, Jamie identified that he had gained both personally and professionally from involvement.

#### Jamie:

Both professionally and personally. Mainly on the fact that over the last 18 months there's been some focus on these some things due to the fact that you were involved... the sorts of things that aren't usually addressed in the rush and tumble of running projects. I

think one of the big benefits is that we've been able to act on these sorts of things which are always on the agenda, as opposed to pushing them back to the 'nice to have'.

Guest lectures are a simple but effective means of fostering academic-practitioner interactions. One of the spin-offs of Phase I of the alliance was that Jamie conducted guest lectures for the Author's postgraduate IS PM class. It proved to be an excellent opportunity to introduce each party to the other's world. The students were greatly appreciative

As a result of this Jamie went on to conduct a workshop (as a guest presenter) for another postgraduate class. He received excellent feedback from both the course leader and students.

## Jamie:

'I enjoyed that.'

The experience of delivering the workshop was developmental for him (as well as the students), inspiring him to consider postgraduate qualifications. It also facilitated linkages between his practitioner knowledge and the theoretical frameworks that apply to it.

## Jamie:

'I basically would aspire to a Master of Project Management at some point. I saw how it works. I saw the types of people coming. I saw the structure of the things they need to learn. .... That's a bit of a buzz for me.

It's a full day effort but my manager's quite happy for me to do that because I think it challenges you to present, it challenges you to structure something, it challenges you to get organised.'

The experiences of leading students in guest lectures refined Jamie's own work techniques, and contributed to his professional development.

#### Jamie:

"...those people asked different questions ...So I'm refining my work...So I'm learning. It's not as if I'm taking the tablets down the mountain. I'm actually in that forum thinking, yes that's good, I like that, I think I'll change that."

Close interactions between academics and practitioners might lead to process improvements resulting in greater efficiencies and better quality work. Jamie discussed the improvements arose from the alliance.

#### Jamie:

I think one of the more concrete examples is the actual introductory PM course... That helped with the timing, the structure, the content, the way we express it, and I got some excellent feedback there on the materials, the agenda, and working through what could be achieved in a half a day.

'There are now absolutely standard formats for all of those tools which you suggested which wouldn't have been there. They are also now on the Intranet which you suggested was a priority as well. ...Now people can be referred those documents go in and pick them up themselves which has changed my life. ... Not that I couldn't have done that. But I think you provide the catalyst for it.'

Jamie's exposure to an academic and academic research resulted in him becoming a more reflective practitioner.

## Jamie:

But there's different things that go through my mind about the whole process that we go through for projects now. I think that what we've come up with is I'm actually thinking about the project process a lot more than doing it.'

I think that in a lot of ways that is the break through. From now on I won't just be doing, I will be thinking about why I'm doing it, and if I do it right I will document that and say, 'I can use that again so someone else can do it.'

"... a good academic approach."

I think there's access to different types of theories and thoughts and you do put them together differently. You have got a different view point. It's not necessarily what you do it's how you do it. We could probably take a leaf out of your research book and the way you go about research for example. ... Maybe from now on we will say, 'Look is there an expert out there? Is there other sources of expertise that we haven't drawn on?'

## 5.6.6 The alliance approach is effective in addressing the academicpractitioner disconnect

One of the main objectives of conducting the alliance was to test the effectiveness of a boundary spanning approach for addressing the academic-practitioner disconnect. Overall it seems that the practitioners consider the alliance to have been successful, and that it provides a useful base for interactions that might address the disconnect.

A necessary part of addressing the disconnect is to improve the practitioner perception of academia. In his opening statement of the 'after' interview David took the initiative by affirming that the interaction had positively impacted his perception of academia. His experiences in the engagement of productive exchanges led to his changed perceptions of the potential value of academic-practitioner interactions.

#### David:

'Look, as an opening statement ... I think through the process of the engagement my opinions have probably changed a little. Not a little, a reasonable amount in fact. I think, I can't recall exactly what I said back when the process first started, but I was probably a little bit negative about academics participating, or the value they add in a practitioner's workplace. But I think through the engagement which we've had I think that my opinions have changed and I can certainly see the value of what you provided us through the exercise. I think as an opening statement I perceived that I have changed.'

Another part of the process of addressing the disconnect is improved academic-practitioner interactions. While Thomas' response to the question 'as a result of this engagement, have your views changed on the potential for the academic-practitioner interactions?' is guarded, it indicates that the alliance approach does have the potential to do so. Note: the comment 'working with' refers to engaging in the alliance, not employment.

#### Thomas:

Look, that's a difficult question. Have my view's changed on the potential of Fiona Darroch working with Heritage Building Society? Yes, I see that as a positive. Have I gained a rosy view that all academics would be able to contribute to the practicalities of real IT life? For me, the jury is still out on that because, as I have said, I think you are a little more of a rare breed and I am not entirely convinced that all academics would be prepared to immerse themselves in the realities of IT life or even have background in the real IT world to approach it with the right sort of attitude. If they could do what you have done then, yes, I would have a more positive view.

Jamie comments that he viewed the alliance as a potentially effective means of academic-practitioner interactions from its earliest stage.

#### Jamie:

I think I was over the line even back then, for sure. There's no time I thought this wasn't going to be useful because I'd known your background, your business analysis, your program management, your academic ... So I was always over the line to some extent ... waiting for something to happen to say, 'Ok, now I know what to do.' The second phase I think was a lot clearer.'

When discussing the alliance further, Jamie considered it to be an important and successful development.

#### lamie:

'I didn't really have much of a conception at the start. I think it's now understood that there is value to be had. There haven't been many occasions where we've embraced that academic side and said, this is useful. I think it's a brand new regime we're developing

here. I think that there will be more opportunities, because you're doing what you're doing, for other academics to come in. So you're breaking a lot of ground. From my point of view it's just another thing that happens in the project life of Heritage. It was never a question of yes or no. I think it was always going to be yes. ... I think our academic-practitioner arrangement actually is a big contributor to one of our strategic goals which is embracing the town and gown type stuff and all those sorts of things.

From my point of view, the whole thing's good.'

Claims about the success and effectiveness of this alliance must be tempered by the fact that not all the practitioners were equally convinced of the benefit of embracing a relationship with academia. Dennis' responses indicated that he saw little potential value in the relationship.

#### Dennis:

'Am I doing anything different at the end of the engagement is basically the question. I don't think I'm changing anything based on the engagement. I think I'm... there may be less work in that you've captured some of that information into a document. Has it influenced the outcome? I don't know yet because it's still back at the idea point of view. So that's probably what I'm thinking at this point in time.'

Dennis was asked by the Author: 'as a result of this engagement, has your perception of what academia's role is changed?'

#### Dennis:

'I don't think so.'

Jamie's comment: 'I am ready to take this project management to the next stage...' is an indicator of a mindset that might provide an opportunity for a productive alliance. He sees an alliance as a means of being exposed to knowledge and ideas that will facilitate his achieving his goal. Interacting with an academic provides him with a sounding board. Equally importantly, it provides the academic with an opportunity to disseminate academic knowledge. Jamie made suggestions regarding the particular situations where an alliance might be useful.

## Jamie:

I think it would be a 'proving ground' because you are taking ... what did you call it?... the approach that you said up front, something like no fear, no ...?... Yes, the egoless thing... that gives me a chance to bounce things off people who firstly understand project management because there is no one else around. Secondly, I have got all my bad habits. It's great efficiency I think. But sometimes I know in my heart that I can do things a lot

better. But I am too busy doing it. It's that old sharpening the saw thing where you are actually out there with a blunt saw but you are really ...'

When asked whether he was in favour of an increase in the type of academic-practitioner engagements that the Author had initiated, Thomas affirmed, adding some important conditions and focusing on addressing the disconnect.

#### Thomas:

'Yes, provided the academic has the kind of pragmatic approach that you have and perhaps some background experience, again as you have, that is able to translate and bridge the two fields.'

When discussing the boundary spanning approach exemplified in this case, David was enthusiastic with regard to its impact and prospects for effectively addressing the disconnect.

#### David:

'Oh, look, I think that's been quite evident in the particular project which we've had in place. I think we've welcomed your outside view. It's almost like consulting, if you like, but probably at a higher intellectual level I think. And certainly I think that by bringing the academic viewpoint, but also understanding pretty clearly what our practitioner-level problem has been, I think that's been a real benefit.'

When discussing the boundary spanning approach with Thomas, he emphasises that effectively addressing the disconnect must be judged on identifiable, concrete outcomes. He warns that superficial approaches will not suffice.

### Thomas:

I think that there should be interest from both sides. ... If the academics have an interest in what they're turning out, it has to be a genuine interest that will translate into some action and some changes in what they're doing. Again, I think they could make an academic interest out of learning more about my business. But at the end of the day if that doesn't translate into different ways they teach their students, or different ways they focus their courses or whatever, then it is a pointless exercise anyway. So there has to be a genuine motivation, not only for someone to say "yes I understand both camps", but to say "what is the purpose of my bridging both camps?" "What do I hope to get out of my knowledge there that will translate into outcomes and impacts?"

Jamie commented on how such an alliance would benefit an academic.

## Jamie:

'Freshness and applicability.'

Thomas' summarising comments demonstrate that this 'field test' of an academicpractitioner alliance might have positive impacts, and that practitioners desire of closer relationship and do welcome efforts from appropriately motivated academics.

#### Thomas:

I would just say that the exercise that we've done with you has given me a more positive view of academic research purely because you have been there, done that, understand our world, and have said first and foremost that the relevance has to exist. Long live that sort of approach and if you can infect the rest of academia with that attitude then I look forward to a bit more of a two-way street going forward.'

The Author is aware of possible constraints regarding the generalisability of these findings. Importantly, neither the academic nor the practitioner groups should be viewed as uniform. This came through in discussions with Thomas.

## Researcher:

'we're not talking about academics as being a uniform breed.'

#### Thomas:

'No, not any more than practitioners are a uniform breed.'

#### Researcher:

'we might be looking for a sub-set of that part of the discipline being involved in...what the academic literature terms boundary spanning roles.'

Thomas's response explicitly identifies the need for action to arise from the case.

## Thomas:

'Ultimately what I'd like to see out of this exercise for that to work is that the academic not only uses this experience to produce papers etc, but it ultimately gets reflected back in what is taught in tertiary institutions because we take the end product of what you guys do and we bring it here.'

'So I would like to see the academic-practitioner relationship reflected back, somehow, into better education of students so that they come out with a much more critical eye over their own product and a much more realistic view...'

Jamie believes that the alliance approach is generalisable. By the end of Phase I he had already formed a view that other managers would be interested in such an alliance, and that it was an approach that would work in other environments. He responds to the Author's question: 'So you think that the way that you have responded in this alliance with me could be a transferable thing to other managers?

## Jamie:

'Yes, definitely.' ...'I'm absolutely sure that what we are doing could work across the disciplines for sure with very little variation in my view.'

In discussing the potential for greater adoption of the approach, David's response to the Author's question: 'Now in terms of what we think academics can contribute to the practitioner space, do you see that there's greater potential as a result of this engagement for academic-practitioner research alliances?', was cautious in its optimism, and raised the issue of academic workload as possibly contentious.

## David:

'Yes I do... I view academics as, and perhaps wrongly, that they are teaching and education staff in universities who have a full-time role or largely full-time role undertaking the student workload and other research activities which they might undertake at the university. And in our particular engagements you've been very generous with your time and have been able to give us very timely advice and input into the project. My fear, I suppose, about academics if they already have a full-time role, what their capability and timeliness of being able to assist us in research projects.'

#### Researcher reflection:

David's point is an important one which I had taken into account when planning Phase II, I had explicitly considered the workload issue when I planned the engagement, as it would obviously impact the generalisability of the case. I thought it would be most useful to aim for an equivalent of a research project that could be comfortably and fully conducted within a one year period, assuming a normal academic workload and an experienced academic. I based these assumptions on my own experiences of seven years as a fulltime academic where I was accorded the typical one third workload allocation for research.

I spent one day per week at Heritage for a period of four months. This 'day a week' allocation roughly covered all my activities associated with working with the practitioners as well as collecting my data. The yearlong period would cover doing a literature review, planning and conducting the research, as well as writing it up for academic publication. It is reasonable to expect that such a project would yield at least one conference paper and one journal paper, which may be regarded as a satisfactory productivity in an academic's year.

Finally, Thomas highlights the issue of wider change, clearly conveying the challenge it represents.

## Thomas:

'... if you are acting, and you see yourself as acting as a catalyst for change, I think that's a positive thing and from that point of view, yes, I do have a more positive view. ... I think what you've done has got the potential to do something there as long as it doesn't get lost

in the pile of academic papers that are not considered relevant to the academic world... The question I would ask is "is it relevant to your fellow academics and will they read it in that context and think about their approach?"

# 5.7 Some Ground Rules and Lessons Learned from the Conduct of the Academic-Practitioner Alliance

A number of findings from this case that might be viewed as 'ground rules' or 'lessons learned' are considered in this section, as they might influence the wider adoption of the academic-practitioner alliance approach.

## 5.7.1 Setting up an academic-practitioner alliance is challenging

Setting up the alliance presented some challenges. It was administratively difficult to set up, highlighting the need for senior management support. The main issue was gaining formal legal endorsement from both organisations. On the practitioner side the concerns related to confidentiality, and on the university side they related to intellectual property and legal liability issues. Furthermore, it was not considered to be a high priority by either organisation.

#### Researcher:

'Well you may recall the organisational difficulties I experienced trying to get this arrangement in place. [David: Yes!] Is there anything that we can do to lessen those sorts of problems, from the side of practice?'

#### David:

'I think some of the organisational difficulties that you might have had were probably as much our fault as, well probably more our fault in some ways, than your own....'

I think we didn't apply ourselves as well as necessarily previously. Look, I don't know. I'd like to have a think about that. I'm sure there is because I think if we're going to do it then we've got to do it in a structured way. And I think they haven't typically got off the ground well before. As I said, I've had a number of conversations with Ken [Associate Dean] about trying to get PhD students to come and do some work for us, but that hasn't got off the ground despite Ken's best efforts. There's obviously some interface issue there but I don't know quite what it is.'

The need for support from both sides is crucial. There had been resistance from the Author's university regarding her providing input to Jamie's in-house PM course, and the matter had been referred to the commercialisation manager with concerns about intellectual property. Both the Author and Jamie saw the course as a useful 'ice breaker' at

the start of alliance. Researcher time committed to this task was negligible and the IP involved was trivial. Jamie comments on the issue.

## Jamie:

I think we did need to have full support from your side of the fence. I think, it was on and off, it was difficult to obtain. In the interim period we kept corresponding and we had plenty of ideas and we actually had the suggestions that you mentioned but they were sort of point solutions without a context. Now that we have a context, i.e. a project and a way forward, I'm feeling so much more comfortable.'

The extended establishment period of the alliance is another of the challenges faced that might be applicable to other environments.

## Jamie:

I think there was a lot of trial and error for us at the start. So in terms of, I think we're just about getting it right now. But it has taken a while.... The way we went about it, I think, was sensible. We had to battle a few things to sort of get it underway, but now that it is underway the model that we're presenting now, yes, I'd agree. The way we were doing it before we probably weren't using our resources as well as we could.'

Jamie affirmed the necessity of setting up the alliance appropriately.

## Jamie:

'I feel a lot better about providing information and talking about all the issues. I can then bring forward the activity of staff to our research alliance. I have got a mandate to be nosey about projects, I can nominate projects, I can get you into meetings, all because we set it up properly. Now if we hadn't done what we hadn't done before this date, I think we would run into that later on and then we have to start again. Like you wouldn't be able to get into those meetings, you wouldn't be receiving things... I think we have done pretty well. I don't see many holes in it at this stage, but it's been frustrating for you more than anyone else. It hasn't been frustrating for us.'

Jamie explains that an 'apprenticeship' is necessary.

## Jamie:

But having said that, we couldn't have done that straight away. You wouldn't do that straight away, you walk in and have a project. What we'd come up with and the way we'd worked together enabled us to understand what you can add in terms of value, where you wanted to position yourself. That takes time... So that engagement process we went through, although it was up and down etc, was effective because you're still here. Right?'

Jamie affirmed the importance of good communication and his role as an in-house 'champion' being vital to the setup.

## Jamie:

'But communication-wise we did our emails, we did our meeting requests, we've done our documents, we've kept things circulating. We had to team up on that, so you can't do it yourself. Like if I wasn't 'piggy in the middle', the lines of communication would have been very difficult for you...you probably could have done it ...but if my name appears on it they usually go, 'Oh alright.' If your name appeared on it, maybe, and we would have lost time. So that communication was facilitated.'

The need for an internal sponsor, and for the researcher to develop credibility, was also raised by Jamie.

## Jamie:

'We've got the right people on side. So you do need like an internal sponsor, and that's me...' That's part of our engagement model. So the internal sponsor worked. Your knowledge on the IT side worked. Internal sponsor, your skill set, my willingness to keep going. I think we have to be persistent with it. But now that's all out of the road. It enabled you to have the legitimacy that when this project came along that 'hard-heads' like Thomas and Dennis and David suddenly said "I think Fiona can handle that because I know Fiona and she's been working with Jamie, and Jamie has endorsed her."

'Without that you're just going to get 'busy work'.'

'... You need some maturity of the relationship you're involved in so they can see that in the future that something will get done. ... So that's one of the barriers to entry of academia to practice.'

## 5.7.2 Mutual benefit is essential for academic-practitioner interactions

Mutual benefit in this situation means that each party must perceive that it stands to gain adequately from the arrangement, i.e. they share in the benefits. Practitioners view their work world in terms of business cases and their use of resources (including their time) in terms of the value they derive. David notes that it is necessary for academics seeking meaningful, committed engagement with practice to understand that perceived business benefits are a prime consideration:

'I think it's got to be really focused about the business. Most businesses have got that much stuff to do that they're really focused about what they've got to do, and certainly we're a bit that way. We've got too much work to do and we're very focused about what we've got to do. So distractions that take our eye off the ball we'd probably try to avoid. So I don't know if some of the research attempts we've had in the past have been viewed by us as being: "gee that's just a side issue, I'd rather be focusing on the main game." So I think that the engagement has got to be really focused about what the outcomes of the business is required to be able to get that business engagement.'

'I think it's critical. If it doesn't have a business benefit then, as I mentioned before, we're really spinning our wheels.'

Thomas also makes the point about business value, but in the context that he sees accommodating academics as a form of 'service'. However, he acknowledges that his level of commitment is influenced by the business value arising from the engagement.

#### Thomas:

'One assumes that the academic is doing it because there is benefit for him or her so I would hope that's a given otherwise they're wasting their time. From a business point of view, I don't have an objection to an academic coming in and using our environment to further their academic studies because that's part of our community involvement and community contribution... If I can get a benefit out of it, and clearly we have out of this particular exercise, I regard that as a bonus. ...So I would have no problem in assisting academics to further their academic research without necessarily expecting benefit. But, sure, if we can get benefit it encourages me to put more time into the relationship and to sit down and, well frankly, if it was purely for the academic's benefit I wouldn't have a lot of motivation to sit down and read all the papers coming out of it. In your particular case, because you have produced things that I've said "Hey we can use this". Then obviously there's been some motivation to sit down and read what you've said and to make comments and suggestions and so on.'

David takes a stronger line regarding the 'service' element.

## David:

We don't want to be doing work that's not going to produce an outcome for us as an organisation. You know, it's nice to be involved in the community and assist the university and that sort of stuff but I think when it gets down to tin tacks our focus is going to be on our core rather than on secondary or other things.'

When asked about the costs to him as a practitioner in the alliance, Jamie also commented in terms of service.

#### Jamie:

For me there's not a great deal of costs because if I had to do the same thing it would take me a lot longer. So I would say it was benefits, even though someone would say there is the time commitment, an energy commitment, and that any commitment is a distraction, it's more an opportunity cost than it is a physical cost. I could be spending more time for example in the near future on my advanced diploma but no, I am willing to spend an extra hour or two hours a week with Fiona because I can see value in understanding these things and how they fit in...'

'Spending time with another institution is the most valuable thing that you've got to some extent. That shows mutual respect and a lot of commitment on both sides. For me I think

HBS is good at this, and that is something I am proud to be part of really. So that's a big driver.'

For Jamie, the main business benefit arising from Phase II was the development of a programme approach to project management, which had been done in cooperation with the Author.

## Jamie:

'... what we get out of it from there, Programme Management approach for me, that's a benefit. We wouldn't have started it. Just need that extra resource every now and then to sort of kick start things. That's a benefit from my point of view.'

Jamie emphasises that because, in this research, project practitioners gained business value, it encouraged them to provide richer opportunities for the researcher.

## Jamie:

'Human nature, I suppose. ... "OK, what's in it for me?" to some extent. "Hey you are getting what you want out of it whether we win lose or draw because you're getting access to us, and we're the valuable ones because you couldn't do it without us." And it seems one sided in terms of the benefits to that extent, but I will take us back to David Singer's comment. He's happy to provide you with the forums if they will be useful to you. He knows that they will be useful to him. He's happy to pay a price.'

#### Researcher reflection:

The forums to which Jamie refers are with Heritage staff as well as an IBM business alignment consulting exercise which was being conducted with senior management from across the business. In conversation Jamie commented that David's nominating me to participate in the IBM forum was clear evidence of the credibility that had been established during the interaction.

For the researcher, the opportunity to explore the practitioner perspective on the relationship in an in-depth manner was the prime consideration. Being involved in the strategically significant reengineering project plan was an excellent opportunity to refresh her understanding of contemporary issues affecting ICT in business environments.

## Researcher reflection:

'... I'm really quite excited about working on this project with Jamie because I am persuaded that academics, can learn a lot from what practice is doing and better understand how the two things fit together.'

While of a secondary importance, the scholarship influences were of interest since PM was one of the author's main teaching areas. Other scholarship influences arose from the topic areas of the sub-projects in the reengineering programme, including Data Warehousing,

Service Oriented Architecture, Executive Information Systems and Business Process Modelling.

# 5.7.3 In-depth interactions are essential for a successful alliance

To address the relationship disconnect, it is essential that the academic has significant involvement in the practitioner environment. Thomas emphasised the importance of the academic being immersed in the practitioner environment.

# Thomas:

"... a willingness on the part of the academic to immerse him or herself in the environment that is being targeted to start, and understand it, because coming in with a set of academic theories and then trying to fit the practitioner work into those academic theories is not going to work. So it really starts out with the academic needing to understand what the practitioner's environment is, what the challenges are, and then only when that understanding has been gathered, then start to apply it. I can see some value there. As I say, my cynical side says that some academics, at least, wouldn't be willing or capable of doing that. But given the right person then I would see some value."

Superficial interactions do nothing to address the relationship problems, and might even damage the relationship, as seems to be the case with Thomas.

## Thomas:

'I'd say the interactions we have, by and large, are window dressing. Most of the interactions I've had with USQ have been in the area of some joint interviewing for scholarships or things like that but we don't really get together and seriously try to understand one another. ... my interaction is such that I don't consider it a valuable part of my life and I'm sure USQ doesn't see my input as useful anyway because it doesn't relate to what they teach.'

Again, Thomas draws the discussion of the relationship back to curriculum issues, and emphasises the need for deep interactions to ensure that there is sufficient depth of understanding properly to address the particular matter being raised.

## Thomas:

'... I think the academic also probably needs to talk to the practitioner and say, OK, what are the standards that you need about quality assurance, because it would be easy for the academic to go back there and say, we need to put more emphasis on quality assurance. But my definition of quality assurance is not one that I think the universities comprehend. ... We can't afford to stuff up people's money. And quality in an assignment out of USQ is a whole different ball game from creating a modification to an ATM application where, if it goes wrong ... we could lose hundreds of thousands in a night because we got it wrong.

... So I think the academics probably need to understand what we really do in terms of quality control.'

When asked what advice he would give other academics seeking such an alliance David emphasised a high level of engagement.

## David:

'A high level of engagement so they understand our business better and can provide a focused approach to how they might be able to assist us. ... if they had a better understanding of what our business was then I think that they would identify some opportunity for a higher level of engagement where their skill sets might match with our requirements.... an understanding that businesses are not necessarily always at the leading or bleeding edge. They might want to get there but they're coming off a base which is different to where the universities operate at.'

Jamie emphasised the serious nature of this type of academic-practitioner alliance. Its non-trivial nature is fundamental to achieving worthwhile outcomes.

## Jamie:

'A serious process was undertaken and I think that helped us understand this is a serious exercise. I wasn't worried about that....You had to get the ground rules right otherwise you knew that you would be wasting your time and our time. ... And I don't worry. I think that's a good thing.'

'If it is trivial then anyone could have done it, it won't add much value, it wouldn't have to have any brain power about it. Trivial things, we do that like that [click of fingers]. If it's a challenge and if its new and if it takes time and energy and commitment to actually get over the line, then you are talking something that's worth doing.'

# 5.7.4 Aligning academic and practitioner needs is crucial and challenging

Aligning the timing of projects is one of the most challenging aspects of academic-practitioner interactions. Timeframes are critical to meshing joint academic-practitioner interests and interactions. They must be aligned in both the amount of time required for a particular project as well as coinciding on the timing of the project. That practitioners typically work on shorter planning cycles than do academics appears to inhibit opportunities for interaction.

#### David:

'I think the amount of time spent will vary by project. So some projects it might need three or four weeks. Some other projects might need six months.'

'I think it's probably more the timeliness that's the issue. So normally when we get to a point where we've gone through our project cycle and we're getting ready to start a

project, we might have a view of two or three months out before that project starts and then once we start it will be hell for leather into the project.'

'And certainly when I've had some engagement with universities in the past, particularly around PhD students, the view is, I'll have a PhD student in second semester of next year that will be looking for a project that has something to do with e-commerce. Well that doesn't, that timeline, that approach quite sit, that doesn't help us. The timeframes aren't short enough.'

'So for it to be able to work I would need to be able to identify a project and maybe with two to three month's notice have engaged an academic to assist us on a variable amount of time input depending on the size of the project.'

# Researcher:

'So it's the actual scheduling as well as the amount of time.'

#### David:

'Oh, absolutely! Academia, from a business perspective, looks to move slowly. So it's the availability of the resource more so than the amount of time of the resource.'

"...we need to be looking at a timeline which suits business development and business outcomes. If we've got a project or something where we think academia can assist us then we're talking about a timeframe of less than twelve months and that doesn't always fit with the university model, by the time they get someone that's available and so on. So timeline is critical."

Thomas also commented that while there was a good outcome from Phase II of the HBS alliance, there was some difficulty aligning the timeframes of the two parties.

#### Thomas:

'... one of the issues arising was that probably your readiness to do something probably didn't quite align with our readiness to do it at this busy time so I guess we weren't able to take advantage and run with it as much as I would have liked... I think you have clearly understood the environment that we have here and you have come up with some logical pathways, I guess, for a way forward that will help us in our future deliberations.'

Aligning the interests of the two parties in terms of the research topic is also important, but less challenging.

#### David:

'Look, I think there's enough that we can pick some out that would suit. Obviously some research topics just don't suit our environment or don't suit our industry. But I think when you're talking about it in that particular case where you're trying to support a number of postgraduate students, there's going to be some there that will fit.'

David also made the point that the engagement will be totally dependent on the practitioner seeing the topic as core to the business.

#### David:

'So I think then to be able to get that engagement it's really got to be something that is part of the core strategy or core work program of the practitioner for it to get off the ground. It's got to be the practitioner that wants it.'

An overlap of interest in a topic from the academic and practitioners is necessary but not sufficient. As David explains, unless the business is suffering from a problem in that area at that time, they are unlikely to be interested in exploring it, as their focus will be on their current business problems. This adds to the challenge of aligning the interests of the two parties.

## David:

'It's interesting. I think if an organisation or a practitioner has a particular business issue that they're trying to solve then they'll go looking for information that might help them solve it. But on the other hand, if we aren't focused on a specific issue, then we would never find that information. So if you [academia] are doing some work on new internet banking security, but if it isn't a particular problem that I was off trying to resolve, then I'd never go looking for it, and it'd never be provided to me. So I think there's a couple of things there. Even though ultimately the information may be beneficial to me at some future point in time.'

'But, as I said, without an immediate need I wouldn't go looking for it. So we don't have people in a practical sense who are saying, "oh gee I should be keeping up with internet banking security, I need to go out and understand where all the research is". We'd be more looking at, well what's our level of fraud in internet banking? Is it acceptable to the business? If yes, then we don't need to do anything. Or I don't see my competitors in other institutions implementing new things where I think I'm going to fall behind on. So we just wouldn't have the need to go and access that research work. However, if we were looking at those statistics and said, look our fraud is through the roof, then we would be out looking for a particular piece of research or new technologies. And quite often in organisations, unless you are the very top tier organisations, you are looking more at what your competitors are doing rather than what academia is doing when resolving a particular issue.'

When asked what advice he would give other academics seeking such an alliance David emphasised business outcomes and timing.

## David:

'... we need to be looking at a timeline which suits business development and business outcomes. ... we're talking about a timeframe of less than twelve months and that doesn't

always fit with the university model, by the time they get someone that's available and so on. So timeline is critical.'

# 5.7.5 Publishing ground rules may facilitate wider adoption of the approach

The experience of setting up the research alliance, and the ground rules that emerged from it, provides a helpful understanding for both academics and practitioners who may be interested in doing a similar exercise. At several points throughout the alliance the Author and Jamie reflected on how it had unfolded. The original alliance proposal had been based on a few high-level conceptual suggestions from the academic literature, which lacked detail and practical experience.

When considering the early establishment phase, Jamie recognised the value of the experience and the usefulness of publishing it. His comments also cover the sort of elements that should be considered for inclusion.

## Jamie:

'It ended up that way, and I would love for us to have learned those lessons. Document them now so that someone else does not have to go through them as well. I think we've got good value out of this particular exercise.'

I think just some of the mechanics of going through this sort of thing were important to us. Mutual non-disclosure agreements, statements of work we've mentioned, sponsorship, probably the structure and timelines and those sorts of things.'

At a later point Jamie refined his thoughts.

## Jamie:

But it would be something that is like - here's a pack that normally kicks off the academic-practitioner relationship. "Could you please have someone look through this to see the appropriateness and these are the things that make success. If you can't see these success factors then probably we're wasting our time." And if we have, then you sort of agree to these principles and in signing this you say it's supportive to both sides, it'll happen, it'll happen this sort of way in a context, and we agree to do that over X period. And that would be enough. It's not a contract.'

"... what would have been lovely, would be a road map to create an alliance based on previous experience or whatever. ... there are ways to establish these alliances. ... If we had certain barriers, it is probable that everyone else has gone through them before, which we may well have had like a document or a even a previous plan from someone else who had done it before. If someone has done it one way before and they document that, it makes it easier to for the next person to proceed, instead of breaking new ground."

'A memorandum of understanding based on the key success things that these have. And that would be a great start. And if we stray from that "well you said that we were going to have sponsorship"," you said there would be projects available". "Here it is, we all agreed to this". We don't want to get to that stage, but I think we can use it mutually. That would be great.'

'I think if we had a stronger criteria set that would reflect the type of project that this sort of alliance is more likely to have success in - that would be handy. If we can do that from here.'

'Even a proposal document which gets accepted by the sponsor of the institution that says "look I've accepted this. And included in that would be a confidentiality clause, included in that would be the type of thing, the commitment. It's like a terms of reference for the consultancy.'

Jamie considering what advice could be given to others wanting to set up a similar alliance.

## Jamie:

I think they need a strong proposal up front, which has some impact and expresses what they really want to do and how it could advantage us in terms of benefits. That's just enough to get you in the door. You do have to have some sort of network behind you. If you're just off the street and want to use up people's time and you're not well-connected and we don't know what you want to do and we don't know how we're going to get advantage out of it, you're gone. It just won't happen.'

#### Researcher:

'So it's sort of like doing a business case, isn't it? You've got to demonstrate the value [Jamie - that's right], as it were, to the business. OK, so that's really key.'

#### Jamie:

'And who's involved, and at what level they're involved. I think it's important that when we do something, although we appear altruistic, we also like to think that people are watching and we'll get some kudos out of it in the long run.'

'It's like any project really. No sponsorship, no project. Basically you can get it to the worker level and you can do stuff, but if you haven't got a David and maybe even one level up, like a steering committee if you want that, then that's a stronger way of doing things. If you don't have that sponsorship and you don't have that commitment, then you are basically probably less likely to translate the results that come out of it into concrete things as well.'

Jamie notes that some aspects of the alliance could have been less difficult. He concludes by noting that the difficulties have generated their own learning which should be passed on to others.

## Jamie:

I think that we would have had an open forum with people like David, Thomas and the leaders of the IT team and say, 'Here's Fiona, this is the type of thing'. We would have done a bit of brain storming immediately as to where this would be very useful, as opposed to me trying to say "Oh here's Fiona and maybe we could do this" or "Gee, that looks like a good one." And that would have given you a run up start. I think it would have helped everyone understand why Fiona is in the building a bit better, all of those sorts of things.'

"...But in the end I think we could have done a bit better job of, 'OK, yes because it's something new that you can work on, that's great, because it's something we haven't been able to work on ourselves." And this is what eventually happened... But it could have happened earlier. So if I had to change something it would probably be being smarter about the initial engagement and putting you out wider to the community rather than trying to restrict you to projects."

'Having said that, living with ambiguity as we do in projects; that was exactly what we actually did. If we hadn't have gone through it and if we were really slick, we wouldn't have actually gone through some of those painful experiences that now are lessons for other people to put into practice as well.'

# 5.7.6 Practitioner interactions may produce 'relevant' research topics

One of the lessons to arise from this case is that an alliance may spark ideas for appropriate research topics, especially those relevant to practice. Furthermore, as this case demonstrates, a relatively low-key alliance which produces satisfactory outcomes itself may trigger bigger opportunities. While difficult to set up and slow to progress, the establishment phase 'unlocked' the situation for the researcher, and set the scene for an excellent research opportunity in Phase II.

The opportunity to have in-depth discussions with a senior executive (David) gave the Author much deeper insights into contemporary business challenges, and a potentially relevant research agenda.

## David:

'... I was concerned about, from a data quality perspective, ... I'm just not sure that there's an enormous amount of benefit. ... the area which I'd look at. It might be more around our software architecture. For example, how do I move from our legacy environments now into something that's more modern to increase that efficiency about our overall departmental software development output? And part of that, an auxiliary project, is that we tend to get reasonably poor specifications from our business. So how do I go about doing a better job of getting better specifications without being too onerous on the business? What is the engagement or interaction model between IS and the business about being able to produce that? I think that our business would benefit from an

external view about some of those topics, more so than they would about data quality. To enhance that a little bit, IBM recently have given me some access to free consulting where they're going to do some work about business and IT alignment. It's just something to think about. [Fiona – for sure] Whether the data quality stuff that Jamie's suggested adds the best value from a research perspective...'

Equally important from an academic's perspective was to gain David's insights into how the business environment may influence research directions.

### David:

'It's interesting, you know. You talk about agility; I think it's as much about flexibility. I think in business these days we don't exactly know what the next thing is that we are going to be doing from an IS perspective. And certainly in financial institutions, what's happened in the US credit crunch, has certainly taken our focus away from lending much more into deposit areas. So all the development work and projects which we were doing previously were largely lending-focused because we had no problems on the funding side. Now with the credit crunch and the way that market has dried up, the focus is much more now on the deposit side. So we've really had to switch our whole development focus [Fiona – pretty quickly] from one side of the business to the other side. I think when we talk about agility, not in a software sense, but as a business sense, then agility or flexibility to be able to adjust our IT focus and IT output through a different distribution channel or a different product or whatever it might be is where we need to get to as a strategic position from an IS business alignment that needs to be flexible.'

# 5.8 A Closing Comment

The findings presented in this case demonstrate the variety of viewpoints that individual managers may have about a topic as broad and fundamental as the academic-practitioner relationship. Each finding provides a beneficial, highly individualised view of the relationship, contributing rich insights. David's comments are especially helpful in that, not only do they carry a senior executive perspective, but also they arise from close interactions with the Author and the case. Thomas' comments provide great value in highlighting practitioner concerns regarding academic programme content. Jamie, through his extended interactions with the Author, provides great insights into many of the issues faced in setting up and conducting an academic-practitioner alliance. Finally, interactions with Dennis clearly demonstrate that not all practitioners will see value in engaging with academia.

Overall, the positive responses in this case demonstrate that the principles underlying the APITF as implemented in the 'Academic-Practitioner Alliance' can be effective for addressing the academic-practitioner disconnect.

The following chapter discusses the findings of both this and the prior case in the context of the academic literature reviewed in Chapter 2.

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# CHAPTER 6 DISCUSSION

This chapter explores the implications of the research findings from the two cases reported in Chapters 4 and 5 in the context of the literature reviewed in Chapter 2 and the APITF detailed in Chapter 3.

The discussion is structured around the four research questions detailed in Section 1.2. They are as follows:

- 1. What is the practitioner perspective on the IS academic-practitioner relationship?
- 2. What is the practitioner perspective on IS academia and the academic role?
- 3. What are IS practitioners' main work and knowledge concerns (as they relate to the relationship with academia)?
- 4. Are the interaction approaches (namely the Academic-Practitioner Workshop and Academic-Practitioner Alliance) based on the APITF effective for addressing the IS academic-practitioner relationship disconnect?

If so, in what ways?

In answering question 4, 'ground rules' and 'lessons learned' inevitably emerge. While they are addressed explicitly in Sections 4.7 and 5.7, discussion of them in this Chapter is limited to the wider discussion of the APITF.

The discussion topics emerged from the case analyses, and draw and build on the major findings that contribute to answering the research questions.

The general format of discussion topics is as follows:

Each topic starts with a summary statement capturing the essence of the more noteworthy findings, with references to the appropriate section of the respective findings chapters where relevant.

The key points are generally highlighted with summarised interview excerpts that are sometimes paraphrased for brevity. These points are then discussed within the context of the relevant literature, and their significance and implications considered. Where appropriate, this might include noting whether the findings confirm, challenge, clarify or extend the literature.

Since much of the existing relevant literature is not based on empirical studies, commenting on it as supportive or otherwise is often not appropriate. Hence, it is often opportune to state that there now exists empirical evidence where once there was only anecdotal or opinion based literature. Some of the findings may not have any existing literature on which to relate comments.

The extensive nature of the literature review in Chapter 2 makes it impractical to relate it back in totality to this discussion. Hence only an indicative subset of the more relevant literature is discussed in this context. Further, this study has generated large amounts of empirical data, typical of qualitative studies, which can easily overwhelm. Hence, only the more insightful inputs will be reviewed, leaving space for fuller discussion of the more important topics.

As described in the case selection rationale (Section 3.1.3), the two research cases reported here are complementary rather than replicating in nature. Hence, together, they provide a broader perspective within which some issues reflect a different level of emphasis/perspective. Inevitably, while they both contribute to answering the research questions, certain discussion topics are predominantly evidenced by one particular case.

# 6.1 The Practitioner Perspective on the Academic-Practitioner Relationship

This section focuses on a discussion of the findings and their implications for the related literature regarding Research Question 1: What is the practitioner perspective on the IS academic-practitioner relationship? The findings for both the BA Workshop and the PM Alliance cases are aggregated and discussed.

Firstly, the current state of the relationship is discussed, after which the prospects for an improved relationship are considered. This is followed by an analysis of the communication and interpersonal skills necessary to achieve this improvement.

# 6.1.1 The current disconnected state of the relationship

There is evidence in both cases of a long-term, entrenched disconnect between academics and practitioners. In the BA Workshop case Archie notes that 'it started back when I first started here and management had disdain for the academics... And I still shake my head after 20 years that that goes on here.' Similarly, in the PM Alliance case Thomas notes a lack of interaction: 'How many academics from that university have I seen in here in the last 23 years? Probably one, you!'

Practitioners in both cases view the disconnect as a deep, cultural divide. In the BA Workshop case, Jack notes 'the differences in the issues that they [academics] discuss', and Delores refers to academics wearing 'rose-coloured glasses', and practitioners wearing 'blinkers'. In the PM Alliance case, Thomas claims 'they [academics] are on, I wouldn't say a different planet, but they're certainly in a different country... I probably don't understand what they're on about ... and they certainly don't understand what I need... we're wasting each other's time.'

The disconnect is evidenced by practitioners in a variety of ways.

Both cases report that academia is out of touch with practitioner's knowledge needs. An example is in not recognising the dominance of 'legacy' systems in mainstream business system environments (Sections 4.3.1 and 5.5.4). This is most readily apparent in graduates being unfamiliar with those technologies, as they tend not to be taught as part of university curricula. Delores: 'The reality is a huge amount of our current systems are legacy systems. Let's face it, you are not going to teach Cobol programming in a uni now because it's outdated technology'. Managers in the PM Alliance case source their information from other than academia (Section 5.5.2). Similarly, in the BA Workshop case, Darryl claims that practitioners do not find value in academic research publications (Section 4.3.1). The lack of academic research relevance exacerbates the disconnect, as evidenced by Thomas' response to his experience of attending an academic conference which had a 'relevance' theme: Yes, well I had a good laugh about the relevance thing because I felt the whole thing was totally irrelevant to the real world.'

Practitioners appear to have neglected the relationship because they perceive little value in interacting with academics. Jamie: 'It probably was a fact that it's never really come to my attention that there's a great deal of value there.' Nevertheless, practitioners in both cases perceive the current relationship disconnect to represent a lost opportunity. David: 'But it could be better. ...' certainly I think there's opportunity for us to do a better job at what we do by having some input and interaction with academia.' Archie: 'we run around like chooks with our heads cut off doing anarchy. We need to respect that you guys are up to speed and have developed a constructive framework that we should be working to... the university doesn't practise what it preaches.' This provides empirical support for Glass' claims of 'I see severe problems in the products of theory and the products of practice resulting from that chasm and those misunderstandings... my own job performance has been severely impacted by the chasm' (2006).

For academia, the academic-practitioner relationship has become one of Baskerville's (2006) 'intractable' problems. The debate has persisted over decades, with many points of

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view regarding the causes and consequences (Section 2.2.2). Benbasat and Zmud (1999) attribute the poor state of the relationship to a lack of interaction and academics' lack of exposure to industry contexts.

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'. Many academics believe that academia follows practice and the consulting industry, and fails to demonstrate adequate leadership in guiding the field's agenda and direction (Amaravadi 2001; Davenport & Markus 1999; Robey & Markus 1998). Davenport in (Lytras 2005c) states that 'If business schools aren't influencing the practice of business and management, what's their purpose?'. Hirschheim and Klein (2003) warn that unresolved the situation will become a crisis, and threaten the existence of IS academia.

These findings answer academics' calls for empirical evidence of the practitioner perspective on the relationship with academia (Section 2.4.1). In doing so they complement the academic perspective (in the literature), and affirm that there is a deep divide in the relationship. The situation is detrimental to both parties, but especially damaging to IS academia. The implication is that it is in academia's best interests to take decisive action to address this situation.

# 6.1.2 Future prospects for a more functional 'two-way' relationship

Despite the currently strained state of the relationship, practitioners do desire closer relations.

Jamie acknowledges practitioners' share of responsibility for the lack of contact and consequent parlous state of the relationship (Section 5.3.1). Likewise, Delores proposes that practitioners take a proactive role in addressing the problem 'I guess this is just something that we as a group should lead. We know this is the right direction to take.' (Section 4.3.1). This is consistent with many academics belief that responsibility for the relationship disconnect should be shared (Fitzgerald 2001; Saunders 1998).

Practitioners in both cases express their desire to participate in addressing the problem.

In the BA Workshop case, Archie states: 'I am keen to break that down. It's why I think this is an excellent opportunity to do that'. In the PM Alliance case, David comments: 'I'd like to really understand it [the relationship] from the university's perspective'. Thomas views it as important: 'yes, I think it is important and I don't think it's been addressed enough, or at all'. He responds positively to the opportunity of helping establish better relations: 'I think it's good... It's refreshing to see someone actually thinking about that relationship because it's only when academics like yourself think about that that we might get some change...'

Delores describes the ideal as a 'good two-way street'. Practitioners in both cases believe that the relationship must be more 'two-way' in nature where the flow of ideas and knowledge is in both directions (Sections 4.3.3 and 5.3.5). They desire that academia be more aware of, involved in, and learn from the world of practice, as well as provide a source of knowledge for practitioners. In the PM Alliance case, David perceives that the relationship is 'one-way', wherein academics have a 'take', rather than 'give' focus in the relationship: 'essentially the interaction has been mainly one way. It's about academia... It seems to me that the academics are more interested in industry people assisting them ... not that I begrudge what I do for the university, I quite enjoy that ...But there doesn't seem to be much back the other way.' In the BA Workshop case, Angelina states: 'It goes back in the other direction too ... academia should not be divorced from real-life projects in that it's no good for academia to be researching in theory ... but you can't even put it in practice!' These sentiments affirm the literature, where Moody (2002) perceives that 'knowledge flows take place almost entirely within each community', and Moody and Buist (1999) describe IS research and practice as operating in 'parallel universes'.

Jamie describes the ideal relationship as 'symbiotic', where the knowledge flows are two-way. He doubts that 'new' things can be developed in academia in isolation from practice (Section 5.3.5). This is consistent with Glass' (2006) assertion that 'often the first glimmer of a new idea comes from the world of practice'. The model he (Glass) proposes is based on a close, synergistic relationship between theory and practice where the initiative (leadership) passes to and fro between the two as developments occur alternatively between practice and theory '...the act of maturing both the practice and the theory can and should go on in tandem. Attempts to do otherwise, as we have been trying to do in the world of computer science and software engineering, lead inevitably to weak theory and stuck practice'.

Thomas' use of the term 'partnership' clearly shows his willingness to participate in building a stronger, more meaningful relationship. 'it is a synergy and it's a partnership, ... I think ongoing partnerships between, particularly in our particular case, a large university here and one of the biggest employers in the area [Heritage Building Society] would be nice'. Again, this is reflective of a comment from Glass (2006) who proposes that we can 'evolve theory and practice into a fundamentally sound working partnership'.

Practitioners' enthusiastic response to the prospect of active participation in the relationship is most encouraging, and reinforces the potential for a two-way relationship.

Jamie: 'academia has never asked me before ...... I would be chuffed to be invited to give my point of view'... 'If invited, I think we would be more than happy to share our knowledge with people as part of the role of practice. But we're not often invited to do that.' Thomas' response

is particularly noteworthy, given his self-ascribed label of 'cynic' (Section 5.5.3): 'There's no reason why an organisation of our size can't provide service to the tertiary institution as well.' This is good news for academia, as it challenges the academic literature which portrays practitioners as totally disaffected with the relationship (Hirschheim & Klein 2003).

Both cases provide empirical evidence of the benefit of a two-way relationship.

In the PM Alliance case, this resulted in Jamie conducting guest lectures which he enjoyed and which were well received by students (Section 5.6.5). This supports those academics who propose such engagements (Saunders 1998). In the BA Workshop case, Delores notes the two-way nature of the workshop interactions '…conveying of information, so you have information that basically goes one way, whereas this is much more facilitation, …which is quite different to an instruction…' Harry also observes that academics tend to expound knowledge in one direction, and remarks on his beneficial experiences of two-way discussions with the Author in the workshops (Section 4.3.3).

The applied nature of the IS field is a compelling reason for concern about the academic-practitioner disconnect (Moody 1999). The significance of these findings is that they extend the understanding of the relationship with a strong message of optimism. These findings provide empirical evidence that efforts by academics to address the relationship disconnect will be met with enthusiasm by practitioners, hence greatly improving the prospects for a mutually rewarding and productive outcome. That practitioners do desire closer relations should act as a spur to encourage action from IS academia.

# 6.1.3 Critical elements of a highly functional relationship

These findings explore researcher behaviours and attitudes that are considered by practitioners to be crucial to highly functional academic-practitioner interactions.

# Respect, trust and credibility

This study identifies trust and respect as crucial elements of the relationship.

In the BA Workshop case Archie reports a lack of respect in past encounters with academics: I think they don't trust and respect us. It's evidenced by the way that they interact with us'. This mirrors a comment on an ISWorld listserv discussion 'Practice doesn't respect us because we don't respect them' (Glass 2001). By contrast, both Archie and Harry commented favourably on the respectful approach that characterised academic-practitioner interactions between the Author and practitioners in the BA Workshop research environment. Archie uses phrases such as: 'you're sensitive to... you respect our opinion... you work with us...'. Harry notes that 'in this engagement our facilitator [academic] has

actually spoken with us, not to us. That is fairly important'. Importantly, this finding provides an early indication of how it is possible to redress the situation. The importance of respectful, mutually beneficial relationships is emphasised in the Dialogical AR approach which is a key element of the this study's theoretical framework (Mårtensson & Lee 2004).

In a research context, trust extends beyond the everyday sense associated with general interpersonal relationships.

In the PM Alliance case, David, Thomas and Jamie all link trust to the credibility of the researcher, which they perceive to be crucial in research environments. The earning of trust by the researcher is also emphasised. David reflects on the process of his growing trust in the Author (as the researcher) over the period of the case: 'as we've progressed further along the path I've become increasingly more trustworthy of the view and the opinion that you have portrayed'. Thomas: '...if I don't have any respect for the academic's credentials in terms of understanding my environment then that academic, irrespective of how many letters they have after their name, is not going to have much credibility...' Jamie: '... you [the Author] had to get the confidence of many parties... they each have to build trust. Just because I trust you doesn't mean that everyone else will do so. They will all test you out'.

These findings affirm Kennedy's (2007) assertion that "Trust is built an inch at a time". They also affirm Fitzgerald's (2001) proposal that as an applied field, IS would benefit from having closer academic-practitioner interactions and frequent exposure to practice: "it is obviously more difficult to identify and conduct coherent research in an applied field, if one does not understand what practice actually entails...Another useful strategy would be to respect practice more. If IS is to be regarded as a truly applied discipline, then researchers could be expected to have some degree of familiarity with the practice they purport to research... IS clearly has a credibility problem."

Credibility is crucial to securing significant research opportunities in industry settings.

As noted by Jamie: 'It enabled you [Author] to have the legitimacy that when this project came along that 'hard-heads' like Thomas and Dennis and David suddenly said "I think Fiona can handle that because I know Fiona and she's been working with Jamie, and Jamie has endorsed her."... 'Without that you're just going to get 'busy work'. The significance of academics' credibility in the relationship is reflected in the literature. Robey and Markus (1998) report that the lack of research relevance has caused a loss of credibility and respect with practice, which may threaten the continued financial support of IS academia.

## Communication

The need for effective communication as an essential element of a more functional relationship was identified in both cases.

Harry emphasises this in the BA Workshop case: '[what] we would be looking for in an academic. Someone who is actually a communicator'. In the PM Alliance case, Thomas adds that 'Good interpersonal working relationships are also essential.' This is supported in the literature where academics such as Hirschheim and Klein (2003) place communication at the heart of the academic-practitioner disconnect. They attribute the problem to 'insufficient, insignificant' communication, describing an 'external communication deficit' with practitioners. Glass (2006), a rare commentator from the practitioner perspective, describes the relationship as having a 'massive communication chasm', giving rise to 'profound misunderstandings'.

David stresses the need for high-level communication skills in industry-based research environments: I think to be able to get the best benefit out of it as well they [researchers] obviously need to be able to communicate reasonably well. ... they're going to be talking with reasonably high-level people about high-level issues so I think that they need to be reasonably comfortable about communication.' This particular aspect of communication is not emphasised in academic literature, and yet has important implications for addressing the academic-practitioner relationship.

Both cases emphasise the importance of academia 'listening' to practice, as well as providing empirical evidence of the beneficial impact on academic-practitioner relations as they experienced it. Their comments imply that their interactions with the Author were unusually positive in this respect. In the BA Workshop case Archie comments: 'You listen to what we say... will go a long way, and that's why you particularly engender that [trust and respect]'. Thomas affirms its importance: 'it's been refreshing to have someone, an academic, come in and be prepared to listen, to discuss, to make suggestions, to modify your findings and so on. To not try to mould us to what you've come up...Well if other academics adopt your approach and your attitude to involvement in the real world ... if the academic is listening'.

Hence, the findings provide empirical evidence to support the literature, in particular what Glass (2006) describes as academics' 'decidedly atrophied listening skills', while at the same time demonstrating evidence of the problem being addressed.

Nevertheless, Glass (1989) claims that 'there comes a point at which practice, having been surpassed by theory, must listen to it.' He concludes that this interaction is not occurring: 'Just as theory fails to study practice when it is appropriate, practice fails to listen to theory

when that becomes appropriate. In other words, there are some fundamental problems in the interactions between theory and practice' (Glass 1989). Interestingly, Delores' comment that: 'You talk about the stuff that we think is important.' provides evidence that the practitioners were listening to the academic [Author] in the BA Workshop case.

Academic language exacerbates the disconnect.

This is evidenced in the PM Alliance case when Thomas states: 'I went out to one of the [academic] keynote addresses, and it was painful. Didn't understand what the guy was going on about most of the time. I think of myself as a reasonably intelligent person and obviously I have a lot of IT experience, but I didn't have a clue what he was talking about most of the time.' It affirms concerns about academic language expressed by Gray (2003) and Alter (2003). The extent of the problem is highlighted when Alter (2001) comments that he considers that much academic writing is 'difficult and often painful for an academic to read!'. Interestingly, 'academic' language problems are also evident when the practitioner is the keynote speaker. Fitzgerald (2001) 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, much to the amusement of the academic audience, who did not comprehend the deeper credibility issue. '... if the very idea that a successful practitioner could learn from the most leading-edge research in the IS field is a source of hilarity even to academics, then, as an applied discipline, IS clearly has a credibility problem.'

These findings provide empirical support for Hirschheim and Klein's (2003) claim that communication is at the heart of the academic-practitioner disconnect. They also provide evidence of the problem being addressed and the positive response that elicits from practitioners.

# 6.1.4 A summary comment

This section has reviewed the way in which the above cases answer Hirschheim and Klein's (2003) call for empirical evidence of the practitioner perspective of the relationship with academia. 'There is a need for increasing the amount of research directed at understanding IS practitioners... we find that the IS discipline suffers from two problematic structural patterns: a number of significant communication gaps, which we term "disconnects." ... 'there is a significant disconnect between IS practitioners and IS academics that is well known ...we feel particularly uncomfortable with the current state of the IS field because we see certain underlying structural patterns that give us serious cause for concern.'

This discussion addressing Research Question 1 is crucial to the academic-practitioner relationship. Without a better understanding of the practitioner perspective, academics' efforts to address the disconnect are likely to be misdirected and ineffective.

The wider implications for IS practitioners are that:

- There are mutual benefits in engaging with academia.
- IS practitioners need to make efforts to invest in the relationship, and in doing so to better understand academics.

The wider implications for IS academics are that:

- Positive prospects of more relevant research and better informed scholarship are available if academia embraces opportunities to engage meaningfully with practice.
- The message from practitioners regarding collaborative endeavours is a pleasantly surprising and positive one, in that they *are* keen to have a meaningful relationship.
- The relationship must be more 'two-way' in nature, be built on mutual trust and respect, and participating academics must demonstrate that they are capable of contributing meaningfully to practice.
- IS academics communication style must be effective in terms of building and maintaining a functional relationship with practitioners.
- IS academics are most disadvantaged by the current disconnect, and responsibility for initiating renewed links will fall to them.

In summary, practitioners perceive a serious disconnect with academics. However both cases provide empirical support for Shapiro et al. (2007) that 'any solution must start with the premise that academics and practitioners should spend more time together, appreciating and understanding each others' worlds better.'.

# 6.2 The Practitioner Perspective on Academia and the Academic Role

This section focuses on a discussion of the findings and their implications for the related literature regarding Research Question 2: What is the practitioner perspective on IS academia and the academic role?

Firstly, the practitioner view of academia as 'two distinct groups' is discussed, after which the research and teaching and scholarship components of the role are considered. Finally the issue of how consultancy influences may benefit academia is considered.

# 6.2.1 Practitioners identify two distinct groups of academics

This discussion point builds on the prior one where the requisite elements of a functional relationship were identified, and distinguishes the subset of academics best suited for effective practitioner interactions.

In the BA Workshop case, practitioners identified two groups of academics, distinguished on the basis of their potential to interact effectively with practitioners. Practitioners overwhelmingly identified attitude as the defining characteristic.

Harry distinguishes between 'academic' academics and 'competent' academics. Perhaps not surprisingly, he perceives the latter to be preferable for practitioner interactions: *'I'm very* happy to have a 'competent' academic, as distinct from an 'academic' academic, facilitate this...' Jack makes a similar distinction between 'pure research-style' academics and 'realworld' academics, noting that it is only the latter group that are suited for practitioner interactions: 'I don't think it [workshop style interactions] would work with every academic. I think you have to have that interest outside of academia to be able to support it.' He identifies attitude as the distinguishing feature: 'You get the 'pure' academics that are only here to do research and scholarship, and they have a 40-year career, and that's what they're interested in. And then you get ...the 'real-world' academics, who've actually got professional experience, and have worked in the industry for years, and they are coming in to share that knowledge. I think there is a big difference in attitude when you talk to those different groups. You get the pure research-style academic and start talking about practical problems in the workplace, to them. They don't want to know about that because it doesn't fit into their nice model. But then you get the real-world ones who actually understand those sort of constraints and actually can adapt to work with you. There's a big variation.'

In terms of generalising, it is clear that Harry and Jack do not perceive the Author to be 'unique'; rather they perceive that there are multiple members of each group (Section 4.4.1). The BA Workshop case is especially persuasive since the practitioners have exposure to a wider range of academics, and are therefore well placed to comment.

Similarly, in the PM Alliance case Thomas described the Author as 'rare' based on the combination of her professional background and her willingness to 'get out of her ivory tower'. He considered these qualities distinguish academics on the basis of good practitioner interactions, as he had experienced them. However, Thomas would be aware that two of his former staff are IS academics at the local university, where at least one quarter of the 24 IS academics have substantial practitioner backgrounds. Hence the Author is not really rare based on that criterion. When discussing the potential for generalising the alliance approach, his clarifying comment hints at positive prospects for better academic-

practitioner relations: 'I am not entirely convinced that all academics would be prepared to immerse themselves in the realities of IT life or even have background in the real IT world to approach it with the right sort of attitude. If they could do what you [Author] have done then, yes, I would have a more positive view'.

While a practitioner background may be helpful, not all practitioners considered it to be essential.

Harry's practitioner-friendly ('competent') academics are not assumed to have a practitioner background (Section 4.4.1). Thomas similarly concedes that exposure to the practitioner environment and an appropriate attitude will suffice: 'if they [researchers] have got the runs on the board and have been there, done that, or are at least prepared to listen, ask questions and immerse themselves...'

Furthermore, Thomas acknowledges that neither academics nor practitioners should be viewed as homogeneous groups (Section 5.6.6). Of the ten practitioners directly involved in the two research cases, only Dennis demonstrated a reluctance to interact with academia: 'The academic world isn't interesting to me so I'm not looking to them to provide me with what I need.'

Hence, these findings challenge El Sawy's claim in (Desouza et al. 2006) that 'it is also a very small percentage of practitioners who feel comfortable and know how to usefully interact with academics around research issues that lead and impact practice.' The findings in this research also provide clarification to his claim in (Desouza et al. 2006) that 'First, it is only a very small percentage of IS academics who take advantage of the deep intuitive knowledge that reflective managers can have in generating non-obvious research hypotheses from the field.', in so far as the percentage who have the potential/capacity to do so. Similarly the findings challenge Fitzgerald's (2001) claim that 'few researchers are former practitioners', assuming that academics and researchers are the same group.

Furthermore, it is considered inappropriate to deem it necessary for all academics to be involved in practitioner interactions, as there is a need to pursue research in a wide variety of contexts. This is consistent with the literature where the AACSB argues that both pure research and applied research are important to business schools (AACSB 1997).

These two cases provide empirical evidence to demonstrate that IS academics can effectively interact with practitioners, thereby addressing the disconnect. Furthermore, it has been argued that these results are generalisable to a subset of academics who are appropriately skilled and motivated to do so. The implication is that it provides an empirically grounded basis for academia to act to address the disconnect.

# 6.2.2 The research component of the academic role

The main aspects of the academic research role arising from the findings are academic research relevance, academics' research skills, academics as subject matter experts, and academia as a knowledge repository. A discussion follows.

#### Academic research relevance

Research relevance contributes significantly to the academic-practitioner disconnect. Comments from two of the managers in the PM Alliance case comment accordingly. David: 'it seems to me a lot of research is done to impress other academics. I'm not sure that research is done necessarily to make a difference to the people using it.' Thomas: 'So I come back to that whole point and the use of your word 'relevance' in reference to your studies. To me that is the key thing. It doesn't matter how wonderful your research is, how brilliantly written it is. If it makes no difference apart from impressing a group of academics, no offence, then you might as well all go and sit in the university quadrangle and pat each other on the back, because you're not making any difference to the world.' This reflects Keen's (1990) comment that 'ISR is in danger of talking mainly to itself about itself', and demonstrates how this can lead to the isolation of academia. Of course the major reason for this is the current academic reward system, which is discussed in Section 6.4.4.

The issue of academic research relevance was discussed in depth in the PM Alliance case, but much less so in the BA Workshop case. This was due to the more structured and tightly focussed nature of the BA Workshop case and the more 'managerial' nature of the PM Alliance case practitioner group and their greater exposure to academic research.

David and Thomas describe relevance in the context of their exposure to academic research, particularly an ACS research journal. David: 'They have a research journal that comes out every quarter ... It's probably fair to say, from my perspective, I don't read that a lot. It's very theoretical, very mathematical in many cases. Even some topics that have been of interest to me and I've seen the table of contents and I've thought, "Gee that's really interesting!" And started reading it, and I get lost in the complexity of the issue which they're researching. But other than that I probably don't see any academic research or journals.' Thomas: 'you'll find that cynical word from me. Research has to be relevant to me for it to be of any value. I've been in IT since 1964. ...I can remember reading those magazines and, in some cases, having no idea what the person was talking about and yet it was supposed to be relevant to Australian Computer Society members ... anything that academia does has to have some relevance to the kind of things that I do ... I'm not interested in the airy, fairy, academic fine points about things that tend to interest academics but at the end of the day are not going to

make any difference to when I get the software out the door and the quality of it and how I serve my customers and so on.'

Managers in the PM Alliance case were invited to comment on definitions of relevance from the IS literature. The following excerpts provide interesting practitioner insights. Dennis: 'The next quote is too hard for my little brain. Maybe this is about being too complex and intellectual. Does a practitioner need research to be simple and short? I like things simple and easy.' Thomas: "potentially useful for ....." This, to me, is the Achilles heel of most academic research. Much of the usefulness is more correctly worded as "has the potential to get me my higher degree". A cynic might ask, "How would the academic judge usefulness to an environment in which he/she has little relevant, and/or recent, experience?" Of course, that problem can be mitigated by getting out and talking to the practitioners in depth, but how often does that happen?!?'

This empirical evidence supports the IS literature on relevance, which is extensive and elicits equally emotive responses from the academic authors (see Section 2.2.6). The importance of gaining empirical evidence of the practitioner viewpoint is underlined by Gray's (2001) emphasising of the prominence of practitioners as stakeholders in IS academic research: 'The relevance issue concerns the importance of academic IS research to the practitioner community'. The academic-practitioner relationship is fundamental to IS academia's future. This is reflected in Simon's (2004) 'Rigor Vs. Relevance: Why Can't We All Just Get Along?, where the first recommendation is 'the involvement of practitioners in research studies'. Gray (2001) notes a 'firestorm of ISWorld messages' on IS World 'I was fascinated by the dept of the emotion displayed and by the range of responses. Clearly the relevance of the academic research to the broader community is a raw nerve ending for the IS faculty throughout the world'.

The significance of the findings on research relevance is that it answers a call from Lee (1999) for empirical research into relevance: 'It is not enough for senior IS researchers to call for relevance in IS research. We must also call for an empirically grounded and rigorous understanding of relevance in the first place.' However, the 'rigour versus relevance' issue may ultimately be decided on the basis of academic rewards, which are discussed in detail in Section 6.4.4. As noted by Robey and Markus (1998), IS academics 'quickly learned that the respect of our colleagues and the rewards of academic life would come to those whose work was viewed as rigorous'.

The issue has remained unresolved despite decades of debate internal to academia, and it is widely accepted that the consequences are serious. This research takes the debate out to the major stakeholder, and provides academia with a more informed basis on which to

respond. Lang's (2003) comment: 'the reality is that practitioners are quite capable of devising their own solutions without recourse to academia. The inverse is not true. Academia does not and cannot exist within a void; however in many ways it has shut itself away.' suggests that inaction on the part of academia might no longer be an option.

#### Academics' research skills

The issue of practitioner perceptions of academics' research skills is significantly more positive. In the BA Workshop case, practitioners assume that high-level research skills are part of academics' training, and hence a core competency (Section 4.4.2). They see it as a feature that distinguishes academia from practice. Angelina: 'I had excellent access to a great deal of tailored material, which I would not have had the time, (or the research ability) to find otherwise.' Delores: 'The workshop coordinator [academic] was able to feed into the group an absolute wealth of current resources directly relevant to our requirements.'

Similarly, in the PM Alliance case, Jamie acknowledges academia to have the requisite high-level research skills to be a serious knowledge provider: '...there's a perception that your aim in life is to do these sorts of things, and you are good at it.' (Section 5.4.6). David considers reading and researching to be an inherent and significant part of the academic role, appropriately provided for in the workload '... in academia, reading research journals is part of what you do in your 40 hours.' (Section 5.5.1).

The most relevant literature here is Mårtensson and Lee's (2004) characterisation of 'theoria' as an ideal of the academic role regarding interacting with practitioners ('praxis'). These findings provide empirical support for the description of theoria being focused on the 'scientific attitude', which embodies the manner of scientific reasoning that characterises the thinking of PhD-trained social scientists (Section 3.2.2).

David also acknowledges the process of filtering the knowledge to present it in a convenient form: 'you've managed to be able to collect all of that stuff but then provide the filter mechanisms and communication mechanisms that's transferred that knowledge to us.' This is reflective of another characteristic of theoria, whereby responsibility rests with the researcher to be aware of and adopt the practitioner's perspective and language when trying to gain an in-depth understanding of the organisational problem and context, and to not 'speak science' (Mårtensson & Lee 2004).

Hence these findings confirm Mårtensson and Lee's (2004) representation of theoria, and extend the understanding with empirical evidence that practitioners hold academic research skills in such high regard. This is significant because it is a distinguishing characteristic of academia that is seen by practitioners in a positive light. It also

demonstrates that practitioners recognise the academic research role and see potential in it. The implication is that research skills represent a powerful tool for academia to use when addressing the relationship disconnect. Given the significant negatives in the current relationship, academia should exploit the positives.

# Academics as state-of-the-art subject matter experts

Interestingly, practitioners in both cases acknowledge that academics are likely to be up-todate subject matter experts, perhaps more so than practice, especially in leading edge technologies.

Archie refers to 'interaction with the academic expert here'. David noted this when discussing what academic interactions might bring to practice: I think that it can bring new and fresh ideas ... likely to be more up to date than many of our own internal staff are about new initiatives that might benefit us.'. Jamie proposes that academia is well placed to draw together networks of expertise and knowledge for commercial gain: I think what we lack is good forums, and academia are good at enabling people to get together, enabling people to discuss issues, capture issues, sort through issues... "what's the latest on this?" you can actually create an income stream rather than be a charity. And no one else is doing that.'

These insights provide empirical evidence that extends the understanding of the practitioner perception of academia. They also challenge Paper's (2001) claim 'How can we lead if we don't know anything'. The perception of academics as independent subject-matter-experts is another significant and positive practitioner perception, which flows from the prior discussion point. It is interesting to speculate on this perception from a small group of practitioners. It emanates from their workshop experience where the Author provided them with specifically tailored, highly relevant academic material. This is an important clarification and it might be speculated whether all academics would possess the appropriate highly relevant knowledge or be motivated to acquire it.

Nevertheless, it represents another positive opportunity for academia to exploit for its capacity to address the disconnect. The important implication is that, in doing so, academia can gain a more appropriate leadership role in the discipline.

## Academia as a knowledge repository

Notwithstanding research relevance problems, both cases provide evidence that practitioners perceive academia to be a potentially valuable knowledge repository. This notion is a logical extension of the academics' research skills and academics as subject-matter experts.

The BAs were confident that they were being provided with contemporary, high quality, industry-appropriate information. Angelina: 'we would hope that any academic would give us... a current trend thing ... current practice, so that we are not falling behind in what we do... looking to academia to point you in the right direction and keep abreast of the way industry is going.' Delores: 'but if you come back to an academic who can back that up with here's ... current thinking. Professionally, that's such a great base to come from and to work from.' Practitioners attach significant credibility to academics' knowledge and advice, and perceive it to have a desirable independence. Delores: 'I think that probably an independence, and also to know that there is a source that says "the current thinking on this from research etc; this is the best way to go for right now, and this takes the best of that".

The PM Alliance case also provides evidence of academic knowledge strengths. Jamie notes academia's competitive advantage: 'there will be a lot of good stuff that you have been able to get through your research that I would never be able to touch or even know existed. ... and that to me would be a great advantage. ... if I don't take advantage of your ability to do that and search through things and seek out the best things, it's madness on my part. So I am hoping to really be advantaged by that.' David also acknowledges that academia has access to a valuable and broad knowledge base: 'I think that the value you've brought to us is that you probably have a very broad range of research sitting behind you'. The respect these practitioners, ranging from technical (BAs) to senior executives, show for academic knowledge is very encouraging, and is a positive basis for building improved academic-practitioner interactions.

These observations challenge Amaravadi's (2001) claim that 'we do not seem to have the knowledge valued by industry'. The critical points here are the type of knowledge and how it is disseminated. The practitioners in these cases were not generally dealing with academic research in its usual form of academic journal and conference papers. Instead, they were provided with 'academic knowledge' (as described in Sections 4.1.4 and 5.1.5). The Author had aggregated and tailored material specific to the practitioners' work contexts and knowledge needs. Furthermore, it was mostly disseminated in a face-to-face manner or via emailed summaries.

One of the main issues of knowledge management is making academic knowledge readily accessible to practitioners and in a form suitable for their needs.

Jamie suggested a paid 'knowledge broker' service which gives academia a motive to provide a high quality, timely information that will attract practitioners: 'Paid, on the internet. Subscription ... you will soon find out what people really want because they will pay for things they really want, ... like this huge database of stuff in academia that never ever get

accessed, and never will be ... So you've got to find out a way to get the things that people want. You have to use the market forces for that. Don't just do it by random, do it by choice. ... then suddenly your academic research is payable ...'

There are significant positives in these findings regarding practitioners' views of academics' knowledge. Academics can be seen to have relevant, valuable knowledge. However, if academics wish to establish credibility in practitioners' eyes and be more significantly defined by their research role, they must ensure that the issue of research relevance is addressed.

# 6.2.3 The teaching and scholarship component of the academic role

One of the more significant findings that demonstrates the current state of disconnect is the disparity in perception between academics and practitioners regarding the academic role. Academics perceive the research role to be preeminent, whereas practitioners perceive academia principally through the teaching of role (often through their prior student experiences).

Thomas, in particular, relates almost every discussion point back to academics' teaching role and the content of academic programs (scholarship): 'a lot of academics are very happy to sit in the universities and be academics and fail to keep sight of the fact that they are turning out people to work in industry'. This finding provides empirical support for Lang's (2003) claim that 'In the eyes of many IS professionals, the only purposeful role that academics fulfil is that of graduate training...'.It also affirms comments by Plosser, a member dean of the AACSB (1997): 'One of the primary ways we show the corporate community that what we contribute is valuable is the knowledge we impart to our students. We prove ourselves by the success of what we teach and our students' contributions'.

Practitioners perceive the disconnect in terms of academic programs failing to address industry knowledge needs.

Angelina comments accordingly: 'What's an industry-based course I can do?" I'm in the university - there must be something! I need to go and try to find a practical university course that I can relate to. And that's not necessarily easy. I need to know about this, but nobody teaches a course on it!'

The dramatic enrolment decline has sparked a review of IS academic programs with an emphasis on industry relevance (Atchison & Gonsalvez 2001). Recent studies show that top business schools are generally defined by the perceived excellence of their academic programs (Gill & Bhattacherjee 2009; Lowry, Karuga & Richardson 2007). Furthermore,

Starkey and Madan (2001) suggest that academics need to have business leaders play a role and share responsibility for determining educational priorities and directions.

Thomas explicitly ties the issue of research and its relevance to academic programmes, which in turn has implications for the teaching and scholarship role: 'Well if other academics adopt your approach and your attitude to involvement in the real world... if you give to the real world and the real world gives to you which goes back into your students who then come in and join me and so on, then I've got relevance...' That Thomas' comment is based on his experiences in the alliance (rather than just his supposition) provides a more robust indication of what is appropriate and possible.

Thomas' comments are affirmed by Fitzgerald (2001) who claims that academia is narrowly defined, almost exclusively in terms of the research role, cut off from practical usefulness. He observes that if academics value their teaching and scholarship role more highly (and the academic-student relationship), they would publish more of their work in books, and seek out more teaching opportunities rather than using research funding to 'buy out' of teaching commitments. (Fitzgerald 2001). Again, this is an issue of academic rewards driving behaviour, because publications in top academic journals are far more valued than are books (Keen 1990).

The need for better communications regarding the teaching role has implications for the academic-practitioner disconnect.

Thomas: I'm making this comment to you about quality control but nobody at USQ has ever asked me that question. "What are the deficiencies in our course? You employ people we're churning out all the time. When they get to you, how well fitted are they to the role?" So I would like to see the academic-practitioner relationship reflected back, somehow, into better education of students.' Thomas is especially concerned about the lack of effective feedback in the current environment and the deleterious impact it has on practice: 'Ultimately what I'd like to see out of this exercise for that to work is that the academic [the Author of this thesis] not only uses this experience [in this AR case] to produce papers etc, but it ultimately gets reflected back in what is taught in tertiary institutions because we take the end product of what you guys do and we bring it here.' This proactive comment from Thomas can be related to a cautionary note from Robey and Markus (1998) 'if we simply pay lip service to an interest in professional practice... practitioners will see us for the hypocrites we'll be'. Implications of the teaching and scholarship role are most recently emphasised by Bhattacherjee (2009) when he comments: 'our severe drop in recent student enrolments has created a resource crisis... MIS needs to address the problem... if it wants to survive'.

These findings provide insights into practitioner' expectations of their role in the relationship, especially as it relates to the teaching and scholarship of academic programs. They add an important clarification to the academic literature.

# 6.2.4 Academia embracing the positive aspects of consulting

In part, understanding practitioners' perspective of the academic role, requires discussion of their perceptions of the relative roles of academia and consultancy. Both cases provide empirical evidence.

In the BA Workshop case, Darryl expressed the view that the impact of university research in Information Systems has declined in favour of consultant, industry-based research. This supports Alter's (2001) claim that 'IS faculty members do not have a monopoly on IS research'. In the PM Alliance case, managers report that they source their professional knowledge and draw inspirations for business directions from a range of sources excluding academia. Sources include technology providers (in this case IBM), commercial training, prior employment, practitioner conferences and consultants. Thomas' reasoning highlights the disconnect: 'from where I sit as a business manager, I need to be updated on technology and so on. I get my information from going to seminars and conferences, run by suppliers like IBM and people like that. Why? Because they present stuff that is practically useful to me. And do I think of asking USQ to supply me with that sort of information? No. Maybe I should but I'm just not convinced they're in touch enough with what I need.' This supports the literature perception that academia follows practice and the consulting industry, and that the academic-practitioner disconnect represents a lost opportunity to provide leadership and guidance to the field (Amaravadi 2001).

Dennis' comments reveal how academia must compete to influence practice: 'If I look at the academic world and the business world, e.g. IBM, those two people are competing for me to use them. So which one is going to provide me what I need to do my job better? Which one's going to help me solve the business needs that I have? So what is it that the academic world's going to offer me compared to the companies that are out there trying to make money out of selling solutions and technology and knowledge? So if I have a problem, do I look in the academic world or do I go out and look at the business world? .... With IBM having 2,000 odd products and 360,000 people ... I can leverage them ... So I can ask them a question and they can potentially ask 360,000 people ... it's a good knowledge source'. This affirms Robey and Markus' (1998) claim that consultants and the practitioner media rather than academics 'are shaping the way that practitioners think about these important new technologies and applications'. Davenport and Markus' (1999) comment that 'if academia ever led the race to invent new business IT concepts and approaches, we now lag' is also affirmed.

Practitioners in the BA Workshop case view positively academics who have knowledge that is perceived to be useful in professional consulting. Harry refers to his perception of the Author's role in the workshops: 'my own preference is to work with someone who is an academic but who is also consulting in it. Because sometimes academics get a bit remote from what they are doing.'. Nevertheless Jack recognises a need for the academic to have a balanced workload: 'I wouldn't like to see academics being employed with the university just to push them out as consultants to do this type of work. I think there has to be a balance between doing their teaching, their research, and their professional engagement.'

While practitioners identify overlaps between academia and consultancy, the assessment tends to flatter academia. David: 'we've welcomed your outside view. It's almost like consulting, but probably at a higher intellectual level'. Jamie: 'Academia is potentially more wide ranging and the fact is that the consultant wouldn't go and look for something that's outside their scope.' This evidence affirms the stance taken by Davenport and Markus (1999), who urge academics to 'take the best of what they [consultants] do and improve on it.'. The relativities of the roles and consequent influence of consultants and academics is keenly debated in academia, and views are polarised especially with regard to who leads thinking and innovation in the IS field. However, these findings challenge those academics who disparage consultants (see Section 2.2.7).

While there are some overlaps in characteristics, practitioners perceive academics and consultants to have distinct identities in terms of their knowledge strengths and roles. The following comments from David clarify: 'High end consultants are not dissimilar to good academics - intelligent, broad experience and knowledge, analytical, good communicator, etc.', 'technical consultants ... are often not even tertiary qualified, and hence are "miles away" from the skills of a good academic.', and 'I don't think academics should operate at the technical or application level. Their value is at the high-end.' Jamie notes rigour as a positive hallmark of academia: 'When academia takes a disciplined approach to that data... the academic could well be the point of difference in terms of rigour, around the sensational claims for example.' and '...in terms of all your rigour... I understand what you've got to go through and you've introduced the concepts to me and evidence and actual research and things like that...'. This affirms Benbasat and Zmud's (1999) assertion that rigor is what distinguishes academic research from consulting.

While academics may beneficially adopt practices from consulting, it is critical to maintain a clear distinction between research and consulting. Dialogical AR is helpful in this regard (Mårtensson & Lee 2004). Both cases reported in this research reflect the distinguishing characteristics of Dialogical AR compared with consulting (Mårtensson & Lee 2004). Most

importantly, the practitioners and academic worked together actively and collaboratively to solve the real-world practical problems, as well as to develop approaches for productive academic-practitioner interactions. Furthermore, the researcher is appropriately university qualified and trained as prescribed by Mårtensson and Lee (2004). The research was conducted according to Dialogical AR incorporating periods of reflection and learning by both the researcher and practitioners (Mårtensson & Lee 2004). The BAs also attributed academia with a greater understanding of context than consultants and commercial trainers. This provides support for the efficacy of Dialogical AR, which gives special importance/emphasis to the research context (Mårtensson & Lee 2004). Hence the cases provide evidence to support the efficacy of Dialogical AR, and it in turn provides defence against the research being dismissed as 'consulting'.

The BAs note positive characteristics in academics that differentiate them from consultants and commercial trainers. They perceive commercial training to be prescriptive and relatively inflexible compared with their experiences in the workshops (Section 4.4.5). Furthermore, they accord academics a desirable independence which distinguishes them from commercial trainers and consultants who are tied to a product or service (Section 4.4.5). This supports Robey and Markus' (1998) differentiating view of academia as having a 'disinterested posture' and not having vested interests. This study provides evidence to show that this observation is equally true of academics and professional trainers. This might be seen as advantageous for academia. Academics are also attributed a greater understanding of context than consultants and commercial trainers (Section 4.4.5). This again provides support for the efficacy of Dialogical AR, which emphasises the importance of the research context (Mårtensson & Lee 2004). It is interesting to contemplate the implications of these positive attributes with respect to academia participating in the lucrative ICT professional training market.

Notwithstanding these differences, managers consider it appropriate to pay for services by academics in training and educational consulting roles. Jamie: 'Yes, I can see that happening. ... How you actually get that into the organisation is an interesting one. ... Once again, you're back to the business case. ... because you're an academic you get that breadth of experience. How you actually share that experience, whether it's paid or unpaid.... Why shouldn't you share that expertise with a group within a company on a paid basis?' David: 'Oh, absolutely. ... I think organisations are quite happy to pay for that work as long as, as I said, it's very relevant. So whether it be consulting or it could be training even or it could be a particular piece of research then I think organisations would be happy to pay.'

While challenging to resolve, Lee (2000a) sees the process of crossing the boundary between academia and consulting as an issue that must be addressed for the future well-being of the field. This research supports the view that this may be achieved by following the position espoused by Robey and Markus (1998). Academics maintain their differentiating advantages, while simultaneously embracing additional consultant behaviours to improve the practitioner 'consumption' of their research. The research reported here supports that stance and demonstrates how it is possible, together with an indication of the potential benefits.

Academics clearly have the potential to be seen in a positive light when compared with consultants and commercial trainers. The implications are that it offers IS academia the opportunity to extend its influence in leading practice, consulting and commercial training. Furthermore, there is the promise of improved relevance, and a compelling opportunity to address the academic-practitioner disconnect. However, it is important to recognise that encouraging desirable consultant behaviours in academia requires appropriate changes to the academic reward system.

# 6.2.5 A summary comment

In answering this research question, this section has most closely focussed on the call from Hirschheim and Klein (2003): 'As an applied discipline, we need to better understand what each community expects from the other... we need research on how all the various stakeholder groups come to understand IS and how they form their perceptions about the proper role of IS as an academic discipline'. In this case the stakeholder is IS practice.

While many of the practitioners' responses about the academic role may seem somewhat naïve and tenuously founded, their perceptions and viewpoints are an essential element in the understanding of the academic-practitioner relationship. That these findings are grounded in actual experiences of the practitioners in the cases, adds considerable authority to the findings. Their responses do not simply 'theoretically' surmise about what might be likely or possible.

The wider implications for IS practitioners are that:

- IS Academics are out of touch with practitioners and their (practitioners') perceptions.
- IS Academics are more concerned with research than teaching and scholarship.

The wider implications for IS academics are that:

 Practitioners perceive academics as falling into two distinct groups, based on their capacity to relate to practitioners. Hence, only some academics will be suited (or motivated) to interact fruitfully with practitioners.

- Teaching and scholarship is an important means of establishing a better relationship and greater credibility with practice. This assumes courses are relevant to practice.
- Research will only facilitate building the relationship if the issue of research relevance is addressed.
- Academics are seen in a positive light compared to consultants, but they would benefit by adopting the more beneficial behaviours of consultants.

In summary, there is a significant dissonance between IS academia and practice regarding the academic role. Whereas practitioners perceive academics predominantly in terms of their teaching role, academics view their research role as preeminent. Nevertheless, practitioners have positive perceptions of academics as possessing valuable research skills and being subject matter experts with access to useful knowledge repositories.

# 6.3 The IS Practitioner World and Knowledge Concerns

This section focuses on a discussion of the findings and their implications for the related literature regarding Research Question 3: What are IS practitioners' main work and knowledge concerns (as they relate to the relationship with academia)?

Firstly, the practitioners' view of their work world is discussed. This is followed by an examination of issues concerning the dissemination of knowledge to practitioners and their knowledge concerns.

# 6.3.1 The practitioner work world

In developing more functional academic-practitioner relationships it is important to understand practitioners' perception of their own work world. Empirical evidence is drawn from both cases, including researcher reflections.

Practitioners in both cases consistently report that they suffer time shortages in their daily work-lives, especially for activities such as reading and research. Angelina: 'I think working on projects and things that we don't have time to read and search the Internet thoroughly.' On the other hand they consider that academia has more time for these types of activities. Harry: 'we don't have the time, so therefore we are looking for an academic.' Jamie is more explicit: 'there's a perception that you actually have time to do all of these sorts of things.'.

Practitioners' focus is on their immediate workload and business problems. The reason for their 'busyness' is related to the relative roles of academics and practitioners, as explained by Harry: 'we are in a production environment, not an R & D environment so therefore the scope, background knowledge and reading that has to be acquired in an R & D environment for any given job, we don't have the time, so therefore we are looking for an academic...' and Jamie: 'we're head down, tail up, focussed on delivering'.

Furthermore, Angelina and Harry both note that the ever-changing nature of ICT exacerbates the problems of keeping up to date, and results in information overload. Angelina: 'because ICT is such a changing industry and the current trends change all the time. We don't have the time to do research' Harry: 'one looks at the sheer volume of paper and reading that one has to do to take it to something that is actually a viable tool to use'.

Practitioners appear to draw very clear work boundaries, perhaps more so than do academics. These boundaries relate to their work role, as well as their personal lives. Dennis made this clear when discussing his non-attendance at a local (academic) conference to which he had been invited: 'I think, looking at those sorts of things [ACIS], business needs to support their staff in doing those. If business doesn't involve their staff in participating in that then it makes the onus on the staff person to do it in their own time in their own goodwill or nature. So, from a business point of view, we don't probably do that enough and when we start cutting into our personal time that's not work-related. So separating work and personal life is an important part, especially for me, but also if I was to walk around and talk to everyone in my team they would also have the same point of view. So these sorts of things are good but if businesses, if academic people want to talk to business people, maybe the forum should be within the roles. What is the driver for me as a person to do it outside of my job role?'

Interestingly Dennis' comments raise the issue of motivations and rewards for interacting. As with academia, practitioners are not explicitly rewarded for academic-practitioner interactions. This is significant since it is no less important for practitioners than for academics to be encouraged to interact as part of the process to address the disconnect. This fundamental issue is discussed in detail in Section 6.4.4.

These findings provide empirical evidence to support Mårtensson and Lee's (2004) characterisation of praxis as an appropriate role for practitioners in a collaborative research environment. They describe praxis as representing 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 organisation.

Practitioners have their own organisational culture based on the organisational norms, shared experiences, and professional education (Mårtensson & Lee 2004).

### Practitioner reading habits

A related finding is that practitioners tend not to read much. This was noted by the Author in both cases in 'researcher reflections' (Sections 4.5.1 and 5.5.1). Practitioners seem to rely almost exclusively on information that is freely available on the Internet, and are not disposed to read books, even those by well-known practitioner authors. Unlike academics, they are inclined to accept the first reference they find when searching for information. The Author noted that even her most targeted reading suggestions of iconic books by practitioner authors had very little impact.

Practitioners do not consider reading and researching to be a significant part of their role as they are too busy, whereas they do see it as an accepted part of the academic role. David's comments provide some insight: 'In fact, I'd be one of the few people here that even sees the ACS (Australian Computer Society) journal. Most people don't involve themselves. And I think some of that's about, because they are a practitioner they're here for 40 hours a week doing what they're doing, when they get away from here they're not necessarily interested in reading research journals. ...Whereas in academia, reading research journals is part of what you do in your 40 hours.". This affirms Glass' (2001) reporting of commentary on ISWorld 'I never read a journal when I worked in industry, and I honestly don't know anyone who did'.

That practitioners do not have access to, or do not avail themselves of the opportunity to read academic publications is another indicator of the disconnect (Benbasat & Zmud 1999). This has long been lamented in academia, with various suggestions such as publishing in practitioner journals (Davenport & Markus 1999), adding 'reader-friendly executive overviews' (Benbasat & Zmud 1999), writing in an appropriate style, and making the results available via a variety of accessible channels (Robey & Markus 1998). However, there is not consensus within academia, as Lyytinen (1999) argues that we should 'educate our practitioners to appreciate brilliant intellectual efforts!'. These responses by academics are largely driven by their perception of research relevance. However lack of relevance does not account for the case study practitioners' lack of embrace of non-academic works. Hence, the changes proposed by academics may not have the desired effect.

While these findings affirm that practitioners rarely read academic literature, their generally constrained reading habits must be taken into account when addressing the academic-practitioner relationship because of the implications it has for informing academia's response. Any attempt to address the academic-practitioner relationship through the provision of knowledge must take account of practitioner reading habits.

# 6.3.2 Disseminating knowledge to practitioners

The preceding discussion indicates that the dissemination of information to practitioners is a complex matter requiring further consideration. Both cases provide insights into the dissemination of information to practitioners.

Jamie, especially, was given a range of academic research papers by the Author. His comments on their sometimes overwhelming nature and resulting loss of impact are interesting: 'I would say that just as a general theme business practitioners have very short, sharp singular thoughts about things and make them clearly articulated. Academic people can have 50 thoughts within the one paper, all nearly as powerful as that one practitioner thought, and it loses it and you're just hitting them right between the eyes with 50 different things that could be life changing to them. I would say that academic papers should be a lot shorter, sharper, more succinct and right to the point ...That's where academic papers can start to fall down.' This practitioner insight has a very important message that should be heeded by academia.

Dennis notes a preference for knowledge to be disseminated via a range of media: 'I like things simple and easy. I like different mediums for acquiring knowledge - face-to-face, visual, sounds, touch.' Similarly, Darryl prefers active engagement with academics: 'I can guarantee you that most of those papers don't get read by people actually doing the work. But where basically, the real value in a lot of those sorts of things is that academics actually instructively engage with industry, instructively engage in projects a little like you are doing with us now.'

Rynes' et al. (2001) report of empirical evidence of the remarkable impact that face-to-face dissemination can have on knowledge uptake by practitioners provides a potential explanation: 'When we [practitioners] went over the data, it really, really helped to have the researcher interpret the results ... if you just gave that output to people to read, they wouldn't... with interpretation of the data and a summary and then a discussion of the data and its relevance, that's really where it's at. ... Thus, academics who are interested in disseminating research to those who might use it will generally have to find ways to both motivate and enable practitioners to process and use academic findings, even those with direct implications for practice'.

This description of interactive discussion of knowledge between the researcher and practitioners closely mirrors the method employed in the two cases reported here, both of which display positive outcomes, similar to Rynes et al. (2001).

The BA Workshop case especially gives substance to the issue of 'academics who are interested in disseminating research to those who might use it will generally have to find ways

to both motivate and enable practitioners...'. That the workshop approach is effective in this manner may be seen in the following excerpts from workshop participants, highlighting the issue of working collaboratively with an academic to apply academic knowledge to their own situation.

Harry: 'from the workshops I appreciate the fact that everything that we have generated out of there has a sound academic background. If you look at what we have done we can justify everything that is in there based on academic theory and pragmatic experience. I think that it's been a very professional job.' Angelina: 'We developed an excellent exchange of ideas, and as we all were working towards the same goal. We are happy to express ourselves and argue a point'.

Delores: '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... Yes, feeling inspired to aim for best practice and then looking at a practical implementation'.

Jack: 'I think the workshops have been very effective in linking the academic theory with the hands-on day-to-day work.'

While this empirical evidence provides support for Rynes et al. (2001), it also represents an extension into the IS field. These findings also support Hirschheim and Klein's (2003) proposed Knowledge Creation and Transformation Networks which acknowledge the importance of practitioners as knowledge stakeholders. They contribute to the knowledge base through their involvement and feedback.

Knowledge dissemination is a crucial aspect of knowledge management. Any attempts by academia to address the issue must be in collaboration with practitioners.

# 6.3.3 Knowledge characteristics valued by practitioners

Aside from research relevance and knowledge dissemination, it is important to understand the characteristics of knowledge that are valued by practitioners. There was much discussion among the practitioners and reflection by the Author about what are the important aspects of knowledge for practitioners. A summary discussion of the characteristics of academic knowledge most valued by the practitioners in these cases follows.

# Practitioners value knowledge underpinned by applicable academic theory

Perhaps surprisingly, practitioners show high regard for academic theory and knowledge. The BAs showed great interest in understanding how the theoretical and practical elements fit together.

Jack: '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.'

Delores: 'Package Diagrams... that is something that we have taken from a theoretical discussion ... a conceptual thing, ... I have been amazed at the number or the amount of interest that has generated and also how applicable it is to a whole lot of different activities...'.

This finding affirms Rosemann and Vessey's (2005) research results wherein practitioners also responded positively to seeing a new (to them) piece of academic theory for which they could see considerable potential application in their own real-world work environments. It also substantiates the concept of 'knowledge heterogeneity' which explicitly acknowledges the equal status and unique value of the 'different forms that knowledge takes in the world of science and the world of practice' (Mårtensson & Lee 2004). However, it challenges the stereotype academic perception of practitioners as being unappreciative of theory (Hirschheim & Klein 2003).

### Practitioners value knowledge that underpins 'best practice'

The BAs repeatedly referred to academic knowledge as a basis for 'best practice' that increases their confidence regarding the quality of their work, and provides a sense of professional satisfaction.

Delores: 'There is a lot of professional satisfaction knowing that you are looking at best practice based on current thinking.... if you come back to an academic who can back that up ....We are actually looking at something which is a professionally high standard ... giving that confidence to tackle things and be able to defend work and present it in a professional way, I think that is great.'

Angelina: 'The workshops allowed me to focus on how to do the job... with a reference to industry (and academia) current research and best practice...' 'We are not just doing this from our own viewpoint, that it is an industry-accepted standard that we are looking at ...We developed an excellent exchange of ideas, and as we all were working towards the same goal, of producing quality appropriate "best-practice" work.'

Benbasat and Zmud's (1999) claims are relevant here: 'the academic researcher is more concerned with issues of justification (i.e. insuring that what is being discovered and applied is in fact "correct"). While practitioners seem to feign little direct interest in justification, most do recognize that justification allows them, even if indirectly, to better assess whether or not the prescriptions they receive are based on solid foundations'. The empirical evidence above

suggests stronger practitioner interest in justification than was surmised by Benbasat and Zmud, and hence represents a refinement to the literature.

#### Practitioners value knowledge that has professional credibility

Knowledge that has both academic respectability and professional credibility is highly valued by practitioners. Angelina notes the importance of acceptance by professional peers of one of the major workshop artefacts.

Angelina: 'professionally I think we are on the right track... It really proved to me that what we have been doing has had a sound basis that we could put it out there to a number of other professionals from similar backgrounds and have an overall acceptance'.

Jack: '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."

Mumford's (1996) principle of the 'quality of working life', that seeks to encompass opportunities for learning and personal development is relevant to this finding. Mumford claims that this provides an ethical basis for the researcher-practitioner relationship. By facilitating the workshops, the Author (as researcher) has contributed to the BAs' professional development and work-life quality, in a manner reflective of Mumford's proposal.

### Practitioners value knowledge that produces work efficiencies

One of the major impacts that practitioners seek from academic knowledge is improved work efficiencies. The BAs identified this as the top key performance indicator of the impact of the workshops on their work lives. This was a result of the techniques they had learned on which they developed templates and reusable procedures.

Angelina: '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 reused that template three times already... and literally it was a one-hour job to adapt it to something that I think was expected to take me a day... I am able to produce certain things such as Test Strategies in an extremely efficient manner'.

The BAs' manager, Archie, noted the impact on the whole team: Tve seen, for example, Harry do requirements document which includes use case models ... and I see the same things being used by the others as well. So they've obviously developed a skill, they understand it, and apply

it, and doing so quite consistently. So I suppose that's the key thing, namely the rapid ability to deploy it, and, as well, consistency. Because you have trained a group rather than individuals.'

The efficiencies were facilitated by the collaborative nature of the interactions and the BAs' high level of influence over the workshop topics.

Delores: 'We are more equal partners in lots of respects, such that we can say "no, we don't want to learn that today, we want to do this". And that's what makes it more practical I think; a much more rewarding experience.'

Mumford's (1996) principle of 'freedom in work', that provides enrichment of the work experience through opportunities to exert influence, make choices and operate in partnership, is relevant to this finding. The work efficiencies arising from the workshops were generated through the democratic and active participation of those experiencing the research in a manner reflective of Mumford's proposal.

# Practitioners value knowledge that is context-sensitive

Knowledge must be relevant to the context in which the practitioner is working. The context of practitioner's work is what brings greater complexity to it, especially when applying academic theories which often employ simplified examples. Jack describes the importance of applying the academic theories to their real-world projects in the workshops, as it necessitated taking account of the context: 'Probably the most important thing is that we look at it in our context. It's all derived around the peculiarities that we have in our structure and policies and procedures, and we have been able to take those into account. And then when we are looking at examples and working through stuff, we actually look at all projects that we are doing.'

Concern for the context of knowledge is central to Dialogical AR (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. The evidence from the cases supports this. It also affirms the need for a change in emphasis from highly generalised models (usually quantitatively based), to outputs which are more context-specific and provide rich descriptions, such as those produced by qualitative research (Benbasat & Zmud 1999).

#### Practitioners value knowledge that is vocationally 'timely'

Practitioners consider the value of knowledge according to its timeliness. Their focus is on the immediacy of the work in which they are engaged at a particular time. Hence knowledge must be applicable to a work problem they are currently facing. This means that, even if a

topic is applicable to their work area, if they do not consider themselves to have a problem in that area, then they are unlikely to be interested in the knowledge.

The attractiveness of knowledge that can immediately be used in their work environment is noted in the BA Workshop case by Delores: 'I was keen on looking at this presentation rather than going off on formal training, because it would be more on the job and we could work on things that would be relevant to what we are doing at the time.'

In the PM Alliance case, David: 'if a practitioner has a particular business issue that they're trying to solve then they'll go looking for information that might help them solve it. But on the other hand, if we aren't focused on a specific issue, then we would never find that information. So if academia are doing some work on new internet banking security, but if it isn't a particular problem that I was trying to resolve, then I'd never go looking for it, and it'd never be provided to me.'

This evidence affirms Baskerville's (2001) view of the IS field as 'a highly applied field, almost vocational in nature' and Hirschheim and Klein's (2003) observations regarding practitioners' concern for vocational training. However both cases have evidence to counter the criticism of academia's 'inability to solve the day-to-day problems of managers' (Saunders 1998). Interestingly, timeliness was evident in the PM Alliance case, where, during Phase I, the Author's suggestion of a programme approach to PM did not spark any practitioner interest. It was, however, enthusiastically embraced by Jamie and David during Phase II when there was seen to be an immediate need/application.

These cases demonstrate a wide range of desirable qualities of academic knowledge that are valued by practitioners. The BA Workshop case particularly shows how practitioners attribute these qualities to the academic knowledge on which their learning and work artefacts are based. The volume of findings presented in these cases (see Sections 4.5 and 5.5), regarding practitioner knowledge concerns, demonstrates the deep interest that can be fired in practitioners when 'theory' (academic material) is presented in suitable formats and forums.

### 6.3.4 A summary comment

This discussion has identified that the findings from these cases provide significant empirical support to what has previously been largely anecdotal and opinion-based academic literature. In doing so it answers Hirschheim and Klein's (2003) call for empirical evidence of the practitioner world: 'First we cannot make our research more relevant for external interests, unless we understand their ways of thinking and doing... needs to target research on better understanding its external constituencies - who they are, what they want

and what they need (which may not be the same) ... Study our stakeholders' "forms of life" to better understand their "being," i.e., their timeframes, lifeworlds and expectations ...

Hirschheim and Klein (2003) also make a point that should be heeded by all academics interested in this debate: 'By trying to understand how our external stake-holders work and live, we do not unduly cater to them or become dependent on them, but, of course, we cannot understand them unless "they" let us into their forms of life. The latter part of this quote was a consideration when designing the current research, and affirmed the choice of an action-oriented, in-depth interaction. The efficacy of the approach is borne out in a comment from Jamie: 'if you don't have the trust you will get half answers, less answers, pat answers, generics, you know. But if you develop the trust you will get deeper answers, challenging answers, differences, if you know what I mean? ... If you weren't trusted they probably wouldn't even bother.'

The AR cases reported in this thesis led to in-depth engagements trusting relationships with practitioners by working on real-world knowledge problems. Hence the practitioners are reporting on their experiences interacting with an IS academic rather than proffering merely anecdotal opinions about academic research. This has ensured that the research findings are authentic and trustworthy, and consequently provide considerably more compelling empirical evidence.

The wider implications for IS practitioners are that:

- There are great benefits in engaging with academia, most specifically on the issue of being exposed to a wealth of advanced theoretical knowledge.
- Such knowledge may result in greater professionalism and underpin competitive advantage.

The wider implications for academia are that:

- Practitioners see themselves as being relatively more busy than academics, and do not have time to research or read widely.
- Knowledge that will underpin a strong relationship between academia and practice
  must be relevant to practitioners' context and be professionally credible and result
  in organisational efficiencies.
- While academic knowledge is a positive, it will fall to academics to ensure that there
  is wide-ranging reform of IS academic knowledge management processes to suit
  practitioner requirements. This will require significant effort on the part of
  academics.

In summary, knowledge is the 'glue' in the relationship between academics and practitioners, and any response to the disconnect must address practitioner knowledge concerns. It is a positive, albeit somewhat surprising revelation that practitioners attach so much importance to the academic knowledge base. Being able to contribute to practitioners' knowledge and professional pride is a powerful and positive means for academia to address the strained relationship.

# 6.4 The Effectiveness of the Academic-Practitioner Interaction Theoretical Framework (APITF)

This section provides a discussion of the findings and their implications for the related literature regarding Research Question 4: Are the interaction approaches (namely the Academic-Practitioner Workshop and Academic-Practitioner Alliance) based on the APITF effective for addressing the IS academic-practitioner relationship disconnect? If so, in what ways?

Firstly, the effectiveness of the two approaches (Academic-Practitioner Workshop approach and the Academic-Practitioner Alliance approach) is discussed within a context of a summary of the two cases' findings. This discussion addresses the first part of the question.

This is followed by an assessment/analysis of the individual elements of the APITF against the empirical evidence from the two cases. This discussion addresses the second part of the question.

The section concludes with a discussion of the implications of generalising the approaches and the issue of academic rewards.

# 6.4.1 The effectiveness of the Academic-Practitioner Workshop and Academic-Practitioner Alliance approaches

This section discusses the findings that answer the first part of Research Question 4: Are the interaction approaches (namely the Academic-Practitioner Workshop and Academic-Practitioner Alliance) based on the APITF effective for addressing the IS academic-practitioner relationship disconnect?

Evidence is drawn from both the BA Workshop and the PM Alliance cases.

# Are the approaches effective for engendering improved academic-practitioner interactions?

The 'Academic-Practitioner Workshop Approach', as trialled in the BA Workshop case, proved effective for engendering improved academic-practitioner interactions. This was evident early in the interaction and persisted throughout the engagement.

The responses regarding this aspect of the engagement were overwhelmingly positive.

Harry: 'I can't think of anything other than I have enjoyed it. The interaction and the freedom of discussion and the way it's been allowed to take off on tangents as necessary and look back when required.'

Angelina: I'm very happy to interact like that.... I've really enjoyed the freedom to discuss specifics when appropriate, and then be drawn to stay on track. ...it would have taken me ages - we just can't find as much appropriate documentation. ... and I'm really looking forward to actually putting this into practical use.'

Delores: I thought that was really inspiring today! ...feeling inspired to aim for best practice and then looking at a practical implementation... in this group I think it was fantastic!'

These comments provide empirical evidence of how positive interactions can be among an academic and practitioners, and identify the key success factors. These comments typically refer to a good interaction environment for the group (Author and workshop participants) which is characterised by good communication and the provision of good academic information (by the Author). These are key success factors in the success.

The 'Academic-Practitioner Alliance Approach', as trialled in the PM Alliance case, also proved effective for engendering improved academic-practitioner interactions. The responses here range from very positive, to the more cautious as shown in Thomas' response: 'Look, that's a difficult question. Have my view's changed on the potential of Fiona Darroch working [engaging] with Heritage Building Society? Yes, I see that as a positive. Have I gained a rosy view that all academics would be able to contribute to the practicalities of real IT life? For me, the jury is still out on that ... I am not entirely convinced that all academics would be prepared to immerse themselves in the realities of IT life or even have background in the real IT world to approach it with the right sort of attitude. If they could do what you have done then, yes, I would have a more positive view.'

Jamie was much more convinced: 'I think I was over the line even back then, for sure. There's no time I thought this wasn't going to be useful because I'd known your background'. From my point of view it's just another thing that happens in the project life of Heritage. It was never a

question of yes or no. I think it was always going to be yes. From my point of view, the whole thing's good.'

These comments provide empirical evidence of how positive interactions can be among an academic and practitioners, and identify the key success factors. Key elements here are the Authors background (including both practical as well as academic) and the researcher's attitude. These are key success factors in the success.

The evidence supports the claim that these approaches do engender positive academic-practitioner interactions.

# Are the approaches effective for improving the practitioner perception of academia?

The 'Academic-Practitioner Workshop Approach', as trialled in the BA Workshop case, proved at least partially effective for improving the practitioner perception of academia. There is evidence that the workshop interactions improved practitioners' perceptions of academics, and that it would encourage them to seek further interactions:

Jack: 'I would now be more inclined to contact an academic for input as the need arises.'

Delores: 'I will probably be less reticent to seek assistance from academics when the need next arises.'

Angelina: I will be more likely to go looking for appropriate and specialised "tuition" and advice from academia in future.'

Harry's change in perception is limited to the specific experience in the workshops: 'not at this time unless academia embraces the practice.'

While overall positive, some practitioners believe that considerable change in academia is necessary to substantially address the academic-practitioner disconnect.

Angelina comments: 'Yes - I can see that with meaningful relationships and contact between academia and industry, there is a definite benefit to be gained by both sides.'

Delores: 'It was gratifying to see an academic representative being prepared to engage in "real" work'.

Jack: 'I view these workshops as an exception to the rule. Overall I still believe there are great divides between academia and practice.'

Harry: 'not really, there are 'academic' academics and those who are interested in 'real world' outcomes which involves action research'.

The 'Academic-Practitioner Alliance Approach', as trialled in the PM Alliance case, also proved at least partially effective in improving the practitioner perception of academia. In his opening statement of the 'after' interview David took the initiative by affirming that the interaction had positively impacted his perception of academia and the potential value of academic-practitioner interactions. 'Look, as an opening statement ... I think through the process of the engagement my opinions have probably changed a little. Not a little, a reasonable amount in fact. I think, I can't recall exactly what I said back when the process first started, but I was probably a little bit negative about academics participating, or the value they add in a practitioner's workplace. But I think through the engagement which we've had I think that my opinions have changed'

However, Dennis sees little potential value in the relationship.

Dennis: 'Am I doing anything different at the end of the engagement is basically the question. I don't think I'm changing anything based on the engagement.' When asked 'as a result of this engagement, has your perception of what academia's role is changed?', he replied: 'I don't think so.'

These comments provide empirical evidence that, as a result of the interactions, some participants had improved perceptions of academia and the potential value of a closer relationship. The most significant challenge is in a wider generalising of the effect. Nevertheless, the evidence provides partial support for the claim that these approaches can improve the practitioner perception of academic.

### Are the approaches effective for addressing the academic-practitioner disconnect?

The 'Academic-Practitioner Workshop Approach', as trialled in the BA Workshop case, proved effective for addressing the academic-practitioner disconnect. All four workshop participants affirmed the workshops as being effective in addressing the disconnect.

Delores: 'I think the exercise was mutually benefit and increased the respect and understanding of what is the current body of knowledge being taught in the field and what is being practiced and is challenging in current work scenarios.'

Angelina: 'Definitely - I had previously tried to get academic help to "do my job" properly and had been unable to find appropriate courses at USQ. It was encouraging to see how "current", practical and relevant to industry these sessions were.'

Jack: I think the workshops have been very effective in linking the academic theory with the hands-on day-to-day work.'

Again, Harry was cautious: 'Yes, but limited, as this is not a 'general' initiative.'

These comments highlight the important role knowledge plays in the relationship, and consequently its potential for being a powerful tool as part of any approach to address the disconnect.

The 'Academic-Practitioner Alliance Approach', as trialled in the PM Alliance case, also proved effective for addressing the academic-practitioner disconnect.

Jamie sees the alliance as an opportunity to exchange ideas and as a source of potentially useful knowledge: 'I think it would be a 'proving ground' ... a chance to bounce things off people who firstly understand project management ... Secondly, it's great efficiency I think... I know in my heart that I can do things a lot better. But I am too busy doing it. It's that old sharpening the saw thing'.

Thomas provides conditional affirmation: 'Yes, provided the academic has the kind of pragmatic approach that you have and perhaps some background experience, again as you have, that is able to translate and bridge the two fields.'

David was enthusiastic with regard to the impact and prospects of the approach to effectively address the disconnect: 'Oh, look, I think that's been quite evident in the particular project which we've had in place. I think we've welcomed your outside view. And certainly I think that by bringing the academic viewpoint, but also understanding pretty clearly what our practitioner-level problem has been, I think that's been a real benefit.'

These comments provide empirical evidence that these approaches are effective for addressing the disconnect. Once more, the most significant challenge is in generalising the approach. This is discussed in detail in Section 6.4.3.

# 6.4.2 The effectiveness of individual elements of the Academic-Practitioner Theoretical Framework (APITF)

This section focuses on a discussion of the findings as they relate to the theoretical framework literature. In doing so it answers the second part of Research Question 4: *If, so, in what ways?*, This is done by evaluating how individual elements of the APITF influence the success of the BA Workshop and PM Alliance cases in addressing the academic-practitioner disconnect.

This is a very important aspect of the study since the AR cases are essentially a test of the efficacy of the APITF (as detailed in Section 3.2). Grouping indicative evidence from the findings under the major components of the APITF facilitates a more cohesive and complete assessment, hence avoiding the fragmentation that would inevitably result from having references to the framework scattered throughout the section.

# **Boundary Spanning Theory**

Both cases provide evidence of the main elements of boundary spanning theory, as well as demonstrating how it has contributed to addressing the disconnect in the context of each case.

As earlier defined, the term 'Boundary Spanner' is used in this context to characterise a researcher who exhibits a particular combination of attributes, attitudes, and behaviours that might positively influence academic-practitioner interactions (Levina & Vaast 2005; Rynes, Bartunek & Daft 2001; Starkey & Madan 2001). Since many of these have been examined under prior discussion points, only those which have not been evidenced will be fully discussed here. A summary reference is as follows:

- A distinguishing characteristic of boundary spanning researchers is their positive attitude toward practice. This is reminiscent of Harry's 'competent' and Jack's 'realworld' academics as described in the 'two distinct groups of academics' in Section 6.2.1.
- Boundary spanning researchers have high-level oral and written communication skills, and 'listen' to practice. Communications are 'tailored' to the particular practitioner context. Boundary spanning researchers engender trust and respect in their relationships with practitioners as described in Section 6.1.3.
- Boundary spanning researchers possess knowledge that is valued by practice and disseminate it with consideration to the practitioner context as described in Sections 6.2.2, 6.3.2 and 6.3.3.

The combination of the two latter points leads to the boundary spanning researcher establishing credibility with the practitioners. This is crucial to gaining access to meaningful research opportunities in practitioner environments. Overall, this combination enables boundary spanning researchers to develop mutually beneficial relationships with practice.

The Author fulfilled a 'boundary spanner-in-practice' role as described by Levina and Vaast (2005), who note improved outcomes associated with 'self selection'. She fulfilled the criteria through having a dual academic and professional background, following a formal AR approach, and self-selecting into the boundary spanning role. Specifically, this involved the Author becoming a Legitimate Peripheral Participant (LPP) in the practices of both fields and negotiating a relationship with practitioners in the two practitioner research environments. This was, based on her understanding of practices of both fields (cultural capital), spending significant time in the practitioner environments (economic capital), and utilising her networks and reputation (social capital). Consequently the Author was able to

establish her credibility in the two research contexts, and operate as a boundary spanning researcher. The boundary spanning researcher is reminiscent of the group of academics Harry describes as 'competent' and Jack describes as 'real-world'.

In a research context, boundary spanners are researchers who have significant levels of engagement with members of 'out-groups' (practitioners), and who facilitate interactions between the two groups (Richter et al. 2006). Richter et al. (2006) identify the importance of frequent 'out-group' contact, and note boundary spanners' positive impact on intergroup productivity. The Author had regular interactions with the practitioners in each of the cases (see research designs Sections 4.1 and 5.1). The productivity impact is evidenced by Delores' comments on the workshops: '...it's only when you look back at it in a different context like we did this morning when we did the presentation, where we went back through all the different things that we had developed and realised what a great amount of material, theory, and practical skills that we had covered that you realise there is a significant body of knowledge that we have learned and we can now take for granted.'

Boundary spanners tend to be leaders whose characteristics and behaviours create effective interactions between groups, and positively influence the behaviour of other group members. The Author had a leadership role in both cases. This positive influence is evidenced in the BA Workshop case by Harry's comment: 'Well if I go 'new age', it's dividing a room isn't it? Sometimes you can sit with people and not be comfortable. I have found from the word go that the association I have had with this group has been quite comfortable. I have that found the discussion of ideas has been open, it's been candid, and it has also been debated without being personal. ... has been devoid of politics and also of 'agenda' which I thought was very interesting.'

Klein and Rowe (2008) propose boundary spanning 'Professionally Qualified Doctoral Students', who have both a practitioner background and doctoral training, as a means of improving the academic-practitioner relationship: 'their ability to combine their educational learning experiences with insights from day-to-day work experiences to yield practical wisdom and comprehensive know-how. ...they are more likely to be able to understand cultural and professional contexts and so correctly interpret the beliefs and opinions of the study participants'. This is reflected in David's assessment of the Author's interactions in the PM Alliance case: 'I think that that particular approach has been the thing that's probably changed my view about the usefulness af an academic input into a business-related problem. So I think it's extremely important. You've been able to grasp our particular issue and understand it fairly clearly, both from your own academic background but also from your own practitioner background as well. You've understood our problem quite quickly, and I'll say

easily. You've grasped it quite easily and I think then you've been able to apply your academic knowledge to that problem and I think that's been very useful.'

David's comments also evidence the Author's role as a *'boundary spanner-in-practice'* who creates a *'new joint field of practice'* that accommodates the knowledge, interests and practices of two groups (Levina & Vaast 2005). This occurred in both cases where the Author worked collaboratively with practitioners. There were shared interests between the researcher and each group as defined in the 'overlap' in the AR research designs (McKay & Marshall 2001a) (Sections 4.1.4 and 5.1.4).

The new joint field effectively harnesses the best of both groups, and provides a highly functional environment for members of either group. It unites members on the basis of their common interests and pursuits, and distinguishes them from those who remain in the local groups (Levina & Vaast 2005). Harry's comments provide evidence of this: 'all the people here, are here because they wanted to be here, and I think that that has had a good effect on the outcomes.... and were seeking a common outcome for their mutual benefit, and for want of a better word, 'the higher group'. Yes, I think that's very important. It's the attitude that you bring with it.'

An important feature of these cases is that the boundary spanning researcher and practitioners do not spend all of their time in the 'new joint field of practice'. That is, they return to their own groups for the majority of their work time. This is in contrast to what Glass (2006) reports of his experiences in the SEI, where academics and practitioners are semi-permanently co-located. These different arrangements might account for/contribute to the negative experiences he reports: 'I spent a year at the Software Engineering Institute... a strange and somewhat unsuccessful mix of the worlds of industry and academe. ... industry people struggle to be heard at the SEI... Because academic people display so much disdain of industry people that it is difficult for an industry person to gain sufficient respect to help steer what the SEI does.' Glass' experiences serve as a warning that successfully reconfiguring academic-practitioner interactions requires careful consideration. It also underlines the value of this current study's in-depth reporting of the interactions in the cases.

The empirical evidence from both cases supports the efficacy of a boundary spanning approach as a key element of the APITF to address the academic-practitioner disconnect.

#### Dialogical Action Research

Dialogical AR is a major determinant of researcher responsibilities and behaviour in this study. Since most of the key features have been examined under prior discussion points,

only those which have not been evidenced will be fully discussed here. A summary reference is as follows:

- The role of theoria is covered in Section 6.2.2.
- The role of praxis is covered in Section 6.3.1.
- The importance of respectful communications and mutually beneficial relationships between researchers and practitioners in AR environments is covered in Section 6.1.3.
- The importance of context is covered in Section 6.3.3.

Responsibility rests with the researcher to achieve an understanding of the practitioner worldview. This necessitates a lengthy socializing process, or significant immersion in the practitioner world of the organisation being researched (Mårtensson & Lee 2004). It is reflected in Thomas' comments in the PM Alliance case: '... a willingness on the part of the academic to immerse him or herself in the environment that is being targeted to start, and understand it, because coming in with a set of academic theories and then trying to fit the practitioner work into those academic theories is not going to work. So it really starts out with the academic needing to understand what the practitioner's environment is, what the challenges are, and then only when that understanding has been gathered, then start to apply it. I can see some value there.'

The Author's fulfilment of this is evidenced by Thomas' comment: 'I am not entirely convinced that all academics would be prepared to immerse themselves in the realities of IT life or even have background in the real IT world to approach it with the right sort of attitude. If they could do what you [Author] have done then, yes, I would have a more positive view.'

Dialogical AR specifies that each party makes their own judgement concerning the research impact. Practitioners judge how appropriately or effectively results may solve or remedy their real-world problem. The researcher judges the implications of the empirical results for scientific theory. This was implemented in both cases' research designs (Sections 4.1.6, 5.1.6 and 5.1.9) by following McKay and Marshall's (2001a) advice.

The only feature of Dialogical AR not strictly complied with in this study is one-on-one reflective dialogues between the two parties, preferably outside the practitioners' organisational setting. In the BA Workshop case the 'group' focus of the workshops and their structure determined that almost all interactions were as a group, though in an external location. Since group interactions were so positive the Author decided not to alter the arrangement. In the PM Alliance case, while most interactions were one-on-one, many

took place within the organisational setting. This was determined by the nature of the engagement and the organisational culture. Since both cases report excellent communication between the practitioners and researcher, this might serve as a useful refinement of the Dialogical AR approach.

This analysis demonstrates the influence and contribution that Dialogical AR has made to the success of these two cases in addressing the academic-practitioner disconnect.

When discussing AR, it is also important to recognise the potential of these approaches to redress the current imbalance regarding academia influencing practice and contributing to the leadership of the IS field (Davenport & Markus 1999; Fitzgerald 2000; Glass 1996). 'Active' research approaches such as AR still represent a very small proportion of IS research approaches, especially when disregarding experiments using student by reason of their inappropriateness (see Section 2.2.3). 'Passive' research approaches such as surveys and case studies that currently dominate IS research tend to report what practice does, but often do not lead to actions that influence future practice. By contrast, in other applied disciplines such as Engineering, a survey of practitioners is usually followed by a course of action, based upon the analysis of the survey data. The survey process is not seen as an end in itself, but as the basis for proactive change. Hence, active approaches such as AR, provide great opportunities for IS academia to influence practice and address the disconnect from a firm basis of survey data.

# Design Science

Characterising IS as a design science is a key element of the APITF (Section 3.2.3).

The core characteristic of a design science is the development of valid and reliable knowledge that can be used by professionals to design solutions for their field problems. Design sciences are aimed at intervening in particular situations, not just describing and understanding them (van Aken 2005). Both cases reported in this research are 'interventionist' in nature, designed to solve practitioners' real-world problems. This is evidenced in the case research designs (Sections 4.1 and 5.1).

Design knowledge occupies the 'middle ground' between the explanatory, descriptive theory, and the actual application by practitioners. The problem and context faced by the practitioner is always unique. The role of an academic in a design science is to work with a dual focus of the idealised world of textbooks and the ever-changing world of practice (van Aken 2004).

This is reflected in the 'paired' workshops of the BA Workshop case (3.2.3). The first workshop has a theory base (i.e. general knowledge, the academic material provided in the

workshops), and the second a practical implementation (by the practitioners) into one of their real-world problems.

Angelina's comment illuminates: 'I'm very happy to interact like that.... I've really enjoyed the freedom to discuss specifics when appropriate, and then be drawn to stay on track. ...it would have taken me ages - we just can't find as much appropriate documentation. ... and I'm really looking forward to actually putting this into practical use.' It is also noted in a researcher reflection (Section 4.6.6) recorded in the second interview of the BA Workshop case.

Author: 'I am very interested to see how groups can pick up this general theory. There is a lot of work that goes into tailoring it for situations, and that is what you people have done. I've watched you do it and for me that's been personally very rewarding to see that these ideas can be made to work.'

In the design sciences, academic research objectives are of a more pragmatic nature, where the quest is for understanding and improving human performance (van Aken 2005). In the BA Workshop case, this is evidenced in Delores' comment: 'But add the sort of pragmatism that we have added to what we're working on. As a group of people, we're all sitting in the work environment and we can be pragmatic; instead of going off on a tangent and thinking "well in some theoretical organisation this would be a great thing to do". We are actually looking at something which is a professionally high standard, which is applicable to our current work environment in our current projects. To me that's professionally very satisfying.

In the PM Alliance case, David's prescription for researchers also reflects the concept: 'Pragmatic. They've got to be pragmatic about what they're doing with us, and it's got to be relevant to us.'

It is characteristic of design sciences that many academic researchers start their careers as professional practitioners (van Aken 2005). This is reflected in the current study where the Author had a substantial practitioner career prior to seven years employment as an IS academic. Similarly, all five underlying values of design research identified by Trullen and Bartunek (2007) are evidenced in this study. That is, it is collaborative, solution-focused, involves experimentation, context-sensitive and interventionist.

Mutual learning between researchers and the practitioners in research environments is a feature of design science (Plsek, Bibby & Whitby 2007). Evidence of this can be seen in the BA Workshop case. In the case of the practitioner, Delores' comment: 'The ability of the group to draw on academic specialisation in interpreting what was relevant in particular situations was excellent. I think the exercise was mutually beneficial and increased the respect

and understanding of what is the current body of knowledge being taught in the field and what is being practiced and is challenging in current work scenarios.'

It is also evident in the Author's case with the opportunity to 'road-test' academic course content in real world settings, as reported in a researcher reflection recorded at interview (Section 4.6.6): 'for me professionally, the specific benefits that have arisen from the workshops are that I am very concerned as an academic that what I teach and deliver in a classroom are techniques and tools that can be shown to work in the real world. ... rather than having a theoretical practice of them, there's nothing like putting it out there in the field to work on a genuine industry project. So it's given me the opportunity to improve my scholarship... feeds back into my courses...'

Finally, the Plsek et al. (2007) interpretation of design science: 'The process of making the implicit explicit underpins the notion of reflective practice, which is known to deepen learning for all involved, theorist and practitioner alike' is evidenced in the BA Workshop Case (Section 4.6.3).

Delores: 'Thanks to the workshops and being able to regularly take time out to sit back and think about how to approach things, we developed into best practice thinking and cooperative and supportive relationships.'

The empirical evidence of both cases confirms the appropriateness of considering IS as a design science and its usefulness in addressing the disconnect.

#### Mode 2 Knowledge

Mode 2 Knowledge (M2K) contributes to this research context by describing appropriate knowledge concerns for IS academic research where the focus is on improving academic-practitioner interactions. It has a synergistic relationship with design science (van Aken 2004, 2005).

M2K is proposed to be suited to the newer 'professional' disciplines (Nowotny, Scott & Gibbons 2003). This is reflected in a comment from Jamie in the PM Alliance case: 'I think we've been careful to structure it [the alliance] the right way and I think we've also been looking at it as a real working task, so in that sense it's professional.'

A central tenet of M2K is that it aims to solve complex and relevant field problems (Nowotny, Scott & Gibbons 2003).

Thomas' comment affirms: 'It [the 'operational project'] is both complex and relevant, yes. It's complex because it goes to the very heart of the design of our software architecture and our development methodologies and some of those are so fundamental to what we have been

doing and therefore what we need to change in the future that inherently it's very complex. And it's certainly relevant because we recognised, even before you came along, that this was something we needed to address in the medium-term at least in order to see where our development methodology would be in five year's time and ten year's time.'

M2K is created jointly between academics and practitioners in a real-world setting (Starkey & Madan 2001; van Aken 2005). It is generated at the research interface between appropriately skilled and motivated practitioners and academics (Starkey & Madan 2001), and is characterised by intense interactions (van Aken 2005). It values knowledge outside the academic realm, including practitioner knowledge (Nowotny, Scott & Gibbons 2003). M2K is 'crucially concerned with knowledge as it works in practice in the context of application' (Starkey & Madan 2001). This is evidenced in Jack's comment: '...combining the two together, actually looking at the theory and how you apply it. It's been really good... doing it, you don't really think about the theory... So it was really good to have them both in the same context. To actually be able to see how theories are applied with the techniques that you are using. I found it reaffirming that what we are doing is sound professionally and it can stand up to criticism and critique and that we do have a theoretical background.'

Nowotny et al. (2003) state that '...'Mode 2' knowledge is embodied in the expertise of individual researchers and research teams as much as, or possibly more than, it is encoded in conventional research products such as journal articles or patents'. This is evident in both cases where there was significant knowledge exchanges and knowledge development, much of which was embodied in the practitioners and researcher, and used to develop artefacts from the 'operational projects' such as the Programme Management exercise which produced the 'Reengineering Heritage Software Architecture' document.

M2K is focussed on solution-oriented knowledge (van Aken 2005). David considers the PM Alliance case interactions which focussed on a programme approach to the 'Reengineering Heritage Software Architecture' project is evidence of this: 'Yes, I think it has [a solution-focus]. It has helped in some other areas as well. It's helped us not only think about the solution, but about what the problem is as well. So I think that it's provided some broader thought about the scope of the problem and provided a perspective on that as well as on the solution.'

M2K represents a joining of the 'supply side of knowledge' (universities) with the 'demand side' (business) (Starkey & Madan 2001). Effective M2K interaction requires 'a rapid interplay between ... theory and practice, with academics and [practitioners] committed to learning from one another, a virtuous circle of academics learning from [practitioners], codifying information into blueprints for practitioner practice, and managers learning from

academics, developing and applying practically-derived theories' (Starkey & Madan 2001). This was evident in both cases and especially in the BA Workshop case where the BAs specifically sought the supply of knowledge from the Author, and the group collaboratively developed real-world solutions.

Delores: 'The workshop coordinator was able to feed into the group an absolute wealth of current resources directly relevant to our requirements. Without this academic assistance that exercise alone would have been extremely time consuming. The ability of the group to draw on academic specialisation in interpreting what was relevant in particular situations was excellent. I think the exercise was mutually beneficial'.

Both cases' empirical evidence support M2K as an appropriate knowledge focus for approaches aimed at addressing the academic-practitioner disconnect.

This analysis has demonstrated the efficacy of the major elements of the APITF, and supported it with empirical evidence from both cases. The next section will discuss the challenges of generalising the approaches.

# 6.4.3 Generalising the Academic-Practitioner Interaction Theoretical Framework (APITF) approach

One of the critical concerns of this research is the potential for wider generalisation of the APITF. The framework was configured for implementation in two forms, namely the Academic-Practitioner Workshop Approach (BA Workshop case) and the Academic-Practitioner Alliance Approach (PM Alliance case). However, it is important to understand that the main principles are implementation-independent, and therefore suitable for use in many contexts.

The academic-practitioner interactions reported here provide evidence of successfully addressing the relationship disconnect, thereby making it appropriate to discuss generalisation. The issue of generalising this type of research was explored in detail in Section 3.3.3. While there are constraints associated with generalising from only two cases, it can usefully be attempted in the interests of adding value to the research outcomes. Hence the Author follows Keen's (1990) advice to 'always generalize beyond your data. It is important to come up with new and bold hypotheses. It is the only way of getting closer to the truth... Data do not generate theories. It is only researchers who generate theories.' The acknowledged limitations are further discussed in Section 7.2.1.

In keeping with the spirit of this research, the Author discussed the issue of generalising the approach with the practitioners in the PM Alliance case. Their words provide

encouragement that others adopting this approach are likely to be successful in generating productive academic-practitioner interactions in IS research environments.

#### Thomas:

I would just say that the exercise that we've done with you has given me a more positive view of academic research purely because you have been there, done that, understand our world, and have said first and foremost that the relevance has to exist. Long live that sort of approach and if you can infect the rest of academia with that attitude then I look forward to a bit more of a two-way street going forward.'

"... if you are acting, and you see yourself as acting as a catalyst for change, I think that's a positive thing and from that point of view, yes, I do have a more positive view. ... I think what you've done has got the potential to do something there as long as it doesn't get lost in the pile of academic papers that are not considered relevant to the academic world... The question I would ask is "is it relevant to your fellow academics and will they read it in that context and think about their approach?"

#### Jamie:

I didn't really have much of a conception at the start. I think it's now understood that there is value to be had. There haven't been many occasions where we've embraced that academic side and said, this is useful. I think it's a brand new regime we're developing here. I think that there will be more opportunities, because you're doing what you're doing, for other academics to come in. So you're breaking a lot of ground. From my point of view it's just another thing that happens in the project life of Heritage. It was never a question of yes or no. I think it was always going to be yes. ... I think our academic-practitioner arrangement actually is a big contributor to one of our strategic goals which is embracing the town and gown type stuff and all those sorts of things. From my point of view, the whole thing's good.'

This support from the practitioners involved in the PM Alliance case provides significant encouragement for wider generalisation of the approaches. The associated issue of academic rewards is discussed next.

# 6.4.4 The academic reward system

In many of the prior discussion topics it was noted that there are implications for academic workloads, reward systems (promotion and tenure) and even how academia is structured. These are important issues which affect the generalisability of the research findings.

Rewards are a means of achieving the cultural changes required to address the disconnect. The message from the literature is that 'You Get What You Reward' (Gray 2001).

Darryl (Principal Manager in the BA Workshop case) understands the relatively different cultures of practice and academia as it relates to rewards, and the difficulty of achieving

change: '...you are probably going to report this [research], but the more appropriate way for you to report it is in an article in MIS magazine because that will get you ten times the audience that a research paper will. That's just not understood in academic circles...It wouldn't count towards your academic career.' and '...we have the capacity to be flexible because we are like a service organisation. Academia ...is a different sort of club, and it will be infinitely harder to impress and change.' This echoes the literature where Amaravadi (2001) acknowledges that changing the reward mechanism is very difficult to achieve as it is entrenched in the culture and politics of institutions.

Fitzgerald (2001) calls for fundamental, revolutionary change to the system. There are myriad other references in the academic literature, claiming that the current reward system militates against research relevance, and encouraging enhanced academic-practitioner interactions (Applegate & King 1999; Davenport & Markus 1999; Paper 2001) That these academics' claims are made in the belief that such changes are necessary for the long-term survival of the field, indicates the seriousness of the issue (Davenport & Markus 1999). If the persistent calls from noteworthy academics for change are really to be taken seriously then 'what is valued within many academic research institutions must change' (Kavan 1998). For example, Saunders (1998) recommends realigning faculty reward processes in favour of researchers who build industry links.

Hence, the discussion of academic rewards raises some important considerations. Firstly, it is a valid observation by academics who claim that they are not explicitly rewarded for interacting with practitioners, thereby making it a relatively low priority. Secondly, reform of the reward system would not have a blanket impact across academia, nor is it considered desirable. A more realistic/reasonable position is that it would be helpful if academic progression, tenure and reward structures are revised to align more appropriately with career expectations and to provide motivation to those who seek to develop new and productive interactions with practitioners. The challenge is to reduce the mismatch of what is rewarded with the things that we wish to change.

It is important to note that the issue of rewards is not restricted to academia. Practitioners also perceive that interactions should be rewarded. It was raised in the PM Alliance case by Dennis: 'I think, looking at those sorts of things [academic-practitioner interactions], business needs to support their staff in doing those. If business doesn't involve their staff in participating in that then it makes the onus on the staff person to do it in their own time in their own goodwill or nature... So separating work and personal life is an important part, especially for me, but also if I was to walk around and talk to everyone in my team they would also have the same point of view. So these sorts of things are good but if businesses, if

academic people want to talk to business people, maybe the forum should be within the roles. What is the driver for me as a person to do it outside of my job role?'

Both Gray (2001) and Saunders (1998) propose that academia hire and reward people with significant practitioner experience and train practitioners to obtain PhDs. Saunders (1998) also cautions that change to the reward system is beyond the individual, and requires 'a concerted effort of the academy'. It is now a decade since she stated that 'now may be the time for change' (Saunders 1998).

When conducting these cases the Author specifically considered the workload implications in terms of generalisation (Sections 4.7.2 and 5.6.6).

The BA Workshop case workload was roughly equivalent to the face-to-face teaching component (lectures and tutorials, excluding the assessment, consultation and course leadership duties) of a semester-long course. Phase II of the PM Alliance case was explicitly planned as a research project that could be comfortably conducted within a one year allocation, assuming a normal academic workload and an experienced academic (based on the Author's seven years experience as a fulltime academic with the typical one third research allocation). The Author spent one day per week at the organisation for a period of four months, which covered all activities with the practitioners and data collection. The year-long period allows for a literature review, planning and conducting the research, as well as writing it up for academic publication (at least one conference and one journal paper, normally regarded as satisfactory productivity).

Leaving aside the issue of explicit rewards being built into both the academic and practitioner systems, it is appropriate to consider individuals' motivations and mutual benefit. Both cases reported here provide empirical evidence of how attractive such research can be to practitioners. Hence a researcher may attract the interest of practitioners by making explicit the potential gains of such interactions.

Equally, researchers like the Author might be motivated by the opportunity to research a particular topic in a manner they desire. Carefully planned, this should result in quality, relevant research outputs suitable for publishing in high quality journals. The Author's experiences are that there are many positives for academics. These include 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 (Darroch & Toleman 2007). It is hoped that these cases will ignite interest among other researchers. However it is recognised that the conduct of this type of research might only

appeal to that subset of academics who see 'boundary spanning' as an activity suited to their temperaments and talents.

This consideration does not in any way reduce the imperative for academic reward reform, as it is clear that such moves would underpin and accelerate positive change. It is simply a pragmatic acceptance that that progress will likely be slow and difficult. It is also motivated by a desire to proactively address the problem and avoid it becoming a hostage of the academic reward system reform. By unlinking the issues of academic rewards and individuals' motivations, empowers individuals to deal with the situation independently, and thereby provides improved prospects for some remediation of the situation.

It is important at this point to consider Gill and Bhattacherjee's (2009) comments: '... if we wish to successfully inform practice, we must engage with practice.' '...explore alternative approaches for building bridges with practice... research collaborations with practice, technology training with practice...'. They recommend that IS academia 'begin to think creatively about ways to encourage faculty to participate in practice' (Gill & Bhattacherjee 2009). This research provides substance to Gill and Bhattacherjee's intent. The Author has attempted to 'explore alternative approaches' and to 'think creatively' about ways to engage with practitioners, and then to make those findings available to encourage others.

# 6.4.5 A summary comment

In answering this research question, the Author has given deep consideration to comments from Hirschheim and Klein (2003): 'Unless the academic leaders of the field begin to address these structural threats, they will eventually undermine the viability of the field.... The main body of this paper has been built around the idea that there exist significant communication gaps in the field - both internally and externally - and that these gaps are a serious concern for the future of the field. More pointedly, if we do not address these gaps - and address them soon - we may not have any field to worry about in the future.' While much of the APITF might be intuitively obvious, it is important to have empirical evidence to demonstrate its efficacy to address the academic-practitioner disconnect.

The wider implications for IS practitioners are that:

- In research contexts such as those reported in this thesis, the outcome is a win-win situation for practice (as well as academia).
- Like academics, practitioners are similarly conscious of a lack of rewards for interacting with academia.

The wider implications for IS academics are that:

- It is the boundary spanning element of academia that is most likely to be able to address the academic-practitioner disconnect. However, this should represent only a portion of IS academia, with the balance being of a more traditional academic style.
- Significant change is required in reward systems such that both boundary spanning and non-boundary spanning IS academics are appropriately rewarded. Without such changes, the wellbeing of IS academia is likely to continue to decline.
- Recognition of boundary spanning academics will likely act as a potent reward. If boundary spanning activities are encouraged within academia, then it is likely to be a case of 'success breeding success'.

In summary, the discussion of this research question highlights the success of the APITF as a basis for facilitating highly functional academic-practitioner relationships. It also considers the crucial issue of generalising the results, and argues in favour of the promising possibilities. An overarching concern is to incorporate these new directions into the roles of boundary spanners in both academia and practice in a manner that does not overwhelm their main professional roles. Recognising and rewarding boundary spanning behaviour via the 'service' element in both academia and practice might be a useful means of encouraging such behaviour. This research demonstrates that opportunities exist for individual researchers to operate in ways that are mutually beneficial with practitioners, and that address the disconnect. However, significant beneficial impact will only come with reform of academic reward systems that encourages and institutionalises such behaviours.

# 6.5 A Closing Comment

This discussion has confirmed that there are significant long-standing problems in the relationship between IS academia and IS practice, detrimental to both parties. Nevertheless, practitioners are enthusiastic about establishing a more two-way relationship built on trust and respect, and characterised by good communication. They distinguish a subset of academics with whom they feel they can comfortably and productively interact. Boundary spanning academics' distinguishing characteristics are principally their attitudes and communication styles.

Despite concerns about academic programs and research relevance, practitioners have a surprisingly positive view of several key academic characteristics, especially their knowledge and research skills. It is crucial that academia exploit these powerful tools for their capacity to address the disconnect. Practitioners perceive that certain consultant behaviours are beneficial to academics, but overall they accord a relatively flattering picture of academics compared with consultants.

Somewhat naïvely, practitioners perceive themselves to have more pressured work-lives than do academics. Knowledge is the 'glue' in the academic-practitioner relationship, and knowledge management problems have been a long-term indicator of the disconnect. This study provides deep insights into the characteristics of knowledge valued by practitioners. These insights, along with practitioner reading habits and dissemination preferences, must be addressed as part of any remediating actions.

Most importantly this discussion provides promising insights into how the two cases demonstrate the disconnect may be addressed. The efficacy of the underlying APITF is examined in detail. While the results are very positive, this approach is not claimed to be a panacea, given the intractable and complex nature of the problem.

The wider implications for academia are that with this empirically based understanding of the practitioner perspective they can now respond to practice in an informed manner and with great prospects for addressing the academic-practitioner disconnect by implementing approaches based on the APITF. This provides academia with an excellent opportunity to negotiate a more realistic ongoing relationship.

Other implications for academia and practice are that 'boundary spanning' academics must be encouraged to interact with interested practitioners. Necessary enabling actions include the removal of institutional barriers and appropriately revised reward systems, which apply to universities as well as businesses. Publication of this research in both academic and practitioner forums would make both sides aware of the possibilities and benefits of such interactions, as well as providing a clear roadmap to follow. However it is noted that some concomitant changes in editorial policies of academic journals may be necessary since, at present, many journals only value highly theoretically oriented papers.

The concluding chapter of the thesis follows.

# CHAPTER 7 CONCLUSIONS

This final chapter commences with a brief overall summary of the research and presents the major conclusions. Limitations of the research are described, followed by an examination of the contributions to the body of knowledge. Finally, some potential future research directions are explored.

# 7.1 Summary and Conclusions

This section provides a brief summary of the thesis and presents the major conclusions that arise from this study.

# 7.1.1 Thesis summary

In Chapter 1, the research problem was established as the IS academic-practitioner relationship disconnect. The study was principally inspired by the work of Hirschheim and Klein (2003) who authored a major paper warning of an impending crisis in the field of IS, arising from 'disconnects' within the IS field. They identified poor communication with stakeholders (chiefly IS practitioners) as the root cause of the problem, and called for empirical research into the relationship and the practitioner perspective. These concerns were reiterated in a later paper (Klein, HK & Hirschheim 2006). As a result, two research objectives were formed which focus on exploring the practitioner perspective and trialling an approach to address the disconnect. Four research questions were framed to explore the research topic and address the research objectives.

Chapter 2 provided a broad review of the relevant literature and a context for the research problem. It framed the academic-practitioner disconnect as a recurrent underlying theme in the long-running debates about the major challenges confronting the IS field. Addressing the academic-practitioner disconnect was seen to be a precursor to resolving many of the field's other challenges, especially the perennial problem of academic research relevance. A brief review of literature from other fields experiencing a similar academic-practitioner disconnect affirmed that the problem was also being experienced by other newly-established, applied disciplines.

An in-depth analysis of several key-direction setting papers which provided the major influences that shape this study then followed. This chapter also highlighted the serious implications of the academic-practitioner disconnect for the future viability and wellbeing of IS academia. Several indicators of the current state of the field were identified. The

literature review established that, while there has been extensive debate by influential scholars in all the major forums of IS academia, the problem remained largely unaddressed and in need of urgent remedial action.

Chapter 3 detailed the research design and methodology. The APITF was described as the basis for the two AR cases. The elements of the APITF are a synergistic blend of theories, drawn from the IS and Management literature for their promise of underpinning highly functional academic-practitioner interactions, and addressing the disconnect.

The selected research paradigm blend of interpretivism and pragmatism was described and justified as being appropriate for the research problem and approach. The AR method was explained and justified, along with the interview methodology, which together make up the main research approaches. Two approaches, the Academic-Practitioner Workshop approach and the Academic-Practitioner Alliance approach, formulated on the APITF, were trialled in AR cases (the BA Workshop case and the PM Alliance case). Data sources and data analysis techniques were described. Finally, a research rigour and quality framework was presented.

Chapters 4 and 5 provided detailed case designs for each of the two AR cases. The findings from each of the cases were also presented. The findings were mainly constituted from quotations from a series of in-depth, semi-structured interviews with participating practitioners, along with the Author's researcher reflections.

The main/summary findings are as follows. The academic-practitioner relationship suffers a disconnect which negatively impacts both parties. Hirschheim and Klein's (2003) assertion that communication disconnects are the heart of the problem was confirmed. Interestingly, practitioners perceive value in establishing a more functional relationship, and are keen to participate. They desire a more 'two-way' relationship and identify a subset of 'practitioner-friendly'/boundary-spanning academics whom they feel are best suited to productive academic-practitioner interactions. This distinction is based mainly on the attitudes and communication styles of the academics. A practitioner background, while helpful, is not essential. Their views on the academic role while somewhat contentious are enlightening, and identified several positive perceptions of academics' research skills and knowledge bases. The findings provided a rich understanding of what practitioners value in knowledge, and affirmed it as the 'glue' in the relationship. Overall the findings from both cases demonstrated the efficacy of the APITF as a basis for addressing the academic-practitioner disconnect.

In Chapter 6 the major findings were discussed in the context of the literature, and their implications for addressing the academic-practitioner disconnect were considered. The

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discussion highlighted that there are significant positives in practitioners' perceptions of academia, especially academic research skills and knowledge bases. The issue of knowledge dissemination was also identified as a key area for consideration in any attempt to improve the flow of academic knowledge to practice. The issue of generalising the results is considered. The constraining influence of the current academic reward and tenure systems was also discussed.

### 7.1.2 Thesis conclusions

The research program has elicited a deep understanding of the practitioner perspective of the academic role as well as the practitioner world and practitioner knowledge needs. Using AR, it has demonstrated the efficacy of two approaches to address the relationship disconnect.

There are several key conclusions:

- 1. The academic-practitioner disconnect is damaging to both sides of the relationship, but especially so to academia.
- 2. The research findings from the two cases presented here demonstrate that the disconnect can be addressed.
- 3. Any attempt to address the disconnect must take account of practitioners' knowledge needs and preferences for dissemination.
- 4. The two approaches based on boundary spanning as a major component of the APITF have been trialled in this research and are amenable to generalisation for wider implementation.
- 5. The major impetus for initiating better relations is likely to rest with academia.
- 6. An essential component of any reforms within academia is the provision of career incentives and institutional support for boundary spanning academics. This may be viewed as a valid addition to contemporary academic reward systems, properly retaining recognition of 'traditional' academic objectives while giving legitimacy to actions that facilitate productive relationships with practice.

The severity of the problems identified in the literature review, and endemic in this researcher's findings, has prompted many such as Hirschheim and Klein (2003) to warn of an impending crisis and Fitzgerald (2001) and Keen (1990) to argue for radical reform in key aspects of the IS field. The significant level of change required represents a paradigm shift for the field. Until the relationship disconnect between IS academics and practitioners

is addressed, this field will not only fail to achieve its full natural potential, but faces the very real risk of its academic side disappearing. A healthy relationship will only emerge with a concerted effort by both parties. However it seems likely that responsibility for initiating fundamental change will rest with academia, albeit liaising closely with key practitioners.

It bears emphasis that the need for reform is unavoidable. Those reforms must occur at management levels across the IS field, in the practitioner areas as well as 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 sides of the field. This will be achieved through the recognition that academics and practitioners, working and researching together, possess skills that are mutually beneficial, and bring invaluable insights into the timely resolution of real-world problems.

# 7.2 Limitations of the Research

As with all research, this study has limitations. These limitations are interrelated and inherent in the AR method and the interpretive research paradigm. They relate to the rigour and quality of the research, which is considered in detail in Section 3.8. The McKay and Marshall (2000a) research quality and rigour framework is adopted for this study. A completed framework appears in Table 1 in Section 3.8.1, providing cross references to relevant areas of this thesis on all aspects of research rigour and quality.

The research quality framework is based on Guba and Lincoln's (1989; 1985) four 'trustworthiness criteria' that are widely used to assess the rigour of interpretivistic research. These criteria are, with positivist equivalents in parentheses, credibility (internal validity), transferability (external validity or generalisability), dependability (reliability), and confirmability (objectivity) (McKay & Marshall 2000a).

A discussion of the main limitations follows.

# 7.2.1 Generalising from two cases

One of the challenging limitations of this research is the generalisation of the findings for other situations and environments. As discussed in Section 3.3.3, the advice of Keen (1990) and Walsham (1995) was followed to address as far as possible the challenges of

generalising from intensive, interpretive research. The matter was also discussed in Section 6.4.3.

The wider research findings presented here are generated from only two cases which directly involve only ten practitioners and a single researching academic (the Author). This is a largely unavoidable characteristic of AR, as it is an intensive, time-consuming research approach. As described in Section 3.4.3, the compensating aspect is the in-depth nature of the findings. It is the Author's opinion that the detailed description of the research design and the in-depth findings give sufficient detail for others to judge the potential for generalising to other situations. Further empirical studies would aid in this matter.

This study follows Lincoln and Guba's (1985) proposal of using 'thick' descriptions to address the 'transferability' criterion. These are evidenced in each of the two case study chapters 4 and 5.

# 7.2.2 Subjectivity of interpretive action research

The inherently subjective nature of AR, especially in this case where the researcher (Author) was an integral part of the research environment, is another limitation.

It is acknowledged that the researcher has a significant influence on the research environment and the research findings (Marshall, Kelder & Perry 2005; Myers 2004). As Walsham (1995) states, the role of the interpretivist researcher is to attempt 'the difficult task of accessing other people's interpretations, filtering them through their own conceptual apparatus, and feeding a versions of events back to others...'. In the interests of rigour and research quality, Walsham's (1995) guidelines on what should be reported in an interpretivist study, including reasons for site selection and details of data collection and analysis, have been rigorously followed in this research.

This study follows Lincoln and Guba's (1985) proposal of providing an auditable description of the research process, and maintaining a reflexive research journal to address the 'confirmability' criterion. These are evidenced in each of the two case study Chapters 4 and 5, and Section 3.5.4.

### 7.2.3 Measurement challenges of qualitative evidence

Measuring the outcomes or impacts of qualitative research is inherently difficult.

This is mainly because the empirical evidence is text based, and lends itself less to precise measurement than would quantitative research. Hence in this research, where the 'effectiveness' of the approaches is being assessed, it is not possible to reduce the outcomes

from each case to comparable scores. The practitioner participants are asked their opinions on a wide array of topics, and their responses are in their own words rather than being selected from prescribed categories. Therefore, the judgment of effectiveness rests on the selection of supporting evidence and interpretation by the researcher; it is a challenge inevitably present in this research methodology. In recognising these challenges, the Author has adopted the McKay and Marshall (1999) research quality and rigour framework. It is the most explicit framework available for IS AR (Section 3.8) and is highly relevant to the issue of the subjective nature of the research discussed above.

#### 7.2.4 Case selection

The rationale for case selection was described in Section 3.1.3. While it is justified there as appropriate for effectively studying the research problem on the grounds of the participating practitioners having some experience interacting with academics, the Author understands that some may view the cases as being unrepresentative. However, as described in Section 3.1.3, the wide range of practitioner participants and the 'typical' ICT case study environments beneficially impact overall research outcomes with regard to generalisation.

#### 7.3 Contributions

Desouza et al. (2006) provide a useful basis on which to judge the contribution and significance of IS research. They suggest research makes a significant contribution when it 'advances our theoretical, conceptual, and practical understanding of the critical issues and phenomena around the IS field. The more the research makes an impact and critical difference to the stakeholders and the domain it serves, the greater the significance'. This study has produced outcomes that represent a unique contribution to knowledge, details of which follow.

# 7.3.1 Contribution to the IS body of knowledge (theory)

There are several areas of IS theory to which this research contributes.

# Empirical evidence of the practitioner perspective of the academic-practitioner relationship

The two AR cases empirically examine the key characteristics of effective academic-practitioner relationships. Although there is extensive literature on the academic-practitioner disconnect, it lacks empirical support, especially from the practitioner perspective. There has been explicit encouragement from both sides of the field for more empirical research, and this study answers those calls. On the academic side, Hirschheim

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and Klein (2003) call for 'increasing the amount of research directed at understanding IS practitioners'. On the practitioner side, Heather Ridout (CEO, Australian Industry Group) calls for closer collaboration between universities and industries, citing the need to honour the billion-dollar societal investment in research (Macnamara & Armitage 2006). Recent comment by Hirschheim (2008) re-iterating his concerns regarding 'communication deficits' demonstrates that the problem remains unaddressed.

#### Structured literature review

Although there is extensive literature on the topic, it lacks synthesis. The more complete, structured literature (presented in Chapter 2) review provides a useful basis on which to take the issue forward. In so doing, it contributes to addressing the lack of 'a cumulative research tradition' (Benbasat & Zmud 1999). Webster and Watson (2002) lament the lack of published reviews stating that 'the progress of our field is impeded'. The establishment of MISQ Review, as a review arm of the top IS journal, to 'conceptualize research areas and survey and synthesize prior research', further affirms the potential contribution (Watson, RT 2001).

### Theoretical framework of the IS academic-practitioner relationship

Another contribution lies in addressing the lack of a published theoretical framework focussed on the academic-practitioner relationship. In a series of editorials for MISQ, Weber (2003b, 2003c, 2003d) bemoans the continuing lack of theoretical development within the field. Lee (2001) states that 'MIS scholars should be focusing more on the development of better conceptual frameworks. Thus, we suggest that an ideal article would critically review the past literature in the area ... and develop a model and propositions to guide future research'. The adopted Academic-Practitioner Interaction Theoretical Framework (with its emphasis on Boundary Spanning), takes up Lee's challenge and the current study, demonstrates the value of its contribution.

#### 7.3.2 Contribution to research method

Despite encouragement from prominent IS academics, such as Baskerville and Myers (2004), especially as a means of improving research relevance, AR is still not commonplace within the field, and there are few published exemplars of quality. This study contributes by adding two cases to the limited stock of AR exemplars in IS. It might also encourage wider adoption of AR among PhD candidates, where it has traditionally been viewed as difficult and risky (Rupino da Cunha 2006).

Through actively implementing the APITF via AR, this study has met the challenge of transitioning from debate about the academic-practitioner disconnect into action. In doing

so it has demonstrated how highly functional relationships between academics and practitioners can be achieved. Therefore, this study has answered a further challenge from Lee (2001), as departing editor-in-chief of MISQ, to aspiring authors to produce 'interesting work', which he described as that which 'casts new light on familiar intellectual puzzles that have not been resolved by prior research'. He encourages 'unconventional departures from accepted wisdom' and comments that 'researchers must develop their insights by ... working with a few companies'.

# 7.3.3 Contribution to scholarship

Many prominent IS academics have raised the issue of the relationship between research and scholarship. When discussing the IS researchers' responsibility to produce research that 'reverberates', Galliers (2006) poses the question 'does our research impact our teaching?'. As described in Sections 4.1.4 and 5.1.4, the Author acknowledges the opportunities the cases provide for scholarship enrichment.

The 'operational projects', being aligned with the Author's teaching areas provided invaluable opportunities for testing the effectiveness in industry settings of some of the BA and PM techniques taught in the course content of IS degree programs. Hence, there is a direct, beneficial link to student outcomes. Students as future practitioners, reinforce the value of practitioner-informed scholarship. Furthermore, this study's findings highlight the importance that practitioners place on the scholarship role to the academic-practitioner relationship.

# 7.3.4 Contribution to IS practice

Contribution to practice is central to the objectives of this research. The use of AR as a research method ensures that there is a contribution to practice, where the effective addressing of 'real-world' problems is one of the core concerns (as described in the Section 3.4). Both AR cases addressed the IS relationship disconnect; and in doing so contribute to resolving the 'real world' problems being experienced by practitioners. In the BA Workshop case, this is by way of assistance with developing the BAs' professional skills. In the PM Alliance case, it is in the form of enhancing the organisational effectiveness of the project management role.

Significance to IS practice has been defined as where 'IS research can help businesses function better, and businesses can in turn help transform societies, then that is research that really matters. The more the research makes an impact and critical difference to the stakeholders and the domain it serves, the greater the significance' (Desouza et al. 2006).

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In the BA Workshop case the workshops demonstrably improved the professional skills of the participants, thereby enabling them to perform more effectively in their jobs. Similarly, in the PM Alliance case, the exchange of ideas on project management via the alliance made a positive contribution to organisational performance.

# 7.3.5 A summary comment

Overall, the contribution of this study is that it provides a much-needed academic foundation, via the structured literature review and theoretical framework. The two AR cases provide empirical evidence to support the effectiveness of the approaches, and therefore transition from debate into action to address the academic-practitioner disconnect. In doing so, this study contributes to both sides of the IS field.

The Author's personal motivation for addressing this topic, and in this particular manner, is reminiscent of Desouza (2006), who believes that it is necessary to challenge the concepts of traditional IS research in order to move the field ahead. The value of this research and its significance should be judged on the basis of Hirschheim and Klein's (2003) reflection that the disconnect between academia and practice contributes to a 'credibility crisis for IS as a whole that engulfs both academia and practice'.

## 7.4 Future Directions

This study provides a promising basis for further research.

An important and logical next step is to explore the academic-practitioner relationship in more depth. The practitioner perspective having now been empirically investigated indepth provides an ideal base for exploring the academic perspective. While the academic viewpoint constitutes the bulk of the current body of literature, it too would benefit from a more empirical base, and a broader and deeper analysis. The current body of literature is somewhat constrained as it largely represents the viewpoints of only the most high profile IS scholars, typically senior editors of top-tier journals.

Further research has the potential to answer the call from Hirschheim and Klein (2003) to engage practitioners 'in a discourse about a realistic set of expectations for what the IS academic research community can and cannot deliver.' It would provide an appropriately informed base from which those so empowered (more senior academics such as deans and above) could negotiate a workable, long-term relationship between IS academics and IS practitioners.

Another key area for further research is to explore the issues of knowledge management as they relate to the provision and dissemination of research to IS practice. The current study Chapter 7 Conclusions

has identified the need for this and provides some useful findings as a starting point. However a study which focuses solely on this issue, conducted as a live field experiment (AR) in collaboration with practitioners would facilitate similarly effective research outcomes. A complementary research opportunity exists to conduct an AR study with practitioners focussed on research relevance.

A further area of potential research is in refinement of the APITF. This might include finetuning of the two approaches used in the present study, or the development of additional case studies. Another potential research direction is the conduct of studies focussed on individual elements of the APITF such as M2K in order better to understand its impact on research relevance. Finally, it would be useful to explore the impacts of research approaches (such as the Workshop and Alliance approaches) on scholarship and teaching

# 7.5 A Concluding Reflection

Keen's (1990) quoting of Boland is an appropriately optimistic closing reflection on this doctoral research since it captures the essence of what this Author's research offers to the IS community:

I do not argue that [this approach] supplants all other [approaches], or that it should silence all others. I argue only that it opens up an interesting and potentially valuable way of talking about information systems and talking about them differently opens up the possibility of making them and ourselves differently'.

Successful practitioners have an intuitive understanding of what is valuable in their professional lives. They rarely 'cross-reference' their intuitive understanding in the manner that is 'natural' for academics. Rather, they perceive the importance of 'insight' and the encapsulation of complex issues in 'black and white' (necessary) simplifications. This provides an enormous communications challenge worthy of serious attention by academics. It is fundamental to the understanding and resolution of the 'rigour versus relevance' dilemma at the very centre of the academic-practitioner disconnect.

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# Appendix A: Sample Interview Plan

Interview-purpose/project-stage:					
Ena-c	f-phase/'After' Interviews - Phase II Heritage Act	ion Research Project			
Interv	riewer	Fiona Darroch			
Dates	i	Proposed for Late Nov/Ear	ly Dec 2008		
Interviewee(s)		Individual interviews with managers from the ICT division of Heritage Building Society: David Singer, Jamie Star, Thomas Jones and Dennis Appleton (all interviewed at the start of this phase)			
Trans	crîbed by				
Trans	cription style				
Venu	е	Heritage Building Society			
Valida	ation				
Inter	view Type	semi-structured	, , , , , , , , , , , , , , , , , , , ,		
Interv	viewer comments/notes about this interview:				
Intro	duction to interview:				
Good	day, Fiona Darroch speaking with [interviewee na	me] on [date], at Heritage Bu	uilding Society. Thank you		
for ag	for agreeing to this recorded interview, which forms part of the research data for my PhD candidature at the University of Tasmania.				
	Officerally of Tasmania.				
	This interview will cover issues of research relevance and the academic-practitioner relationship from many				
angles, with a focus on your perceptions. So please be very frank in your responses, and feel free to add any extra comments or points you think should be raised, as that will improve the impact of the research.					
Do you have any questions prior to starting the interview?					
No	Question		Comments/Notes?		
			research question answered		
	I mentioned in the earlier interview that my appropriately Design Science, which has the following charactery ou to comment on with reference to this engage	ristics which I would like			

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Do you see them as being important to the IS/IT field as a whole?		
Do you think more engagements such as this would be beneficial to the professional practitioner wing of the IS field?		
How do see such interactions might contribute to the academic wing of the discipline?		
Could it help to bridge the relationship divide?		
How/Why?		
Has your view of IS academia changed as a result of this engagement? If so, how?		
Practitioners appear to have a view of the academic role principally as being educators of graduates for employment in industry. Has your view of the role broadened to appreciate the research role as well?		
Do you consider that academics should have a 'service' component in their role?		
What if any link do you see in those three roles of academia (i.e. teaching, research and service).		
Has your view of the IS practitioner role in the academic-practitioner relationship changed as a result of this engagement? If so, how?		
What were the positives for you as a professional practitioner in this engagement?		
What do you see as the positives for the academic wing in this engagement?		
What could have been better? i.e. if we had our time over again, what would you change?		
How important was the non-trivial nature of the engagement to its success?		
Does this experience encourage you to engage in more of this sort of academic-practitioner engagement?		
If so, what if anything would you do to encourage/foster them?		
What do you see as the potential benefits for industry in forming close research partnerships with academics?		
What do you see as the potential benefits for academics in forming close research partnerships with academics?		
In what ways has this experience broken down some of the barriers to industry having closer interactions with academics?		
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Are there specific qualities/characteristics that you consider to be desirable	V+V-1.
or essential in academics wanting close interaction with industry	
partnerships?	
par trierships r	
Some questions around IS Academic Research Relevance	
In the last interview I asked you some key questions (from Benbasat	
and Zmud), which largely elicited a 'no' response. Based on your	
experience and the outputs of this engagement, I'd like to re-ask them.	
Does IS research produce the knowledge that today's IS	
professionals can apply in their daily work?	
Does it address the problems or challenges that are of concern to IS professionals?	
3. Does it focus on current technological and business issues?	
4. Are IS research articles accessible to professionals? (if you consider	
that I brought academic research into the environment). Can you think	
of other ways of achieving knowledge dissemination (making IS	
research accessible) other than the way I did?	
Is there a 'knowledge broker' role for academics to overcome this	
problem?	
Viewing knowledge as a food chain i.e. production, transformation and	
dissemination, where do you see problems?	
What can academics do to make it more effective?	
What can practitioners do make it more effective?	
What comments do you have on the efficacy of the sort of research	
outputs that were produced in this engagement (i.e. the programme	
approach as well as the specific ICT reengineering programme	
exemplar) in terms of their applicability to practice?	
How could they be made useful to other practitioner organizations?	
is there also a form of organization learning that goes beyond those	
specific outputs?	
Do you think it changes the people concerned?	
Do you have any further comments to make?	
Thank you very much for your time and contribution.	

#### Appendix B: Sample Preliminary and Thematic Data Analysis of an Interview

Interviewer: Fiona Darroch

David Singer (General Manager Technology and Payment Systems) Interviewees:

Date: 18 August 2008

Heritage Building Society Venue:

Interview purpose/project stage: Start Phase II interview

Transcribed by:

СВ

Transcription style:

literal, no laughs etc.

Validated by

Fiona Darroch

### Comments/notes about this interview from Fiona:

- Kick-off Phase II interview
- David is the most senior manager associated with this project. He is Jamie's and Thomas' manager.
- This interview tells me a lot about a senior ICT manager's view of academia, and pleasantly surprising positive attitude toward my research.

Speaker	Transcription	Comments/Notes? Research Question Reflections
Fiona	Just as part of my due process of making sure I do this appropriately, I just want to assure you that this forms part of my research, as I mentioned, I need it recorded for my PhD candidature as UTAS. I'm focused on the academic / practitioner relationship divide as well as the lack of relevance in IS academic research. So there's sort of two themes but they're very closely related. I've asked your permission to record this interview for purposes of transcription and therefore I can have improved accuracy when I report these research findings, which I may use as part of my doctoral thesis. [David – uh huh] Any information you provide as part of this research will be treated confidentially and the records will be all stored securely.	
	Now in order for this research to have the maximum impact, I'd encourage you to be as frank with me as you	

,		
	possibly can be. I'm aware that I'm here in an academic role but I'm also wanting to be objective about the relationship and how practice view academics because we won't have any change if we don't seek that depth of opinion. Now it may be that some of the questions I ask you won't have any response to but if you've got any extra comments on things that you think are appropriate please do let me know and add them. So prior to starting the questions I've got do you have any questions about the research I'm doing?	
David	No. I understand the research and I'm comfortable with the contextual parameters which you've mentioned around that. So no, that's very good.	
Fiona	Good, OK. Well there's a few areas I want to talk to you about and the first one hinges on the IS academic-practitioner relationship. Do you think academics' and practitioners' interactions are important to the whole field? To both sides?	
David	Yes, I think they <u>can</u> be important. I'm not sure they <u>are</u> important, are not being used as well as they can do these days, but I think corporates and businesses would certainly get benefit from that.	Academic-practitioner relationship.  Lost opportunity
Fiona	So when you say 'these days', do you think the situation was previously any better?	
David	No.	
Fiona	OK. So it's not changed?	
David	No. But it could be better.	
Fiona	It could be better. OK. So do you think at the moment that there's a lack of interaction between academics and practitioners?	
David	Yes, I do. It seems to me that the academics are more interested in industry people assisting them rather than the other way around.	Need for a two-way relationship
Fiona	OK. Well that's an interesting point. So you see it as a bit of a one-way street, where it cauld be more of a two-way street?	
David	Yeah, that's correct. So, to give yau an example, academics are very keen to have advisory boards and advisary committees for their faculties and schools.  They're very keen to invalve industry in the promotion of the degrees in which they have a focus area. But rarely	The ac-prac relationship — disconnect

	do the academics actually come into the work	Academics have a take, rather than
	environment to provide an assistance back the other way.	give focus to the relationship
Fiona	Right. And do you think, not only speaking in terms of assistance either way, but if you think about the knowledge that's generated and disseminated is that also subject to that one-way	Two-way
David	I think so. We get to hear little, I suppose, about the research that's undertaken by academia and hence it's relevance to us as well.	
Fiona	Right. So do you think then the lack of interaction, from your perspective, is that detrimental to your side of the field?	The current state of the ac-prac relationship
David	I don't know about detrimental but certainly I think there's opportunity far us to do a better job at what we do by having some input and interaction with academia.	Practitioners keen to engage - in a more functional relationship
Fiona	Right, OK. Now can you describe to me what kinds of interactions that you've had in the past with academics from the IS / IT domain?	
David	As I said, essentially it's been mainly one way. It's been academia requesting, I don't know if it's requesting or needing to have industry involvement in advisory boards and advisory committees. It's about academia, they'd like to put an industry spin on their degrees so that they are relevant to the real world, so to speak. And hence they like to have past students and people within the industry promoting and supporting the degree programs and the specific university itself. So the main interaction which I've had is from a marketing and support back to the university rather than the university having a particular focus area where they might way to come to us and assist us. I suppose, in saying that, we have not necessarily gone and asked them for that either.  It seems from what you're saying that there's a bit of a lost opportunity there and the channels or opportunities aren't well identified for having other kinds of interaction.	Lost opportunity re: the ac-prac relationship – there is potential for greater levels of interaction
David	That's correct. The only other interaction which I'll mention where the universities have provided some assistance is where we are searching for employees and when the employment market is so tight at the moment we've sometimes gone to the university and asked for recommendations about high-quality students which we	

	might be able to take on board prior to finishing the degree. So that has been of use to us.	
Fiona	So do you think, when you described before the <i>advisory</i>	
110116	board type of thing and where universities are seeking to	
	have industry endorsement, as it were, for their	
	programs, do you think that that level of interaction	
	might be a bit too superficiol to have?	
	might be a bit too superficial to have:	
David	I don't know. I'd like ta really understand it from the	
	university's perspective. I don't know whether it's	
	something which they have now got to hove, to have	
	their degree programs, support their degree programs,	
	or whether it's something that they wont to have. I'm a	
	little uncertain about that. Certoinly in the meetings I've	
	had with, I do it for both Faculty af Science and olso the	
	School of Informotion Systems in the Business Faculty, so	
	I do it for two faculties, I'm just nat sure yet, it's only	
	early days, but how much value the university is actually	
	getting out of that and, as I said, whether it's something	
	they have to do rather than something that they wont to	
	da. I'm uncertain.	
Fiona	For sure. It was mentianed to me ance when I come here	
	abaut a year ago, and very conversationally, that "yes,	
	we've done these things befare where we have academio	
	and practice get together, but it usually ends up	
	withering on the vine because we don't get involved	
	deeply enough".	
David	Yes.	
Fiona	So the comments was, it's really nice to have the sort of	The need for 'deep' engagement
	lunch together every now and then, that type of thing, or	
	a meeting or whatever, but what they were concerned	
	obout was that it didn't get any deeper than that so	
	that's why it tended to wither was because, just to give	
	you an idea about the comment, it might be too	
	superficial or too trivial.	
David	Yes. I think it is.	
Fiona	It occurs to me when you talk about advice, sorry, they're	
	seeking your advice about coursework, da you ever see	
	inside any of the caurses in-depth.	
David	Yes.	
Fiona	You do?	
David	Certainly I've done something with science. I don't see	My experience is that these are too
	the content of the caurses but I see what the name af the	high level to ensure content is really

	course is and what it's, if you like, the introductory pack	driven to appropriate levels
Fiona	Specification?	
David	Specification for the course and certainly I've provided	
	some input into some of those in the past. I'll give you an	
	example. The Faculty of Science recently introduced a	
	multi-media major for their degree program, sorry, not	
	multi-media, a gaming major, and I spoke to them about	
	that because they were seeking my input. I had some	
	negative comments about a gaming major and the	
	number of people they were expecting to see move into	
	that particular major because I thought that it was more	
	aimed at what the students might like to do not	
	necessarily what the employers want as an output from	
	the university. I thought that it was probably a major that	
	certainly has some relevance but not in the volume of	
	students which they were looking to get into that major.	
	So it just seemed to be perhaps the wrong thing to be	
	doing from an ultimate end employment perspective.	
Fiona	And that, I guess, is part of the concern with this being an	
,	applied discipline. We do need to be concerned with what	
	the professionals in the field really need to do.	
	<u> </u>	
David	Yeah. And in that particular example, there's some	
	gaming jobs but there's certainly not a couple of hundred	
	gaming jobs in south-east Queensland in any one year.	
Fiona	Whereas in the banking and financial sector there is that	
	sort of volume of positions.	
David	Yeah. Sa providing the advice but not sure that it was	Advice to academia
	really taken on board seriously.	
	1	
Fiona	Well I think, my background's all in business computing,	
Fiona	Well I think, my background's all in business computing, I've never operated in any scientific or game mode at all,	***************************************
Fiona	, , ,	
Fiona	I've never operated in any scientific or game mode at all,	
Fiona  David	I've never operated in any scientific or game mode at all, so I don't ever pretend to understand. I can't even play	
	I've never operated in any scientific or game mode at all, so I don't ever pretend to understand. I can't even play simple games.	Roles of academia and practice
David	I've never operated in any scientific or game mode at all, so I don't ever pretend to understand. I can't even play simple games.  Me neither.	Roles of academia and practice
David	I've never operated in any scientific or game mode at all, so I don't ever pretend to understand. I can't even play simple games.  Me neither.  So I'm really not a very good barometer of that sort of	Roles of academia and practice
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	think is good. I think providing advice, providing support,	support of academic programs.
	helping them market their programs, I think that's all	
	good work. I think ultimately that's a benefit for us as	
	employers. If we can direct people into degree programs	
	that support our own wark environment, ultimately,	
	years down the track, that's got to be beneficial for us.	
	So I think thot engagement, from, as I said, what the	
	industry or what practitioners provide to the university, is	
	good. What I think we don't get is back the other way.	
	So I'd like to be able to see universities offer their	
	services, maybe paid or unpaid, to assist us with our	
	particular business problems. And certainly we've hod a	
	look at some of the postgraduote programs in the past	
	where the students are looking for some research, but it	
	tends to be very long-running. We're talking over a	
	period of two years. In a business sense, to be able to do	
	some research over a two year period, we're normally	
	much shorter focused than that, not so much focused, but	
	we're looking for outcomes in a much shorter sense. So	
	I'm not working currently on any projects that are two	
	years out. All of my projects are somewhere zero to	hatawal bar le ve
	twelve month timeframes. So when you're trying to	Mismatch of objectives and outputs
	engage with academia, the length of time the	between academia and practice.
	engagement is over, it doesn't suit the speed at which	
	practitioners need to operate at.	
Fiona	Well that's interesting because, obviously, if you can't get	
, , , , ,	that fit then topic matter is incidental, isn't it?	
David	The War are set Committee to the War and the War are set of the War ar	
David	That's correct. So certainly I've spoken to Ken on a	Has tried to engage in postgraduate
	number of occasions about students coming and working	research projects, but hard to get
	for us and using us as part of their research programs,	the necessary alignment
	but the timelines for it to be useful to us haven't	
	matched.	
Fiona	OK. That's a very important point then. So obviously	Supports the idea of improved
	you're in favour of improving this interaction.	interaction.
David	Oh, absolutely.	
Fiona	It seems to come down to aligning the interests more	Need to align topics and timelines
	closely, timelines being one of them.	for interactions to work.
	/,	75 Monday to World
David	Yes.	11
Fiona	What about the kinds of topic areas that people have	
	come to you with in terms of research? Is there a strong	
	match there?	
<del>                                     </del>	Look, I think there's enough that we can pick some out	
David	LOOK, I CHINK CICLE 3 CHOUSH CHOL WE CAN DICK SOME CHIN	
David	that would suit. Obviously some research topics just don't	

	1 1 1 1 1 1 1 1 1 1 1 1	
	suit our environment or don't suit our industry. But I think	
	when you're talking about it in that particular case where	
	you're trying to support a number of postgraduate	
	students, there's going to be some there that will fit.	
Fiona	So when, again, thinking optimistically about this sort of	
	association, what would be the best kind of benefits that	
	you can imagine, from an industry perspective, of	
	academics having close and meaningful levels of	
	association with practitioners.	
David	I think there's probably a few. First of all, I think it gives	Potential benefits to practice of a
	an outside view or outside perspective of a particular	closer relationship – opportunities
	issue or problem. Internally, when you're looking at a	for academia.
	particular issue then you tend to, you don't know what	
	you don't know. And if you can bring in an external view	
	then sometimes I think that it can bring new and fresh	Descritionar paraentian of role of
	ideas.	Practitioner perception of role of academia
		academia
	Also, the people that are likely to come in and assist us,	
	they're likely to be more up to date than many of our	
	own internal staff are about new initiatives that might	Academia up-to-date
	benefit us. Got to make sure that we temper that as well	
	because some of those newer technologies don't fit with	
	the particular environment in which the practitioners	A . I
	work. But I think	Academia independent
	Yeah, I had that said to me by another group too, which is	
Fiona		
Fiona	an interesting point.	
Fiona David		Legacy applications are an
	an interesting point.	Legacy applications are an important consideration
	an interesting point.  In our own particular case, we're in a banking	
	an interesting point.  In our own particular case, we're in a banking environment, we're using essentially legacy applications	
	an interesting point.  In our own particular case, we're in a banking environment, we're using essentially legacy applications and legacy development mechanisms, so when we take a	important consideration
	an interesting point.  In our own particular case, we're in a banking environment, we're using essentially legacy applications and legacy development mechanisms, so when we take a tremendous leap forward and look at some of the new	important consideration  Practitioners feel disconnected with
	an interesting point.  In our own particular case, we're in a banking environment, we're using essentially legacy applications and legacy development mechanisms, so when we take a tremendous leap forward and look at some of the new and very innovative development methods these days,	important consideration
	an interesting point.  In our own particular case, we're in a banking environment, we're using essentially legacy applications and legacy development mechanisms, so when we take a tremendous leap forward and look at some of the new and very innovative development methods these days, they can't be applied necessarily in our business. So	important consideration  Practitioners feel disconnected with
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David	an interesting point.  In our own particular case, we're in a banking environment, we're using essentially legacy applications and legacy development mechanisms, so when we take a tremendous leap forward and look at some of the new and very innovative development methods these days, they can't be applied necessarily in our business. So sometimes we've just got to make sure that the benefits from an academic perspective they understand where we're at from a maturity point of view with newer technologies.  Yes. Is it also fair to say that it's sometimes difficult to simply take an approach and plant it in a new business environment like this [David – yes] without doing a fair bit of work to understand how to make it work for you.  That's right. We're in fact going through that very step	important consideration  Practitioners feel disconnected with academia  Applicability, need for contextually sensitive knowledge  An example of an area where

	organisation, and most organisations, we're getting greater demands from our business and I'm concerned about the output of which we produce. So if I look at	engagement with the ICT area of the organisation.
	that output critically then I can fix it in a couple of woys.	
	I can go and source either new internal or external resources to be able to resolve that problem or, first of	 
	all, if you look ot it from a process re-engineering point of	
	view, it's probobly better to go and look ot the efficiency	
	of the process in which you're operating in, get the	
	efficiency as best you can and then if you need some additional resources go and apply it.	
Fiona	So there's two prongs there, aren't there?	***
David	Yep.	
Fiona	I mean there's two different approaches to the problem [David – that's right] and you may choose to do levels of both, in fact.	
David	Yeah. And I think ultimately though, from a process perspective, and if I talk about software development as a process, then I think you've got to look at the efficiency of it first before you then go and apply additional resources to it. Otherwise you're just throwing money away.  There's an example where I think academia could ossist us, for example, in looking at our software architecture and providing new and fresh ideas but remembering that we're coming off a legacy base. And hence there's a conversion mechanism that's required to move from that legacy base across into any new environment.	
Fiona	Yeah, so the context [David – yes] is critically important? So whot advice would you give to academics seeking to establish some sort of partnership with an industry partner such as myself going back 18 months when I tried to start off. What sort of advice would you give to academics?	Context is important  Rules of engagement for academics seeking to interact with practitioners
David	I suppose there's a couple. The timeline, which we've already mentioned, we need to be looking at a timeline which suits business development and business outcomes. If we've got a project or something where we think academia can assist us in then we're talking about a timeframe of less than twelve months and that doesn't always fit with the university model, by the time they get someone that's available and so on. So timeline is critical.	
	A high level of engagement so they understand our business better and can provide a focused approach to	

	how they might be able to assist us. I'm not pretending that they can assist us with everything that we do but if they had a better understanding of what our business was then I think that they would identify some opportunity for a higher level of engagement where their skill sets might match with our requirements.  And then an understanding that businesses are not necessarily always at the leading or bleeding edge. They might want to get there but they're coming off a base which is different to where the universities operate at.	Deep engagement is necessary
		Legacy applications environment. The code base at Heritage was dominated by legacy applications.
Fiona	Do you think that reflects the fact that you're in a much more pragmatic situation and environment than universities are?	
David	Yes. I think that's true.	
Fiona	So are there any specific qualities or characteristics that you would cansider either essential or desirable in an academic who was wanting to be part of that sort of arrangement?	The kind of academic suited to such interactions
David	I think you've already hit on one word. Pragmatic. They've got to be pragmatic about what they're doing with us, and it's got to be relevant to us. So I think that they're probably the two major	
Fiona	But what about the people themselves?	
David	Oh, the people themselves. They certainly don't want to be too, don't want to use the wrong words here, I was going to use the "nerdy" word. They need to be able ta communicate from a business perspective with us, so I don't want same people that are too theoretical. It needs to be in an appropriate industry context or appropriate facus so it's more about pragmatic autcomes	Importance of context  Academics need to be aware of the business context.
	rather than applying theory as such.	Need to be good communicators  Practitioner knowledge Concerns -

		'raw' theory
Fiona	OK. So people who are interested in that level of	
David	Yeah. And I think to be oble to get the best benefit out of it os well they obviously need to be able to communicate reosonably well. So, for a particular project where we're going to bring in some academio to assist us, they're going to be talking with reasonably high-level people obout high-level issues so I think that they need to be reasonably comfortable obout communication and it would depend at what level, whether they're students or academics themselves.	
Fiona	Of course there are two streams there.	
David	That's right.	
Fiona	You've just identified some are purely students and some are researching academics.	
David	That's correct. I'm sure the academics will have that, generally speaking, while some of the students may not have that communication skill.	
Fiona	Yes. So that's probably an important thing for the likes of Ken to consider when he's trying to place students in research projects I guess.	
David	Yeah.	
Fiona	Well you moy recall the organisational difficulties I experienced trying to get this arrangement in place. [David: Yes!] Is there anything that we can do to lessen those sorts of problems, from the side of practice?	Alliance is difficult to set up. This is interesting because David is a senior manager and would be involved in negotiations of such interactions.
David	I think some of the organisational difficulties that you might have had were probably as much our fault as, well probably more our fault in some ways, than your own.	
Fiona	I don't see it as a sort of fault thing but	
David	No, no, I mean I think we didn't opply ourselves as well to the, either, necessarily previously. Look, I don't know. I'd like to hove a think about that. I'm sure there is becouse I think if we're going to do it then we've got to do it in a structured way. And I think they haven't typically got off the ground well before. As I soid, I've had a number of conversations with Ken, for example, about trying to get PhD students to come and do some	
	work for us but that hasn't got off the ground despite  Ken's best efforts. There's obviously some interface issue	

1	there but I don't know quite what it is.	
Fiona	Well there were certainly organisational difficulties for me at USQ, legal ones associated with whether I was in the role of a researching academic, which they apparently viewed differently to me being a PhD student. [David: Ah, OK] The fact that I was bath became an unresolved mess and in the end I don't know if you're aware, but Ken actually came here with me to assure whomever needed assuring of my bone fides. I mean, there was never ony question really of what I was trying to do but it kept being delayed and, I mean, I had on email directory with 90 emails in it which were all attempts to get people to move on it. I mean, I wasn't going to stick pins in small children's eyes or anything, like it wasn't that kind of research that had a It certainly had confidentiality and a responsibility element as far as ethics went but I wasn't conducting experiments or anything else.	My experiences were not very satisfactory  Also mention that my dean referred my case to the university commercialisation manager. That was on the strength that I may assist Jamie to develop a short workshop-style course. It raised issues of IP etc. that became crippling.
David	I think it's got to be really focused about the business.  Most businesses hove got that much stuff to do that they're really focused about what they've got to do, and certainly we're a bit that way. We've got too much work to do and we're very focused about what we've got to do. So distractions that take our eye off the ball we'd probably try to avoid. So I don't know if some of the research attempts we've had in the past have been viewed by us as being: "gee that's just a side issue, I'd rather be focusing on the main game." So I think that the engagement's got to be really focused about what the outcomes of the business is required to be able to get that business engogement.	The need for a 'business' focus in field research projects.
Fiona	I think that's highly relevant and I don't think you would be unusual as an organisation, as a business operation, to be in that position, nor would I think it's likely to change.	
David	That's right.	
Fiona	So they're things that are reality therefore we need to respond to the reality.	
David	Yeah. So I think then to be able to get that engagement it's really got to be something that is part of the core strategy or core work program of the practitioner for it to get off the ground. It's got to be the practitioner that	Research topics need to be of 'core' interest to the business.  I think his last words are terribly

	wants it.	important (crucial) - while many of
		the things I had suggested had
		applicability to their environment,
		and Jamie had agreed that they did,
		but there wasn't the 'engagement'
		until they came up with the 're-
		engineering' project themselves.
		Then it was all systems go. I had the
		same experience at USQ, with
		Archie and the 'spin-off' project. I
		had always recognised the
		importance of applicability, and
		thought I could sell them on things I
		could see a use for – but it didn't
		work in either situation – this was a
		surprise to me. They had to feel a
		need for it right then! Hence it is
		likely that interaction opportunities
		will be more practitioner driven
		than academically-driven.
Fiona	Yep. And you mentioned before about the outputs or the	
	outcomes being things that you're really interested in	
	[David – that's right] that do help you do your business	
	better.	
David	That's right.	1
Fiona	And that's pretty much, is that a bottom line for you?	
David	Oh, I think so. Yeah. We don't want to be doing work	
	that's not going to produce an outcome for us as on	
	organisation. You know, it's nice to be involved in the	
	community and assist the university and that sort of stuff	
	but I think when it gets down to tin tocks our focus is	
	going to be on our core rother than on secondary or	
	other things.	
Fiona	Well that seems fairly logical to me.	Interesting to note the practitioner
İ		response to academics
	The IS academic literature has pondered the academic	contemplating problems within the
	relationship with practice over a period of decades, and	relationship. It appears that
	lamented the lack of it etc. [David: Oh, OK] It proposes,	practitioners are not equally
	with whole issues of top journals, special issues, devoted	concerned, and are unaware and
	to it. [David: Oh, OK] Research relevance and the relationship with practice.	surprised at the academic concern.
David	I haven't had any visibility of that, so I didn't know that	
	had even occurred.	

		<u></u>
Fiona	OK. Well in terms of when they discuss this, they've proposed a lot of different models of interaction, if you like, ranging from providing training services, consulting	Paid research
	services, mentoring, implementations, all sorts of advisory, so lots of different bases. Some of these have been proposed to be paid and some of them are	Academic role
	considered to be purely research based. <i>Do you have any</i>	Consulting
	opinion about whether industry should cansider paying academics to do some specific research in particular	Consulting
	circumstances?	
David	Oh, absalutely. Absalutely. I think certainly I could pick a	No idea whether they ever got info
	topic like evalving payment mechanisms in a banking	from Joseph, otherwise how did he
	sense where Joseph Lyons there has done some good	know? I should have asked him
	work I think in payment work. Or I could look at internet	
	payment security where there's a straight, direct	
	carrelation about the services that we provide where we	
	could get same benefits about leading edge research into	
	internet banking security as an example. So I think	
	organisations are quite happy to pay for that work as	
	long as, as I said, it's very relevant. So whether it be	
	consulting or it could be training even or it could be a	
	particular piece of research then I think organisations	
	would be happy to pay.	
Fiona	Oh good, OK. Now I want to move to talk a little bit about	Benbasat and Zmud's 4 questions -
	academic research relevance. As I mentioned before,	I have a section in the findings for
	there's been an enormous amount of navel gazing been	that – maybe check the BA case for
	done on the side of academia about research relevance	an equivalent.
	and it's a big issue there. There's been lots of papers	
	produced that talk about the issue of research relevance	,
	and, in fact, there's a couple of quite prominent	
	academics who publish around this area who put forward	
	four questions which I just want to ask you. They may	
	seem a bit glib but it was how they structured their	
	concerns and the first of them is "what exposure have	
	you had, or do have, to academic literature? Academic	
	research literature." You as a practitioner in business.	
David	Some. I'm a member of the Australian Computer Society	Again a particular interpretation,
	and they produce a journal and that's largely about	that is the ACS research journal.
	research on specific tapics. Not the normal monthly	Perhaps more appropriate, because
	magazine or whatever. They have a research journal	it is presented as research
	that cames out every quarter or something like that. So I	literature. However, turns out to be
	see the research that happens in that sense. It's probably	problematically 'theoretical'. Since
	fair to say, from my perspective, I don't read that a lot.	ACS is a professional body, then
		1
	It's very theoretical, very mothematical in many cases.	that is interesting that they publish
	Even same topics that have been of interest to me and	material that lacks practitioner

	get lost in the complexity of the issue which they're	
	researching. But other than that I probably don't see any	
	academic research or journals.	
Fiona	Yeah, so what you've just said to me seems a bit	
	reflective of another one of the questions they asked.	
	Does IS research produce the knowledge that todoy's IS	
	professionals can apply in their daily work?	
David	Obviously there are ranges there. Obviously it depends	****
	upon the context in which the article and the research is	<u> </u>
	done in. Some I've seen has been useful. Some stuff	
	Joseph's done that I've read and I can understand. It's	
	not too theoretical and it's not too mathematical, it's	
	quite practical in its application. That's easy to	
	understand. In that particular article he was talking	
	about some payment mechanisms and becouse I'm in	
	industry I lorgely knew about oll those anyway. So there	
	was nothing new in that particular piece of work. In	
	other cases I think it does become too theoretical ond I	
	can't see how it applies in our environment.	
Fiona	Yeah. And related to that, whether or not it addresses the	N
	problems or the challenges that you have in business?	
	i.e. IS academic research.	
David	Generolly, I think not.	
Fiona	Yeah. And whether ar not it's accessible? Now you	
	mentioned the bulletin that comes out with the ACS	
	membership, but there's a lot of academic research. Like	
	all the papers that I've ever produced go into academic	
	journals and academic conferences. You don't readily	
	access that sort of material?	
David	No.	
Fiona	I say you as a, not just you as an individual, but you in your	
	role.	·
David .	As an industry? No, absolutely not. In foct, I'd be one of	World of practice - important
	the few people here that even see the ACS journal. Most	
	peaple don't involve themselves. And I think same of	
	that's about, because they are a practitioner they're here	
	for 40 hours a week doing what they're doing, when they	
	get away from here they're not necessarily interested in	
	reading reseorch jaurnals.	
Fiona	Yes, understand.	

	of what you do in your 40 hours.	
Fiona	Yes, absolutely. And bit longer sometimes. That's quite true. So that's part of the role difference too, isn't it?	
David	Oh, yeah.	
Fìona	And I want to come back to that a bit later in terms of how we, or where we put knowledge, how we access it and we disseminate it, how we make it available to people. It seems to me that it's more than just doing research that reverberates with industry is that if they don't know about it then	
David	A lot of my view about research, and don't take this the wrong way, [Fiona – oh, I want you to be really frank about it] it seems to me a lot of research is done to impress other academics. I'm not sure that research is done necessarily to make o difference to the people using it.	
Fiona	Yeah. You're probably not surprised to find that you're not the first person to have said that. So be reassured. It's said much more candidly at times and perhaps necessarily. Now you're a major, you Heritage, wos a major financial sponsor of the ACIS Conference held in Toowoomba last year.	
David	That's correct.	
Fiona	Did you attend any of the sessions?	. ***
David	No. I would have except I was interstate on business. I did send my staff. One or two of my staff.	
Fiona	You did?	
David	I got next to no feedback from them about that.	
Fiona	OK, so that wasn't seen as a wonderful opportunity for people to immerse themselves in research as it emerged?	And the second s
David	No. It was viewed a bit as being theoretical sessions that didn't apply. That was the general comment that I received.	
Fiona	So in an ideal world mindset again, describe what sort of research outputs you'd like to see IS academics produce.	
David	That's an interesting question. I think there's a range there. I think research academics have got to be looking at some of the bleeding edge technologies in coming up with some of the papers they've already come up with	Knowledge needs to have applicability

	otherwise we don't progress forward as an industry or as a community. To be used though by practitioners then it needs to be much more practically based and outcome based for a particular task or project within the organisation. So I think there's a total range there. I think research perhaps, I'm not sure that some of the	
	needs to be much more practically based and outcome based for a particular task or project within the organisation. So I think there's a total range there. I	
	based for a particular task or project within the organisation. So I think there's a total range there. I	
	organisation. So I think there's a total range there. I	
		l
	think research perhaps, I'm not sure that some of the	
		•
	academic research that still occurs now should still occur	
	and perhaps the other interaction with practitioners	
	should be at a more, I don't know if research is the right	
	word, but more consulting environment rather than, as I	
	said, bleeding edge research perhaps.	
Fiona	Yeah. So the context is very important for you. Like, if	
	we produce an idea, a piece of knowledge, is it very	
	important to you as a practitioner in the practitioner	
	world to be able to then understand how that might be	
	implemented into your particular context, which would	
	be different to the next one and so forth?	
David	Absolutely!	
Fiona	OK, because these issues obviously affect what I will try to	
	do in my research role over the next few months and	
	indeed, that's why I ask you in an ideal world how would	
	you see some of these. <i>Again, thinking in terms of the</i>	
	ideal world, describe how you think the knowledge	
	dissemination could be best achieved for practitioners.	
	- · ·	
	So you know, think perhaps, we produce something good	
	in this next period of time and I produce a research	
	output that you say, yep, that's good, that's the kind of	
	thing that's useful to us as practitioners. But you will	
	know about it here at Heritage because it happened	
	here. If it happened at another organisation, like if it	
	happened out at USQ but was applicable here, how do	
	we break down this accessibility and dissemination of	
	information?	
David	I don't know. That's really interesting. I suppose, I'll ask	Knowledge dissemination
	the question the other way. Is it publicly available? So	
	these documents are not covered under privacy or	
	confidentiality in any way. They're a publicly accessible	
	document?	
Fiona	That's a good point. Now they are most of them publicly	
	accessible. They don't have an issue with confidentiality	
	though that can occur because if you do commissioned	
	research, well people pay for commissioned research so	
	they own it so that it confidential.	
David	Oh, absolutely.	·

Fions	But a lot of what we do is publish available but the big	
Fiona	But a lot of what we do is publicly available but the big caveat there, because where I access it is via databases through our library, so electronic databases through university libraries. Now I'm quite aware that most practitioners don't have access to that [David – no] and I have to say I don't think even if you did have access to it that you would find it as suitable a means of knowledge base as you might want. So if you had somebody chasing up things like security methods on, I don't know, internet banking or something, I'm not sure how readily absorbable and aggregating of that data that they would find it, even if they had access to the databases that we do, because we spend a lot of time reading through those areas and, in a sense, we're trained to do that too.	
David	It's interesting. I think if an organisation or a practitioner has a particular business issue that they're trying to solve then they'll go looking for information that might help them solve it. But on the other hand, if we aren't focused on a specific issue, then we would never find that information. So if you [academia] are daing some work on new internet banking security, but if it isn't a particular problem that I was off trying to resolve, then I'd never go looking for it, and it'd never be provided to me. So I think there's a couple of things there. Even though ultimately the information may be	Some really interesting issues – practitioners will only seek information when they have a perceived need. Hence practitioner knowledge needs are driven by problems, rather than improvement oriented.  This is the alignment thing
Fiona	beneficial to me at some future point in time.  Yes, yes.	
David	But, as I said, without an immediate need I wouldn't ga laaking for it. So we don't have people in a practical sense who are saying, "oh gee I should be keeping up with internet banking security, I need to go aut and understand where all the research is". We'd be more looking at, well what's our level of fraud in internet banking? Is it acceptable to the business? If yes, then we don't need to do anything. Or I don't see my competitors in other institutions implementing new things where I think I'm going to fall behind on. So we just wouldn't	Research relevance is content/topic and temporally dependent.  Knowledge to fuel competitive advantage – bit like the industry credibility issue.
	have the need to go and access that research work.  However, if we were looking at those statistics and said, look our fraud is through the roof, then we would be out looking far a particular piece of research or new technologies. And quite often in arganisations, unless you are the very tap tier organisations, you are looking more at what your competitors are daing rather than what academia is doing when resolving a particular issue.	Practice look to leading organisations (sometimes competitors) to inspire problem solving

Fiona	Yes. That makes a lot of sense because it's having a	l .
	competitive advantage or keeping up with the field or	
	ahead of it that's of major consequence to you, isn't it?	
	anead of it that's of major consequence to you, isn't it?	
David	That's right. In a banking environment what we	
	experience by and large from an industry perspective is	
	not different to any other financial institution and what	
	they experience. Obviously you've got some different	
	views on it but the environment in which you're operating	
	is reasonably well-aligned.	·
Fiona	Yeah. I've been reading what a lot of other disciplines do	Knowledge broker
	about bringing their academic and practitioner wings	
	together more closely and they talk in terms of a role	
	called a knowledge broker. Now it's not been very	Deveden Course
	detailed explanation of that but it has the essence of	Boundary Spanner
	knowing where the knowledge is about a particular issue,	
	let's say doing business requirement specifications, what's	
	happening, what are the major techniques and what's	
	good, what's not. Then so that if somebody in a business	
	setting wants to know, as you said, maybe you feel that	
	there's an area that could be improved, then that	
	knowledge broker is somebody who knows where to go	
	and get the data, go and get the ideas and present them.	·
	And you might say, well that doesn't suit us because, as	
	you said, you're working in a particular technical context,	
	you might say, we're not using relational database	
	technology so those tools are irrelevant to us for instance.	
	It might be that the way you structure your development	
	teams doesn't suit a particular approach. But that	
	knowledge broker is also being described in some ways as	
	a boundary spanner role. OK? Spanning both academia	
	and business and to do that requires a certain kind of	
	person who has an interest in both industry and academia.	
	[David – yes] So do you have any thoughts about ?	
David	I think that's interesting. I don't know how that person	How would it work, who would
	would necessarily do that. I assume that they would be a	pay?
	university employee that would be there largely just as	•
	an interface to try and facilitate. I think that could work.	·
	I don't know if the universities would sponsor such a	·
	person to be able to do that role. That'd be interesting. I	
	suppose it would have to be a business outcome for the	
	university itself to have that person on baard to be able	
	ta facilitate that.	
		1
Fiona	Yes. They haven't gone into any depth about who would	
Fiona	Yes. They haven't gone into any depth about who would own them or who would pay them. It interested me	
Fiona	Yes. They haven't gone into any depth about who would own them or who would pay them. It interested me because it seemed, from my earliest days in academia	

	having come from practice, and then finding practitioners didn't access them or read them, I stopped feeling very excited about what I was producing pretty quickly.	
David		Practice will pay for information and research, but it needs to be applicable etc.
	actually looking on the ACS website but it was also fairly mismatched, not mismatched, some of the articles were difficult to find, they weren't particularly relevant. So if there was a better online means of accessing research information then certainly I think that would assist practitioners.	
Fiona	Do you have access to online information services? I spoke to somebody once at the university who was a senior practitioner who had access to things that I didn't as an academic but they were a paid for online service?	
David	Yeah, certainly you can do that with Gartner and Butler where you subscribe to an online, if you like, a CIO forum and database of articles. You can do that if you wish to.  We don't do that in our environment. I think you have to be a certain tier of organisation to be able to do that.  We're probably getting close to that point.	
Fiona	To make effective use of what you're paying for?	
David	That's right. If you're going to pay \$50,000 a year for just some research then you've got ta do an ROI calculation and work out where am I going to get my \$50,000 plus a bit more back on the other side. Sometimes I've	-

	struggled to see where I can get that.	
Fiona	Yes. So those sorts of services, as you say, have a stated impact. Like for very large organisations it's obviously easier to support that expenditure in those ways.	
David	That's right.	7704
Fiona	Yeah, I see things from Cutter Consortium [David – yes] and places like that. I think they're similar, aren't they, where you can purchase I just looked at the stuff that was free on there because they have things that are.	
David	Yeah, that's right.	¥
Fiona	Now just briefly, with this new supervision model that I have with my supervisors they've put me in touch with a few new ideas. One of the things that we think might help realign IS academics and practitioners is to view it as what they call a design science. A design science is typically things like engineering and medicine are considered to be design sciences because their major mission is to produce research outcomes that are applicable to their practitioners. So they do research into how to reattach fingers then that's very applicable to the kind of surgeons that are then going to work with that. Engineers might do stuff on reinforcing beams and so we think by repositioning information systems with this mindset of a design science might help steer it back towards a prafessional	
David	I think that's true. Yeah, I agree with that comment.	
Fiona	And the other part of my theoretical frameworkwhich is a pretty terrible term isn't it? [David laughter] there's a new thought about knowledge production and it's, and I'm trying to incorporate it into how I conduct my research here and it's been termed Mode 2 Knowledge. Now what that's about is, in the past, Mode 1 Knowledge is very much the classic university model where, you mentioned before, things were uni-directional. So all the wisdom was coming out of there and heading towards the student or practitioner. In Mode 2 Knowledge it's accepting, and indeed values, knowledge that's produced cooperatively between the two parties. So it's not about academics expounding their wisdom, it's accepting that academics can learn as much from practitioners. So it's very much a	Dialogical – need to communicate with practitioners in a way that overcomes jargon etc. Here I use humour, which works. However it may have been even better by rewording how I introduced the concepts.
David	Oh, absolutely, I think that's true. I think practitioners put a perspective on some business issues that academics	Really important

~~-		
	wouldn't necessarily always think about. So things like	
	wonderful internet banking security and gee, academics	
	might say "why aren't you doing that?" Well we're not	
	having any losses in fraud so the actual business return,	
	albeit wonderful technology and I'm sure very secure, I	
	can't build a business case for it, as an example.	
Fiona	Yep. So they're the two major things that are going to	MAIL 1-100-000-00-0
	influence how I look at doing this research so what I will	
	be trying to do is produce things that are meaningful to a	
	practitioner environment but very much in sync with that.	
	Rather than me saying well these are the ideas and here	
	they come. So <i>I'm really quite excited about working on</i>	
	this project with Jamie because I do think that we, as	
	academics, can learn a lot from what practice is doing	
	and better understand how the two things fit together.	
	So that's about it from me. Have you got any further	
	comments that you could offer?	
David	I'm interested in the particular focus area that you're	
	looking at. So you're going to be working with Jamie on	
	data quality, is that correct?	
Fiona	Yes.	
David	And you're satisfied that's going to produce, for you, the	Finding: Practitioners show an
	outcomes that you want for the research?	understanding of the need to meet
		the researcher's needs.
Fiona	Mmmm.	All Control
David	OK.	** <b>*</b> ********************************
Fiona	Because what I'm interested in is the academic-	
	practitioner relationship. So it wouldn't matter what you	
	got me to work on, so long as I'm working with	
	practitioners I'd be able to view that. I wanted your views	
	on the relationship now before I start this phase because	
	I've got to try to plot the change. OK? Because it's a field	
	experiment. I'm coming here now to do this. When I've	
	finished then we'll do a sort of after thing, OK. So it	
	wouldn't matter the content you put me to work on, I'll be	
	working with and hope to work with a big range of	
	practitioners, not all of them IS either. But I don't care	
	who they are. People in branches or wherever. So that	
	will feed my research requirements. If, and I'm very	
	flexible about what aspect of things you or Jamie or	
	anyone else wants me to look at. It can be things like we	
	said before, people have ideas about approaches to	
	systems development, approaches to business	
1	systems development, approaches to pushiess	1
	requirements, project management issues, how you do	

things. Do you use diagramming techniques, are they applicable. There's a whole raft of possibilities. My supervisors happily have agreed that they don't really mind what the content is, and that we can change it as we go along, so if you set me out on something and we say, well I can't really suggest anything because what's happening here is working extremely well. You might say, well have a look over here at something else. We're not channelled into a particular content.

David

Yeah. The other thing I was concerned about, from a data quality perspective, I'm not sure what academia can bring to bear that would assist us with that process. We've done some work already, we're moving down a path, we've had some bright people internally looking at our own internal issues. I'm just not sure, I'm sure academia can provide some benefit, I'm just not sure that there's an enormous amount of benefit. So if I was, say, going to look at a consulting engagement then that probably wouldn't necessarily be the area which I'd look at. It might be more around our software architecture. For example, how do I move from our legacy environments now into something that's more modern to increase that efficiency about our overall departmental software development output? And part of that, an auxiliary project, is that we tend to get reasonably poor specifications from our business. So how do I go about doing a better job of getting better specifications without being too onerous on the business? What is the engagement or interaction model between IS and the business about being able to produce that? I think that our business would benefit from an external view about some of those topics more so than they would about data quality. To enhance that a little bit, IBM recently have given me some access to free consulting where they're going to do some work about business and IT alignment. It's just something to think about. [Fiona – for sure] Whether the data quality stuff that Jamie's suggested adds the best value from a research perspective about what the benefit that practitioners can get from academia?

Whilst maintaining a concern for my research needs being met, he questions how much use this project will be for Heritage. He is considering how to meet my research needs and extract the greatest benefit for him organisationally.

Acknowledges that academics are accepted as being intelligent – is this too nauseating?

Consultant v academics

Finding: The practitioner view of academia varies widely.

This shows that David views academics as having some of the attributes (desirable ones) of a consultant. He thinks in terms of getting academic input to things he would consider getting a consultant. This is an important aspect of practitioner thinking (from a senior management perspective). He uses the term 'external view' which equates with both consultants and academics.

That he considered it appropriate to have such strategically important projects involving an academic is a huge vote of confidence in academia, and demonstrates that there are opportunities for

academics to be involved in organisationally significant engagements which would have the potential to produce rich research findings.

Interestingly, some of the questions he poses are some of the all-time classics for ICT and research. This also feeds into the finding to do with generating relevant research questions... hence Finding: opportunities to identify relevant research projects.

It also underlines the importance of having the topic and timing aligned with the practitioner interest – David doesn't see much to e gained here, even though I thought there would be something useful come out of it for both sides. This is mainly because I could do my acprac stuff with basically any project they thought was worth working on...

Whilst it was never explicitly stated, I came to understand that David was happy to fob me off with the lesser project (data quality) until he had the opportunity to assess me and consider what I may offer to the environment, and what he trusts me to do (competence). That is why he goes on to suggest that this other project would be better for him – however he quite ethically makes sure that it doesn't jeopardise my doctoral studies - as I explain, in this situation the actual subject matter of the assignment doesn't particularly matter so long as I have the opportunity to conduct my research on academic-

Fiona	I quite understand what you're saying. I don't know either but, like I said, I'm entirely flexible in that if you say ofter two weeks, I'd much rother you hod a look at X, I'm totally flexible about that because  OK, so you hoven't done too much work looking at the	practitioner interactions. In fact he ends up handing me a strategically very important project.
David	doto	
Fiona	No, and I don't think any work ever done is ever really lost. You know what I mean? It makes me more up-to-date. I've got a background, now a very long time ago, in the financial sector, but we still have accounts, we just happen to do a lot of things with a lot of technology. I'm very interested in things like business requirements. That was my background before I moved to Toowoomba was in project management and being a business analyst. I actually became a programmer later on. All the wrong way around but because I couldn't get the kind of work here that I'd had before in Sydney I learned to be a techo. And I worked a lot with, a big part of my interest in working with the business analysts at USQ is because they work with the business, like you said before. I think business requirements, or functional requirements, is a really challenging, it's not easy to do well I don't think. It's easy to say, here's a technique, or whatever but making that technique work and making it make the process more efficient and keeping people happily engaged I think are really quite interesting, wicked problems.	David was concerned that changing my 'engagement topic' would affect my doctoral research plans. This demonstrates goodwill on the part of the practitioners. I was pleasantly surprised at how concerned all four managers were throughout the engagement that I had access to the people and corporate resources I needed for my research purposes. At the start of phase II, I had emailed David a resume which spanned my whole ICT career, both in practice and academia. I felt that it would aid in aligning me with a suitable project.
David	That's right.	
Fiona	And so I'd be more than, I'd be really interested to look at that [David – olright] and I think	
David	And as I said, in the particulor research topic we're trying to work out how academia can assist us. As I said, I think there's greater value there and greater input, and hence greater interaction, thon whot there would be on the data quality side.	At the time of this interview, I had no prior knowledge of what turned out to be the 'ICT re-engineering' project, nor did I have any idea that David had formed an idea to get me involved in it. Thus my comments were reflective of that, and accepting that the data quality

		project would deliver for me.
Fiona	Oh, for sure. I think Jamie picked that more because we could track and look at what's happening in the project.  Not so much from the actual data quality thing of, you know The one thing that does occur to me is	I was fortunate to find a manager who had the vision to see the possibilities of interaction with an academic and to want to explore it, as well as to ensure that I got the best possible opportunity to explore the academic-practitioner interaction. He was also sufficiently senior to make the decision. At this point I felt that all the hard work and elapsed time setting up the engagement was worthwhile. That the topic was an interesting and challenging one heightened my sense of commitment. I was aware that my prior university was negotiating a significant research alliance with Heritage, and whilst I was no longer an employee, the outcome of my engagement had the potential to influence the other.
David	project about? and people have a terrible tendency to just talk about it rather than write it down.	
David	Yes.	
Fiona	And so then you get somebody from outside come in here who you want to look at it and they say, well, and they've got to go through all this business of, now what is it you're trying to do and how's it, over and over, when a succinct few paragraphs not only helps other people understand that but I think if people make the effort to record it they often find that it's slightly different to what they though it was anyway.	
David	That's true.	
Fiona	I find that with when I work with students. I say, you go and draw me a diagram of what you think you're doing and then we'll go through it. It has a bit of an 'ah hah' effect. So if you're happy to, and I know that you'll be	

	really frank with me, if you think you're not getting the	
	kind of output that you're looking for, just steer me off in	
	a different direction. I'm really happy to be	
	a uniterent unection. This reasy happy to be	
David	As long as we're not mucking you around. It might even	
	be worthwhile having a think about that early now. To	
	say, "hey look, is this really the right path we want to go	
	down on the data quality side and shouldn't we?".	
	as with our side data quality side diffa shouldn't we	
Fiona	Are there not some functional requirements type issues	1
	come out of that project?	
David	On data quality?	
Fiona	Mmm.	
David	I think there is.	
Fiona	Would that offer an opportunity to look at that, or are	
	there other projects that might be better? I mean, I'm	
	here for a few months so give it some thought. It doesn't	
	just have to be one or the other. The other thing I'm	
	really interested in is I think, I did a lot of reading, a lot of	
	thinking a lot of work, and I did some with the business	
	analysts at USQ, about how the systems development	
	lifecycle sits within the project management lifecycle. So	
	they had a project management lifecycle and	
	methodology and they didn't particularly have what I'd	
	call an identified systems development lifecycle because	
	so much had changed that I don't think they'd have kept	
	up with it. I kept taking them back to saying, well you've	
	got these project outputs that are specified, like they had	
	quite a rigorous thing that said, you know, at point X	
	you're going to produce Y. I said, you've got to think	
	about how you're lifecycle, which is systems development,	
	sits inside of that and when you've got outputs here well,	
	said, half of what you've got to provide there you've got	
	to provide here anyway so let's bring them together so	
	that you're not reproducing more than you need to. I	
	think those sorts of things are sometimes quite interesting	
	and I was quite keen for them, and they were keen also as	
	an organisation, to adopt what's been termed agile or	
	adaptive processes. Now I'm not talking about software	
	anarchy here, I'm really not, but I thought that there were	
	some nice implementable ideas for what I call the	
	medium-size ICT establishment, which I think Heritage fits	
	into that fairly comfortably. So I think there's, you know, a	
	few areas where we can look for opportunities.	
David	It's interesting, you know, you talk about agility, I think	Being involved in this interaction,
	it's as much about flexibility. I think in business these	having done my 'apprenticeship'

	days we don't exactly know what the next thing is we're	and been 'accepted', gave me great
	going to be doing from an IS perspective. And certoinly	insights into contemporary
	in financial institutions, what's happened in the US credit	management issues. One of the
	crunch, has certainly taken our focus away from lending	hottest research topics in IS
	much more into deposit areas. So all the development	research literature is 'Top 10
	work and projects which we were doing previously were	concerns of CIOs'. They are usually
	largely lending-focused because we had no problems on	data collected in a survey and each
	the funding side. Now with the credit crunch and the	topic reduced to a few words,
	way that market has dried up the focus is much more	ranked and rated. Despite the fact
	now on the deposit side. So we've really had to switch	that this is only one organisation
	our whole development focus [Fiona – pretty quickly]	rather than the 'many' that
	from one side of the business to the other side. I think	underpin a survey, the opportunity
	when we talk obout agility, not in a software sense, but	to have an in-depth conversation
	as a business sense, then agility or flexibility to be able to	with a senior manager gave me a
	adjust our IT focus and IT output through a different	much deeper insight into what a
	i ·	(possibly typical CIO) sees as the
	distribution channel or o different product or whatever it	
	might be is where we need to get to as a strategic	challenges in the operation of their
	position from an IS business alignment that needs to be	businesses.
	flexible.	Finding: Alliance is effective for
		Finding. Amarice is effective for
Fiona	That's interesting, isn't it? And then how do you make	
rivila	an organisation more flexible? There are ways to do it	
	that's for sure. And some of those things do apply to,	
	1	
	how to you do systems development, [David –	
	absolutely] how do you manage projects.	
David	Oh yeah, absolutely. If you do systems development such	These comments make me think of
David	that you can reuse that development through another	a range of potentially significant
	channel or for another product then you've created	research projects that could be
	yourself flexibility.	undertaken in either of my topic
	yourself flexiolity.	areas of business analysis and
		1
		project management. The fact that
		Heritage has a PM role, but doesn't
		have a BA role ultimately influences
		the topic to be a PM-related one
		that comes to underpin our
		academic-practitioner interaction.
Fiona	And I think also that if you can find a way to let people feel	
	and know that their efforts weren't wasted before	
	because you've changed direction is also important	
	because that keeps morale up and you don't think, oh I've	
	just spent	
		A.PHATT
David	All that effort for nothing, that's right.	
		i
Fione	So I do think that we've got an interesting annortunity so	
Fiona	So I do think that we've got an interesting opportunity so	
Fiona	I'll be coming along most Tuesdays, like a business day.	
Fiona	-	

David	that you or Jamie or anyone that you decree appropriate can email me documents if I need things [David — absolutely] or I can get things on thumb drives or whatever. So we felt that that was the least problematic start point. Sa I'll turn up on Tuesdays and I think we should both take a really flexible approach and if, after a few weeks, you think no	
David	it is you're going to be doing?	
Fiona	Yes. My thought is that I was going to track the project, because it's fairly new that iteration af it, look at the project lifecycle as it's unfolding, as a process, and how if any ICT stuff fits inside that, and I dare say there is because there's screens and people. There's business people invalved because isn't it your call centre people who octually do some of the stuff?	Jamie had suggested the data quality project as the basis of the academic-practitioner interaction. There were opportunities to interact with a range of ICT and business people. As it turned out the project I ended up being involved in gave me much greater interaction opportunities with ICT managers. This was more useful because it more closely aligns with the stakeholder group identified in the IS literature.
David	Yep.	
Fiona	It seemed to have some interesting, [David – OK] I could understand what it was trying to do in a broad sense because every organisation, and I've spoken to Jamie about this before, all organisations are concerned about data quality in business and the uni was no different. I mean, we had student enrolment but there's important data quality issues there too, much like in your case. So there's a lot of parallels. I think that's OK but if you happen upon something you think, oh that's very much what I'd like looked at, tell me, tell Jamie.	
David	OK. Great.	
Fiona	That's how I see it. Well thank you very much.	
David	Thanks Fiona.	

# Appendix C: BA Workshop Schedule

# USQ ICT Business Analyst Workshop Series by Fiona Darroch (School of Information Systems, Faculty of Business, USQ)

The very essence of human progress is applying new knowledge in new ways, continuously making the old way of doing things obsolete. Organizations don't make progress, people do. The organization is just a vehicle for human cooperation. Its form adapts as the needs of the people adapt, and peoples' needs change with the progressive acquisition and application of new knowledge.

### -Francis Gouillart and James Kelly

## **BA** workshop schedule

Workshop No. and	Topics covered	
Dates		
First workshop pair:	Introduction	
15 November 2006 - theory	Review draft Workshop schedule	
29 November 2006 –	Review workshop approach and goals	
implementation review	The role of the Business Analyst	
	BA mission statement	
	Current BA team practices and resources	
	Quality Assurance	
	Technical Reviews	
	Testing types and cases	
	Test Plans and Testing Strategy documents	
	Integrity controls	
	Automated test tools	
	Managing QA	
Second workshop pair:	UML	
6 December 2006 - theory	Package Diagrams	
20 December 2006 – implementation review	Activity Diagrams	

Third workshop pair:	UML (con't)
10 January 2007 - theory	Use Case Diagrams
24 January 2007 –	Use Case Description
implementation review	Event tables
Fourth workshop pair:	Business Requirements
7 February 2007 - theory	Draft Business Requirements Specification
21 February 2007 –	template/documentation
implementation review	Review of components
	SDLC considerations
Fifth workshop pair:	BA Lifecycle Model Part A
13 March 2007– theory	System Development Life Cycle models
27 March 2007-	Agile System Development Approaches
implementation review	PM/BA lifecycles
Sixth workshop pair:	BA Lifecycle Model Part B
4 April 2007 - theory	Development groups
18 April 2007 –	Deliverables
implementation review	Stakeholders
1 May 2007	Formal presentation to management: The BA Lifecycle Model

**ICT USQ Business Analysts Workshop series mission** (suggestion from Fiona): 'to build a professional Business Analyst capacity within the USQ ICT team'.

This mission will be achieved though a series of semi-structured workshops which may cover the following areas (this list may be refined):

#### **List of Potential Workshop Topics:**

- The role of the Business Analyst and being an ICT Professional
  - o Position description
  - o BA Team Mission Statement
  - o ACS professional code of ethics
  - o Team work and personality
- System Development Methodologies, the Project Management Cycle (at USQ) and its relationship to the System Development Life Cycle (i.e. how it fits within it).
- The System Requirements and Design Specification documentation
- · Miscellaneous issues: data conversion, documentation, training

- Quality Assurance, Testing Strategies and Integrity Controls
- Introduction to UML
- Package Diagrams
- Use Case diagrams
- Use Case Description
- Domain models
- Tools: Case tools, Microsoft Project, Testing tools
- Methods for gathering requirements (interviews, surveys, focus groups etc.)
- Event tables
- Evaluating the alternatives
- Activity diagrams

#### As a consequence of and in conjunction with these workshops:

- build up a standard template and guidelines for the production of a Systems Requirement Specification, including version control and sign offs.
- Clarify and chart the BA role and responsibilities in the various phases of the Project Management cycle and the Systems Development Life Cycle
- Identify a change management process for documenting versions of specifications

#### Business Analyst Team Mission (to be produced by the BA Team)

The workshops will be formatted as pairs of half day (4 hours) sessions running from 8.30 - 12.30. Optimally the spacing will be 1-2 weeks between the pairs.